SUMMARY OF THE DOCTORAL THESIS

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THE CONCEPT OF TRANSLATION QUALITY IN TRANSLATION STUDIES. REVISION OR REVIEWING AS A GUARANTEE OF QUALITY ASSURANCE

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1. Background and Objective of the Thesis

1.1 The concept of quality

The definition of translation quality was a concern for reviewers as early as in the 9th century AD, according to notes found in the House of Wisdom in Baghdad (Brunette 2002: 224). What are the characteristics of a good translation? From the multitude of aspects, which are the ones that really help in judging a translation? Translation scholars have been asking all these and a number of similar questions over the centuries.

In the literature, one can identify four main tendencies: The first group is the subjective one, very strongly oriented at the source language (Nida 1964, Cary and Jumpelt 1963, Darbelnet 1970). This group is chiefly concerned with the criteria of equivalence.

The second group is characterised by attempts at objectivity, such as informativity measurements by Caroll (1966), the methods of Nida and Taber (1969) (e.g. cloze technique, statistical analysis, tests with target-language receivers), or the quality evaluation schemes of House (1981) and Williams (2001, 2009) based on the source language text. Leuven-Zwart (1989, 1990) and Tarvi (2004) created evaluation systems for the analysis of literary translations.

With the ascent of the functionalist approach, the emphasis was transferred from the source text to the function of the text, and also the receiver of the translated communication (Reiss 1983, Vermeer 1978, Nord 1992).

Nowadays, in addition to the function of the text and its receiver, the assessment of translation quality also takes into account the economy and the efficiency of the translation process as an important criterion (Heltai 1999, Mossop 2001, Gouadec 2007, Prioux and Rochard 2007). This period can be characterised by the market approach gaining ground.

With the market aspects becoming more important, various quality levels also emerge: the translation does not always have to be perfect. In many cases,
circumstances do not allow for spotless quality. In such cases, a minimal translation might be sufficient, which “given the circumstances (time, financial conditions, function, user, and the needs of the hypothetic reader), is sufficiently acceptable or usable” (Heltai 1999: 23). Between minimal and perfect translations, there are several levels that might meet the requirements of the client (see also Larose 1998, Heltai 2009, Williams 2009).

1.2 The Objectivity of Assessment

In addition to theoretical definitions, scholars were also aiming at objective measurements of quality (Carroll 1966, Nida and Taber 1969, House 1981). Because translation is a creative process – and not a mathematical one –, a source-language text usually has more than one acceptable translation in a given target language. Possible translations might be ranked, but even the ranking can be different with each evaluator: thus, perfect objectivity cannot be a requirement.

Based on LISA’s quality assurance model, several translation companies created bespoke systems to provide for quantitative measurements of translation quality. When reviewers use this system, they assign an error class and a severity core to corrections (the more severe the error, the higher the severity score), and then a quality assurance tool computes an accumulated score for the entire translation, which helps in deciding if the target-language text is acceptable. This quantitative assessment is occasionally complemented with holistic free-text evaluations.

Although translation quality assessment can never be entirely objective, there is a definition in Kis (2008) that allows for experimental measurements: a translation can be considered acceptable if one or more sufficiently competent reviewers deem it so. The research described in this thesis is partly aimed at testing the above definition.
1.3 The Role of Reviewing

With the ascent of standards (ISO 9001, EN 15038), reviewing has become a mandatory quality assurance item, which requires translation companies to invest time and money into the process. The primary motive of my thesis is to offer a solution for a more efficient reviewing process. Based on the way translation memories work, an idea occurred to me to create a reviewing memory, which would store the corrections of reviewers, and warn the translator about a better solution when the same segment or a similar segment occurs. Kockaert and Segers (2012) report on a similar project. They conceived a tool called RevisionQ, which is being tested at the time of writing, with the prospect of further development to be discussed towards the end of 2014.

In my research, I have used reviewers’ comments to discover the repetitions and predictability of reviewers’ operations, in order to decide how much automation is possible in the reviewing process.

Reviewers often only correct the translation, but in not infrequent cases, for the purpose of long-term quality assurance, they are also asked to report on the quality of the service provided by the translator. In my research, in addition to learning about correction tendencies, I have made an attempt to reveal the relationship between the analytical and holistic evaluations.

2. The Objective of the Research and the Questions Asked

The research described in the thesis had two objectives. The theoretical objective is to test the definition of quality that was proposed earlier and that can be measured by means of experiments. This is achieved by processing the evaluations received from reviewers. The practical objective, on the other hand, is to explore the methods and possibilities of automating the reviewing process.

The empirical research had been built on three principal questions, each consisting several subtopics. The first question concerns the reviewers’
corrections, the second the assessment of translations, and the third deals with the quality of the reviewing work.

2.1 Reviewers’ Corrections

The first group of questions targets the corrections made by the reviewers and the categorization of errors. Can a tendency be discovered? Can we anticipate reviewers’ corrections? In other words, is there a perspective in creating a reviewing memory?

(1A) Reviewing operations

- Research question: What operations do reviewers carry out most often? Operations considered are: deletion, insertion, relocation.
- Hypothesis: Based on my reviewing experience, and also Horváth’s research (2011:211), I assumed that insertion and deletion are more frequent than relocation. The reason for this assumption is that these operations remain at the word level, and are quicker and simpler to carry out. Relocation of text is significantly more complex.

(1B) Correction tendencies

- Research question: What correction tendencies can be observed?
- Hypothesis: I assume that, because a source-language (SL) text has multiple correct translations (for example: Cancio 2007:16, Schiaffino and Zearo 2006:54), multiple valid corrections also exist. Gouadec (1989:41) states that evaluators usually agree in what constitutes an error. The larger differences occur in the weighting of errors. Therefore, we have reason to anticipate that there will be errors that will be corrected by (almost) every reviewer, but the corrections themselves will be different.

(1C) Categorization of errors

- Research question: What is the distribution of the various error types? What severity levels are characteristic to each error type?
• Hypothesis: In general, language errors (grammar, spelling, punctuation) are the easiest to recognize and correct, thus I assume that a majority of errors will fall in this category. As to severity, it is likely that translation and terminology errors will be classified as more severe, for these have more serious consequences.

(1D) Preferential corrections
• Research question: What is the proportion of preferential corrections compared to all corrections? What error types are the most prone to yield preferential corrections?
• Hypothesis: It can almost considered a reviewing universal that reviewers make more corrections than necessary (Horváth 2011). Ádám Kis (2011) uses the term ‘reviewers’ disease’ for this phenomenon. If reviewers’ disease exists, we can assume that every reviewer will make preferential corrections, in varying proportions. When we consider their occurrences by error category, it is likely that the proportion of preferential corrections will be highest in style and formatting.

2.2 Evaluation of translations by reviewers
The second group of questions is centred on the difference between the reviewers’ holistic and analytic evaluation of the translation. This group contains one research question only, yet I found it important to separate it from the questions that concerns the corrections made by reviewers because evaluation as a task is different from correction.

(2A) Evaluation of the translation
• Research question: What are the differences between the holistic and analytic evaluation of the translation?
• Hypothesis: Reviewers indicated the severity of each anomaly by assigning a score from 0 to 4. We assume that reviewers who gave higher
severity scores will be more negative in the textual evaluation, compared to those who judged the same error as less severe.

2.3 Evaluation by master reviewers

In the second step of the research, two master reviewers checked the corrections, then provided a holistic evaluation of the reviewers’ work. The third group of questions concerns the feedback from the master reviewers.

(3A) Evaluation of corrections

- Research question: Did errors remain, or were new errors introduced in the reviewed text?
- Hypothesis: The amount of necessary reviewing work depends on the quality of the translation (Arthern 1983:54). According to my experience, beyond a certain measure, the quality of the translation can only be improved by retranslation (see also Horguelin and Pharand 2009). However, this is not economically viable, thus we can assume that the reviewed version of the medium-quality translation used in this research will not be free of errors, but it will be acceptable.

(3B) Evaluation of reviewing

- Research question: Was the reviewing work efficient: did the quality of text improve?
- Hypothesis: As all participants were experienced reviewers, I assume that their work was efficient, meaning that the quality of the reviewed text will be superior to the quality of the translation.

3. The Process and Method of the Research

The large-sample experiment was preceded by a two-phase pilot micro-research in March 2012 (see Mohácsi-Gorove 2013). The pilot research consisted of a
reviewing part and a question form. From the findings of the pilot experiment, I had modified the tool used in evaluation.

In both experiments, I attempted to remain close to reality, to observe reviewers’ work *in vivo* rather than *in vitro*: I did not make changes to the original texts used in the pilot experiment. In the main experiment, I only changed the text to ensure anonymity, otherwise the texts retained their entire volume and all original errors.

According to the empirical – experimentally measurable – definition of quality mentioned earlier, a translation can be considered good if judged so by sufficiently competent experts. Therefore, I took steps to ensure that all participants were experienced and active reviewers. Because the work I asked the reviewers to do was by no means negligible, but I could not pay for their time either, I had to make a compromise about deadlines. In both experiments, I have allowed participants to deliver their work within an unusually long, unrealistic deadline. However, I found it more important to use authentic texts, both in terms of volume and condition, and that I could work with active reviewers.

Without exception, all observed translations were realistic assignments from translation companies. In the pilot experiment, I had used four texts of varying quality (totalling 1,842 words). In the main experiment, I have used one single text of medium quality (totalling 2,191 words) from a marketing material.

In Hungary, this was the first experiment involving a large number of active reviewers (8 in the pilot experiment, 13 in the main experiment), which is a significant result if we consider the volume of the texts. The participants had varying professional backgrounds: the group included freelancers, in-house reviewers from translation companies, and reviewers working for various institutions such as the EU or OFFI (the Hungarian government translation agency).
I paid special attention to the validity and the realistic nature of the tool used during reviewing. As a result, I have created my system from existing models, widely used in translation company practice\(^1\). Reviewers worked on an Excel spreadsheet. The first column contained the source text as segmented by the memoQ translation environment. The second column held the output from the translator, and the third column the corrected text. The fourth was the ‘I changed my mind’ column. Reviewers were asked to place an X here if they had started correcting the segment, but finally decided not to make changes.

In the fifth column, reviewers had to specify the code of the error type and the severity score. A sixth column was offered for notes. In the pilot research, I was using seven error types. In the main experiment, I have cut these down to five, but I made significant effort to define them as precisely as possible. The five categories were the following: language, style, terminology and lexicology, translation error, formatting error. Reviewers had to make each correction with an error category as well as a severity score. Five severity levels were defined for the experiments: preferential corrections (that were not necessary to make the translation acceptable) were assigned a score of 0 (zero), while critical errors merited a score of 4. In all cases, the reviewers themselves had to determine the error categories and severity scores. No default severity levels were assigned to each error.

In the first phase of the experiment, the reviewers corrected the translation to make it publication quality, according to the translation brief they received with the assignment. While correcting, they also had to categorize and score each error, and write a holistic evaluation at the end of the work.

In the second phase of the experiment, two master reviewers checked the work of the reviewers, first segment by segment, then generally. Both master reviewers have reviewing as part of their daily work: one of them works for

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\(^1\)In some aspects, the first version was different from this description. However, due to space limitations, I need to omit the detailed description of the tool that was used in the pilot research.
OFFI (the Hungarian government translation agency), and the other for the EU’s Directorate General for Translation.

Master reviewers used a specific table to evaluate reviewers, consisting of three columns: the first one contained the source-language text, the second the reviewer’s output (using Word’s track changes option), and the third column held the evaluation.

The choice of codes for filling in the table were determined from the models proposed by Arthern (1983), Mossop (2001), Lorenzo (2004), Künzli (2009), and Robert (2012). Master reviewers were using four different codes: plus (substantial and well-founded correction), zero (superfluous or preferential correction), minus (missing correction), exclamation mark (introduction of new error).

The general evaluation was one of the following:

- ++: The text was improved by reviewing
- 00: The quality of text remained the same
- --: The quality of text deteriorated in the process of reviewing

From the output of the reviewers, an editing corpus was created, which was analyzed by means of statistical methods and an algorithm proposed by Ágnes Varga (2011). The editing corpus is a bilingual parallel corpus containing the original translation from the translator, the edited version created by the reviewer, as well as the source-language text. The editing corpus used in the main experiment contained 2,639 such segment triples (source-language text, translation, edited translation), including thirteen different reviewed version of the same translation (consisting of 203 segments).
4. Results of the Research

4.1 Reviewers’ Corrections

Hypothesis (1A): Reviewing Operations

To analyse the operations carried out by reviewers, I have used the memoQ translation environment to align the output of the translator and the reviewer, and then exported the target-language document pairs into a TMX\textsuperscript{2} translation memory.

I have analysed these documents by using a modified version of the Levenshtein algorithm, proposed by Kis and implemented by Varga. (For a detailed description of the algorithm, see Kis 2008: 78ff; for the description of the operation of the implementation, see Varga 2011: 145ff.) The algorithm splits up the two versions of the documents into tokens, and then compares the tokens, and lists the operations detected. Every word, number, and punctuation mark counts as a token, with the exception of dashes.

Based on the results, the number of insertions (6713) is significantly larger than the number of the other two types of operations. However, the number of relocations (1433) and deletions (1342) is almost equal. According to hypothesis (1A), insertions and deletions are more frequent than relocations because these remain within the word level, requiring a smaller effort. The correction corpus validates this, but only partially: undoubtedly insertions are the most frequent operations, but relocations are more numerous than deletions.

As to the most modified tokens, the four most frequent ones are the comma, the period, and the Hungarian definite articles (\textit{a}, \textit{az}). This can be explained by the fact that these are the most frequent tokens, and these are also the easiest to correct. When the reviewer inserts, deletes or relocates a noun, it is almost certain that the correction is carried out together with the definite article.

\textsuperscript{2}TMX, short for Translation Memory Exchange, is a file format for implementing compatibility between various translation tools.
Hypothesis (1B): Correction tendencies

21 percent (42 occurrences) of all segments were corrected by ten or more reviewers, which indicates a tendency.

Following a more detailed analysis of the correction corpus, we can state that hypothesis (1B) is verified because there exist errors that are corrected by a large proportion of reviewers, but the manner of corrections is different. However, we can determine from the samples that even the most obvious and conspicuous formatting and spelling errors (Heltai 2005) – for example, typos, typographical and spelling errors – are not always corrected by all reviewers. This can be caused by numerous factors – such as motivation, lack of time, fatigue, inattentive reading, or the poor quality of the target-language text.

Informational errors (Heltai 2005), such as terminology errors or mistranslations, have a larger impact and are more difficult to correct. They might require serious thought or even some research. Corrections to the latter type of errors occur less commonly.

Let us observe the treatment of terms that remained in English in the translation. Regardless of the correctness of the reviewer’s solution – which might have required more research, which the reviewer probably had no sufficient resources –, the translation of the English terms follows one of three strategies: the English and the Hungarian term occurs together; only the Hungarian term occurs; the English term is left in place. Most translators use a Hungarian translation of some kind; it is rare that the translation contains the source-language term only.

From the evaluative comment of the first master reviewer (“the translator should have used an equivalent of the English expression”), and the general assessment of one of the reviewers (“term left in English without justification”), and from the above points, we can imply that there is an unwritten rule that no
terms must remain untranslated in the text – but until this appears in a style guide, I do not think it can be penalized.

In addition to formatting and information errors, there are some, almost universally introduced, preferential corrections such as ‘hála/köszönhetően’ (thanks to) (up to 6 corrections).

_Hypothesis (1C): Categorization of errors_
According to hypothesis (1C), most anomalies corrected are linguistic errors. Hypothesis (1C) is verified over the entire sample, but there are no significant differences; the proportion of linguistic errors (28%), mistranslations (27%), and style errors (25%) is almost identical, then follow terminology errors (16%) and formatting errors (4%). This result can probably be explained by the extent of possibilities as the proportion of terminology and formatting errors is significantly lower than the others.

With regard to the severity levels, this hypothesis was also verified from the average of the levels because the average severity of translation errors (1,58) and terminology errors (1,47) is above the severity of linguistic errors (1,38), style errors (0,68) and formatting errors (0,24).

From the above findings, we can conclude that language errors are the most numerous, but the severity levels are the highest in translation and terminology errors – because the latter have a more serious impact.

_Hypothesis (1D): Preferential corrections_
From the correction corpus, we can observe that a majority of the reviewers carry out preferential corrections. In general, these amount to 20% of all corrections, for each reviewer and over the entire sample as well. Most preferential corrections concern the style and the translation. These results thus verify the existence of the reviewers’ disease.

With regard to the frequency of preferential corrections, the analysis of each error category shows that, according to hypothesis (1D), preferential
corrections are most likely to impact style and formatting. However over the entire sample, the category that was marked the most preferential one (in addition to style) was translation, not formatting.

4.2 Evaluation from reviewers

Question (2A) concerns the connection between the analytic and the holistic evaluation. I have used three categories to encode textual evaluations: negative (-), neutral (0), and positive (+). To insert the codes, I have asked three translation teacher colleagues for assistance. Then I have performed a statistical analysis based on the majority opinions. Results show that reviewers giving a negative evaluation (4) graded the severity of the translation errors at 136 on average. Neutral reviewers (4) assigned an average severity score of 185. Reviewers with positive evaluations (4) scored the translations at an average of 123. This shows that there is no direct connection between the analytic and the holistic evaluation. However, if we look at the two extremes only, the same difference occurs as in the pilot study: in the micro-research, there is a difference of 10 points between the positive and negative evaluations. The same difference is 13 points in the main study.

Based on these data, no clear severity threshold can be assigned to the evaluations. Scores for negative feedback range from 98 to 171, neutral from 113 to 281, and positive from 30 to 219. The feedback will be definitely positive below a score of 80, but there is a complete overlap between the categories above a score of 98: both positive and neutral evaluation reports were submitted with a severity score of over 200, however, no negative feedback reached this level. In my view, the discrepancy between the scores and the evaluation was caused by the different weighting of the errors and the method of reviewing. If a reviewer edits the translation thoroughly and abundantly (including smaller errors), then the many smaller and medium errors will add up to a high score. On the other hand, the work of a reviewer who edits less (only very severe
errors) will yield a lower severity score – but this does not mean their opinion is better.

### 4.3 Evaluation from Master Reviewers

**Hypothesis (3A): Evaluation of corrections**

Based on the evaluations from the master reviewers, we can say without doubt that errors remained in the reviewed version as well. In addition, it is not uncommon that the reviewer introduces new errors. Some of the latter errors (such as typos) are performance errors, but there are also competence errors such as incorrect term usage or mistranslation (source of terms: Heltai 2005). In some cases, the master reviewers reported that the translator’s output was simply better than the reviewed one.

**Hypothesis (3B): Evaluation of reviewing**

The last question was how efficient reviewing was as a means of quality assurance. To find this out, I have used the analytic and holistic evaluation reports from the master reviewers.

From the segment-level feedback, we can determine that both master reviewers had the same judgment when assigning plus and minus signs. However, the exclamation marks showed a significant difference except for the output from a few reviewers. This is probably caused by the fact that the two master reviewers were not always using the same principles when grading the output.

With regard to holistic evaluation, the master reviewers wrote similar reports, with the exception of one reviewer.

The connection between number of the occurrences of each code (plus, minus, exclamation mark, zero) and the holistic evaluation allows for the conclusion that an evaluation turns positive at about 29 or 30 plus signs. The significant difference (29 plus signs) in the evaluation of the third reviewer (with regard to the positive/negative holistic evaluation) makes this boundary
somewhat blurred, but in general, at least 30 plus signs were necessary to yield a neutral (00) or positive (++) evaluation report from a master reviewer.

The number of minus signs falls in a similar range with reviews with neutral (30 and 80) and positive (25 and 80) evaluations. Negative evaluation is reported for reviews with minus signs ranging from 69 and 102, thus there is some overlapping.

The number of exclamation marks (minimum 2, maximum 23) and zeros (maximum 9) is nearly identical in all three reports. From this, we can conclude that these two indicators do not influence holistic evaluation.

Thus holistic evaluation can be generally predicted from the number of plus signs. Künzli’s (2009) conclusion is similar. When assessing the quality of reviewing, he took into account the number of justified corrections only.

If we sum up the holistic evaluation from master reviewers, and discard neutral feedback (00) when there is a conflict, and include the third reviewer (;++/--) among the ones with negative feedback, we come to the following result: eight reviews (62%) received a positive evaluation, two (15%) received neutral feedback, and three (23%) received a negative one.

Based on the above, and looking at the majority, hypothesis (3B) is verified: in general, reviewing improves the text, but some reviewers cause a deterioration in quality, which, in my opinion, can be explained by insufficient reviewing competence, insufficient time or motivation. The fourth reviewer who received the worst evaluation made conspicuously few (26) corrections, which, in case of a mediocre translation, cannot yield a satisfactory result.

5. Summary

Similarly to the empirical definition of translation equivalence proposed by Balázs Kis (Kis 2008:40), this research was based on the following definition of quality: a translation is good quality if judged so by at least one sufficiently competent reviewer. The translation company that gave me the translation used
in the research judged it as medium quality. In my opinion, reviewers’ evaluation reports reflect these doubts over quality as the number of negative, neutral, and positive reports is equal. I think that medium quality means exactly this: the translation includes errors but it is suitable for reviewing, and its quality is acceptable (it can even be judged as good by lenient reviewers, but will be judged as poor-quality by strict reviewers).

From the above, we can imply that sufficiently competent reviewers can help in measuring the quality of translations, but it also depends on the criteria we use to select the evaluators. Sufficient competency does not only include linguistic and field-specific expertise: it also involves the ideal reviewing attitude. This means that one needs an evaluator who does not suffer from reviewer’s disease and can judge a text realistically and without emotions.

Concerning severity scores: to bridge the gap between holistic and analytic evaluation, one needs to define severity levels more precisely, and separately for each project.

Regarding the tendencies in reviewers’ edits, the research leads us to the following conclusions:

- In addition to errors detected and corrected by existing computational quality assurance modules (such as double spaces, typos, spelling, numbers, terminology), there are further anomalies that require human intervention (such as agreement, repetitions following from inattentiveness, complex punctuation problems), but that could be corrected automatically.

- The medium-quality text used in the research cannot be corrected to perfection: errors will remain (or even new errors will occur) in the end result.

- Reviewing in itself does not guarantee an improvement in the quality of the text. Reviewing is efficient when performed by an appropriate expert who is paid duly.
• It is possible to examine quality empirically, but it is important that the reviewer be an expert with sufficient linguistic, field-specific and reviewing experience.

As mentioned earlier, the thought of a reviewing memory is not alien to the field: the RevisionQ system conceived by Kockaert and Segers (2012) stores the changes made by the reviewer, and offers the stored correction the next time it encounters the same or a similar translation. This results in quicker and more consistent reviewing.

When analysing the third group of questions, it occurred to me that RevisionQ might be enhanced by a *penalty point* option – similarly to translation memories –, which could yield lower match rates for corrections proposed by some reviewers. At translation companies, as part of the regular quality assessment, one could create a ranking that could be used to penalize these matches. For example, the correction proposed by a weaker reviewer would occur as 97% even when the translation is entirely identical to the segment stored in the reviewing memory. The reviewing memory could thus indicate to the translator that the proposed correction is less reliable than usual.

In my opinion, there is one more reason to improve on the concept of RevisionQ: by expanding the set of errors that can be corrected automatically, there would be fewer aspects that are subject to the reviewer’s judgment, again improving the efficiency. Mossop (2001) warns that reviewing will be efficient if only a few aspects are considered at a time, and one does not attempt to correct all errors in a single reading. The more errors can be corrected automatically, the deeper the reviewer could go, even in a single reading, which would mean that reviewing could provide a greater quality leap.
6. References in the Thesis Summary


*BS EN 15038 2006 Translation services – Service requirements.*


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7. Publications and Conference Papers

7.1 Publications


Source: http://www.circuitmagazine.org/dossier-122/evolution-de-la-notion-de-qualite

### 7.2 Conference Papers

