

Translating perception metaphors: Linguistic, cultural, and social implications

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Abstract. Explaining the process of translation has become a challenging aim for different research fields. Rather than just relying on the analysis of translated texts, it is vital to analyse the process of translation to identify the reasons behind the translator's choices and the factors that influence the process. This article uses data from three experiments involving a total of 102 participants, who were asked to translate English perception metaphors into Estonian. The empirical results indicate that there are different factors that either hinder or enable translation. Most importantly, context supports the translation of both cross-cultural and culture-specific metaphors. Also, previous translation experience helps participants deal with metaphoric language. Another salient factor was living in an English-speaking country: participants with such experience found it less challenging to translate metaphoric language even if the metaphors were novel. Finally, educational background in translating facilitates the translation of metaphors.*

Keywords: *translation process, translator, metaphor, context, cognitive linguistics*

Percepcinių metaforų vertimas: kalbiniai, kultūriniai ir socialiniai aspektai

Santrauka. Vertimo proceso suvokimas ir jo paaiškinimas tapo tokiu tikslu, kuris intriguoja ir kelia iššūkius skirtingose mokslinių tyrimų srityse. Nebegalima pasikliauti vien tik verstinio teksto analize, būtina nagrinėti ir tai, kas vyksta per patį vertimo procesą: kokios priežastys lemia vienokį ar kitokį vertėjo pasirinkimą, kokie veiksniai daro įtaką pačiam vertimo procesui. Šiame straipsnyje dėmesys kreipiamas į percepcinių metaforų vertimą, remiamasi per tris vertimo eksperimentus surinkta medžiaga. Per eksperimentus 102 dalyviai buvo paprašyti išversti percepcines metaforas iš estų kalbos į anglų. Tyrimo rezultatai atskleidė, kad skirtingi veiksniai gali arba padėti, arba sutrukdyti versti. Pavyzdžiui, verčiant metaforas, turinčias kultūrinių ypatybių, labai padeda kontekstas. Metaforinei kalbai versti taip pat pasitarnauja sukaupta vertėjo patirtis. Dar vienas svarbus veiksnys, kuris išryškėjo atliktame tyrime, yra verčiančiojo patirtis gyvenant anglakalbėje šalyje: turintiems tokios patirties buvo lengviau išversti metaforinę kalbą net ir tada, kai metaforos buvo neįprastos ar matomos pirmą kartą. Patvirtinta ir tai, kad, verčiant metaforas, svarbus gelbstintis veiksnys yra ir verčiančiojo išsilavinimas.

Raktažodžiai: *vertimo procesas, vertimas, kultūra, kontekstas, kognityvinė kalbotyra*

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1. Introduction

The aim of this study is to describe issues related to the process of translating perception metaphors. The quantitative results of perception metaphor translation have been presented and discussed previously in Kalda 2016, Kalda *et al.* 2019, and Kalda 2020. These results describe the translation strategies and online sources translators use when translating perception metaphors. In the aforementioned studies, the focus was mainly on the generalisation of the results across the samples of the participants. Some aspects of the experiments did not receive due attention and will therefore be discussed in further detail in this article. The data gathered provided the opportunity to take a closer look at not just how perception metaphors are translated, i.e. which strategies are used and what happens during and as a result of the translation process, but also what factors might influence the translation choices in the translation process.

The article is descriptive in nature. The analysis comprises the results of three empirical cognitive studies on perception metaphor translation, with an emphasis on the participants in these studies (their background and behaviour during metaphor translation). The research questions of this study therefore focus on two aspects. Firstly, the attention is on how translation choices are made, and the challenges resolved when translating perception metaphors. Secondly, the aim is to analyse the factors that enable or hinder this decision-making process.

A perception metaphor is defined in this study as a figurative expression with a perception word (see Ibarretxe-Antuaño 2019 for discussion on perception metaphors in cognitive linguistics). The perception word can be a colour word (either a basic colour term like *grey* in colour metaphor *grey area* or a colour word like *silver* in colour metaphor *silver hair*), a taste and smell word (e.g. *salty* in taste and smell metaphor *salty language*), or a temperature word (e.g. *hot* in temperature metaphor *hot as hell*). This article does not attempt to provide a conclusive overview or list of the factors that influence the translating of perception metaphors; instead, it focuses on those aspects of perception metaphor translation that stood out in three different samples in three different empirical translation experiments.

The present paper consists of five sections and has the following structure. This introduction is followed by Section 2, which provides an overview of the theoretical background on perception metaphors, the translation process and the metaphor translation process in particular as well as translator studies. Section 3 introduces the participants, methods, and materials of the three translation experiments carried out in the study. Section 4 is dedicated to the analysis of perception metaphor translation, with a focus on resolving challenges in the translation process and the factors that influence it. A selection of examples is presented to illustrate the most characteristic and unexpected cases that were discussed in depth during the interviews with the participants in the experiments. Finally, a brief conclusion will be provided in Section 5.

2. Theoretical background

Metaphors have long been acknowledged as a substantial part of language use and many researchers have contributed a countless number of articles, chapters, and books to elucidate on different aspects related to them. Yet intriguingly, this phenomenon of language production and use still has many unanswered questions and provides ample research opportunities to representatives of different disciplines and research fields. The publication of Lakoff and Johnson's "Metaphors We Live By" in 1980 was an impelling force that encouraged a surge of investigation and drew attention to cognitive aspects of metaphors.

One category of this complex phenomenon is represented by perception metaphors. It is argued that the way in which people conceptualise and talk about perceptual experience is, to a large degree, universal (based on our biological propensities), but at the same time, utterly subjective (Majid, Levinson 2011; O'Meara *et al.* 2019). Literature on metaphor research thoroughly discusses the issue of universality aiming to determine whether metaphors are universal, culturally overlapping, or culture-specific. According to Kövecses (2006), there is cross-cultural and within-culture variation in metaphor use. He argues that this variation in linguistic expressions for the same conceptual metaphor may account for the variation in conceptualisation registered in languages (see also Schäffner 2014 for further discussion).

Language (with a small “l”; a particular tongue) is of course what offers us key insights into how other people conceptualise the senses. Observing this can yield rich insights into the differential importance of specific senses across cultures (Majid, Levinson 2011: 7). One way of examining this is to focus on translation in general and metaphor translation in particular. However, long discussions as to whether metaphors are in fact even translatable have accompanied studies about metaphor translation (Dagut 1976; Schäffner 2004; Snell-Hornby 2006, amongst others). Bernárdez (2013) explains that even linguistically and conceptually equivalent forms of figurative meaning in the source language and target language can be dramatically different in terms of their individual cultures, values, and preferences. He warns that the existence of a metaphor in both languages does not guarantee that they are really equivalent as their respective degree of cultural conventionalisation can be quite different (Bernárdez 2013: 321).

Many authors underline the importance of cultural aspects in metaphor translation (Chatti 2016: 161; Grady 2007: 213; Schäffner 2004; Tirkkonen-Condit 2001; van den Broeck 1981: 84, etc.). Bernárdez suggests that metaphors should be approached as cultural even when dealing with supposedly universal concepts as metaphors may include entire cultural domains whose scope and extent may differ significantly among languages, in such a way that in one language a metaphor only affects one tiny domain, whereas the corresponding metaphor in another language may affect a much larger one (2013: 333).

This means that in two languages, individual metaphorical mapping and general metaphor use as well as the frequency of a certain seemingly equivalent metaphor can vary considerably. In terms of translation, both for translators and those who study metaphor translation, this is of utmost importance. Figurative language needs to be analysed in actual contexts considering its frequency as well as cultural differences.

The cognitive perspective has only recently been incorporated into the translational analysis of metaphors (Samaniego Fernández 2013: 159). Samaniego Fernández claims that so far, apart from a few articles, there have not been many studies dealing with the translation of metaphor from a cognitive perspective, and some of the ones that do exist show a prescriptive bias. Process studies with a focus on a descriptive approach have contributed significantly to attaining a balance between product- and process-based studies.

There has been a recent move in translation studies to focus on the translation process rather than solely on the translation product in order to analyse and describe translation (Ehrensberger-Dow 2018: 294–295; Enríquez Raído 2014: 8; Hatzidaki 2013: 395). A variety of experimental methods and techniques are available in the field of psycholinguistics which have been used to study the cognitive aspects of translation. Eye-tracking, keystroke logging, heart rate and blood pressure analysis, measuring brain activity, and other similar new technical possibilities together with cued retrospection have enabled researchers to investigate the translation process in great detail. Several analyses have been published

outlining these methods, processes, and results (Abbasian, Baradaran 2015; Hvelplund 2014, 2017; Hvelplund, Dragsted 2018; Jakobsen 2019; Ruíz, Macizo 2019; Van Gog *et al.* 2009, amongst others).

Such a tendency to move from a product-based approach towards a process-based approach is also present in studies analysing metaphor translation. In doing so, a combination of methods is suggested (Schäffner, Shuttleworth 2013: 93). For instance, Sjørup has used eye-tracking and keystroke logging to analyse the metaphor translation process from a quantitative point of view (2008, 2013).

It is claimed that figurative expressions like metaphors are cognitively prominent in the sense that they are easily noticeable when encountered in another language (Johanson 2002: 309; Verschik 2019: 72). Therefore, it is argued that translating metaphors is cognitively more demanding for translators than translating other linguistic forms. In Schäffner's words, "[m]etaphors can become a translation problem, since transferring them from one language and culture to another one may be hampered by linguistic and cultural differences" (2004: 1253; see also Ervas, Gola 2017 for further discussion). Data gathered by Sjørup further show that metaphor translation requires more cognitive effort than that of literal expressions in the empirical results of translation experiments conducted with professional translators (2008; 2013: 209).

Besides the attention to the translation process, the focus in translation studies has been increasingly on the translator as well (Chesterman 2009; Pym 2009). Chesterman proposes renaming the entire field of translation studies and calling it Translator Studies (2009). The reasoning behind what Pym calls humanising translation (2009) is that process-oriented studies of translation do not focus sufficiently on the translators involved in the processes, which calls for a new tendency in translation studies to focus on the translators themselves and to treat them as (social) agents in their own right, as a group with its own interests, attitudes, identity and history (Dam, Zethsen 2009: 8). Translator Studies cover research that focuses primarily and explicitly on the agents involved in translation, for instance, on their activities or attitudes, their interaction with their social and technical environment, or their history and influence (Chesterman 2009: 13).

The translator's background, education, and personal and professional experience influence the process and end result. Still, in order to conduct research into the translators, the researcher has to consider both the product and the process of translation. Clearly, research on translation must acknowledge the translators behind the translations. It cannot be ignored, however, that both product- and process-oriented research can provide valuable information about both the texts and the people behind them. It is undoubtedly relevant to combine the approaches because it then becomes possible to gain more significant information than by just focusing on one of the three, since they are, in fact, complementary.

3. Data used for the analysis of perception metaphor translation

In this article, data from three translation experiments are combined. Multiple methods were used during these studies. All three experiments were designed and conducted by the author. Each experiment will be described in further detail below. Firstly, the participants are described; then the data gathering methods are outlined; and finally, the materials that were used in the experiments are presented.

3.1 Participants

As the study is empirical in nature, the most important and valuable contribution came from the participants. All of the participants who took part in the translation experiments were native Estonian

speakers. They were all volunteers whose contribution was processed anonymously in a generalised manner. A number of options were used to find the participants (directly contacting potential participants, publishing announcements on lists for translators in Estonia, and recruiting Master’s students at Tallinn University). For all the professional translators in the study, English was their main working language.

Experiment 1 involved 33 participants (21 women and 12 men). Slightly more than half of them (18 participants) had previous translation experience and 9 of them had studied translation at university. The remainder of the sample (15 participants) had high proficiency in English (C-level proficiency in English in the Common European Framework of Reference for Languages (CEFR), based on self-assessment). One third of the sample, 11 participants, had lived in an English-speaking country for an average of two years.

The participants in Experiment 2 can also be divided into two groups: participants with previous translation experience; and non-translators highly proficient in English (35 and 18, respectively). Nine participants had experience of living in an English-speaking country (for an average of two years and eight months). There were 14 participants who had studied or were studying translation at the time of the experiment.

Unlike in Experiments 1 and 2, all the participants in Experiment 3 were professional translators with a minimum of two years of translation experience. Their experience ranged from two years to 35 years. Nine had lived in an English-speaking country for an average of two years and eight months, while 14 had studied translation at university.

Detailed information about the participants in the three translation experiments is presented in Table 1.

Table 1. Overview of participants in Experiments 1–3

	Experiment 1: Translating colour metaphors in context	Experiment 2: Translating colour, temperature, and taste and smell metaphors without context	Experiment 3: Translating colour, temperature, and taste and smell metaphors in context
Number of participants	33	48	21
Gender			
Female	21	38	19
Male	12	10	2
Age range	23–64	20–53	29–69
Average age of participants	M = 34.2	M = 30.6	M = 42.2
Number of participants with previous translation experience (average duration in years)	18 (8.5 years)	35 (4 years)	21 (11.5 years)
Number of participants who had studied translation	9	14	14
Number of participants who had lived in an English-speaking country (average duration in years)	11 (2 years)	9 (2 years and 8 months)	9 (2 years and 8 months)
English-speaking countries in which the participants had lived	United States, United Kingdom, Ireland, Australia & Canada	United States, United Kingdom & Australia	United States, United Kingdom, Ireland, Australia, Canada & India

3.2 Methodology

This paper describes the empirical research that was carried out to analyse perception metaphor translation. The study is based on three separate experiments. To collect the data, triangulation of methods was used in each of the experiments in order to combine as much information as possible, both objective and subjective. Screen-recording and eye-tracking data provided objective information about the translation process of perception metaphors, and retrospective interviews enabled the participants to give more detailed information about translating specific metaphors and feedback on how they perceived the task in general.

The focus of both Experiment 1 and Experiment 3 was on the context-based translation of English perception metaphors into Estonian. In order to gather data about the translation process in Experiment 1, the participants were asked to translate a text from English into Estonian using screen-recording software (Windows BB Flashback or Mac OSX QuickTime). The participants were allowed to use their own computer to perform the task, so the choice of data-collection software depended on the operating system on their computer.

Experiment 3 was carried out in the laboratory of the School of Digital Technologies of Tallinn University. All the participants were tested individually with Mirametrix eye-tracker and Translog II keystroke logger software to gather data on the translation process of perception metaphors. Only the author of this paper and the participant were present in the laboratory during the experiment.

The aim of Experiment 2 was to collect data on the context-free translation of English perception metaphors into Estonian. The participants were presented with the list of perception metaphors given in Table 2. They were asked to provide their translation choice(s) in Estonian and to note which phrases they had checked online, listing the sources they used for each of these phrases.

A number of methodological approaches were similar in all three experiments. The participants were not informed about the nature of the study beforehand in order to eliminate potential predisposition to particular parts of texts or phrases. During all three experiments, the participants were allowed to use the Internet (search engines, dictionaries, etc.) as an external aid to resolve translation problems and/or revise and edit their texts or phrases. No time limit was set for the completion of the task.

After concluding the translation task, the participants in each experiment were asked to fill in a background questionnaire. The questions therein were about their age, gender, and language proficiency. The participants were also asked whether they had lived in a country where English was the main language. In addition to social background information, data were also collected about the participants' professional background. If the participant had previous translation experience, questions were asked about their main field of translation, the duration of their translation experience, and whether they had studied translation at university. The participants were also asked how often they read, write, and/or speak in English.

The questionnaire was followed by a semi-structured retrospective interview with the author (Sjørup 2013). The aim of this interview was to collect comments and feedback on the task, whether the participants faced any challenges during the task, how they decided on their translation choices, and how they resolved any translation problems. Following self-reflection on the translation task, the aim of the study was revealed to the participant and further discussion ensued about metaphors, perception metaphors, issues related to their transferability, and cultural aspects in the translation process in general.

3.3 Materials used in the experiments

Two types of translation tasks were used in this research to gather data: context-based and context-free tasks. Experiments 1 and 3 utilised the former, and Experiment 2 used the latter.

For the context-based Experiments 1 and 3, the author compiled texts based on the British National Corpus and iWeb Corpus respectively. In both experiments, the sentences extracted from the corpora were edited minimally and put together into coherent translation texts.

Experiment 1 consisted of one translation text (445 words). In the text, there were 24 sentences, of which 12 contained a colour metaphor. There were 21 colour metaphors in the source text, which were chosen so that they would contain either a basic colour term (BCT) or a colour word.

In Experiment 2 there were 42 English perception metaphors. These were presented to the participants sequentially in a list as single phrases, which they were asked to translate into Estonian. Among these metaphors, 21 were colour metaphors (the same metaphors as in Experiment 1). In addition to colour metaphors, there were also 12 taste and smell metaphors and nine metaphors containing a temperature word.

The translation task of Experiment 3 consisted of four short source texts (134–148 words). These translation texts contained 43 perception metaphors in total: 21 colour metaphors (*Emerald City* was replaced with *silver hair*, compared to the list of colour metaphors used in Experiments 1 and 2); 12 taste and smell metaphors (the same selection of metaphors as in Experiment 2); and 10 temperature metaphors (*the hottest war zone* was added to the list, compared to Experiment 2).

The metaphors were chosen in the following way. The aim was to include metaphors that would be culture-specific and lexicalised only in the source language (e.g. *red tape* and *sweet sixteen* are used in English-speaking culture) as well as metaphors of a cross-cultural nature (which would be used commonly in both the source and target language, e.g. *give the green light*, *hot as hell*). The metaphors included in the translation experiments are presented in Table 2.

Table 2. Perception metaphors selected for translation tasks in Experiments 1–3 in order of appearance in the experiment

Experiment 1: Translating colour metaphors in context	Experiment 2: Translating colour, temperature, and taste and smell metaphors without context	Experiment 3: Translating colour, temperature, and taste and smell metaphors in context
catch somebody red-handed	catch somebody red-handed	hot as hell
black market	bittersweet memories	out of the blue
out of the blue	grey area	golden opportunity
true colours	hot as hell	sharp smell
purple prose	black market	sweet dreams
like a red rag to a bull	sour-tempered person	true colours
dark ages	rose-coloured glasses	rose-coloured glasses
grey area	cold in the grave	cool friend
red tape	blue in the face	warm support
white lie	salty language	play it cool

Experiment 1: Translating colour metaphors in context	Experiment 2: Translating colour, temperature, and taste and smell metaphors without context	Experiment 3: Translating colour, temperature, and taste and smell metaphors in context
born with a silver spoon in one's mouth	red tape	give the green light
golden opportunity	sweet sixteen	hot debate
Emerald City	out of the blue	awash under a brown tide
white magic	spicy novel	blue in the face
yellow-bellied person	purple prose	the hottest war zone
rose-coloured glasses	hot debate	silver lining
blue in the face	dark ages	chilly greeting
awash under a brown tide	our friendship soured	dark ages
silver lining	silver lining	out in the cold
give the green light	salt of the earth	with flying colours
flying colours	white magic	red tape
	juicy scandal	silver hair
	with flying colours	salty language
	sharp smell	cold in the grave
	give the green light	sour-tempered person
	a warm trail	soft in the head
	awash under a brown tide	grey area
	soft in the head	soft voice
	yellow-bellied person	yellow-bellied person
	play it cool	a warm trail
	like a red rag to a bull	catch somebody red-handed
	sweet dreams	black market
	true colours	salt of the earth
	out in the cold	born with a silver spoon in one's mouth
	white lie	sweet sixteen
	soft voice	white magic
	born with a silver spoon in one's mouth	like a red rag to a bull
	chilly greeting	friendship soured
	golden opportunity	white lie
	cool friend	juicy scandal
	Emerald City	bittersweet memories
	warm support	spicy novel
		purple prose

4. Observations from the experiments on perception metaphor translation

In this section, the data and results of the three translation experiments described in Section 3 are discussed. The observations are divided into two parts: firstly, some of the distinctive aspects related to how the participant dealt with resolving challenges in the translation process that recurred during the experiments are discussed; and secondly, features that assumingly positively influence the translation process are examined. Both topics are exemplified with a selection of illustrative cases from the translation experiments, along with comments from the interviews.

4.1 Dealing with challenges in the translation process

A decision means a choice to be made between a number of possible solutions to a given problem encountered while translating a text. This choice will influence subsequent choices by opening up or closing off other options dependent on the first selection made. These choices, whether necessary or unnecessary, motivated or unmotivated, are hierarchical rather than merely sequential. These decision-making choices seemed to be influenced by two types of factors: (i) objective ones, which are of a linguistic nature; and (ii) subjective ones, which are of an extra-linguistic nature (Olivera, Velasco Sacristán 2001: 76). In this section, the focus is on linguistic factors, deliberating between translation choices and using external sources to aid in coping with translation challenges.

4.1.1 Deliberation between translation choices

One question which process-oriented translation studies investigate concerns editing and deleting translation choices in the translation process. In context-based translation tasks, the translator has to decide on a single translation choice, whereas in context-free translation tasks it is possible to provide a number of options.

Irrespective of individual exceptions within the samples, the translators seemed to approach the translation task differently than non-translators (i.e. their decision-making process appeared to be different). For example, in Experiment 2 translators provided several translation choices, i.e. wrote down different options that could be used in various contexts. The same tendency occurred during the context-based experiments. The screen-recording data in Experiment 1 and the eye-tracking data in Experiment 3 revealed that during the task, the participants with a professional background in translating wrote down several translation choices, and when unable to make a decision or hesitant about their translation choice, they returned to the metaphor later while revising their text and only then selected one. Participants without a professional background in translation in Experiments 1 and 2 tended to write down a single translation choice (which was often a literal translation) and not waver from it.

Examples (1)–(3)¹ illustrate such deliberation between translation choices by the translators during the experiments. The metaphors in the examples are used in both the source and target language. As expected, they caused no comprehension problems in the sense that the participants understood the meaning of the metaphor in the source language and obvious mistranslation did not occur, but the translation choices that the translators considered varied significantly.

¹ In Examples (1)–(7), the translation choices are presented as follows: for Experiments 1 and 3, all versions of translation choices that were written down by the participants during the experiment are presented, with the last version in each particular case being the final version written in the translation text; for Experiment 2, the participants were allowed to write down several translation choices they found applicable for each perception metaphor.

(1) grey area

Experiment 1/Participant 3:

Version 1: *hall ala* ‘grey area’

Version 2: *raskesti määratletav nähtus* ‘intractable phenomenon’

Version 3: *ähmane nähtus* ‘vague phenomenon’

Experiment 1/Participant 5:

Version 1: *hall ala* ‘grey area’

Version 2: *hägune teema* ‘vague topic’

Experiment 1/Participant 12:

Version 1: *hall ala* ‘grey area’

Version 2: *väga lai mõiste* ‘very broad concept’

Experiment 2/Participant 5:

hall ala, tundmatu ja reguleerimata ala ‘grey area, an unknown and unregulated area’

Experiment 2/Participant 13:

hall tsoon, vahepealne ala, ei seda ega teist ‘grey zone, an area in between, neither this nor that’

Experiment 2/Participant 42:

hall ala, mitmeti tõlgendatav teema ‘grey area, a topic that can be interpreted in a number of ways’

Experiment 3/Participant 16:

Version 1: *hägusus* ‘vagueness’

Version 2: *udusus* ‘fogginess’

Version 3: *ebakonkreetsus* ‘lack of specificity’

(2) rose-coloured glasses

Experiment 1/Participant 12:

Version 1: *roosad prillid eest võtma* ‘take off rose-coloured glasses’

Version 2: *sinisilmsusest aru saama* ‘become aware of one’s blue-eyedness (= naivety)’

Version 3: *roosade prillide tagant välja vaatama* ‘look out from behind rose-coloured glasses’

Experiment 1/Participant 29:

Version 1: *läbi roosade prillide vaatama* ‘look through rose-coloured glasses’

Version 2: *läbi lillede vaatama* ‘look through flowers’ (literally), referring to ‘look the other way’

(3) hot as hell

Experiment 2/Participant 1:

kuradi palav, väga vürtsikas ‘goddamned hot, very spicy’

Experiment 2/Participant 2:

väga ilus (inimene), põrgulikult kuum (ilm) ‘a very beautiful (person), hellishly hot (weather)’

Experiment 2/Participant 3:

palav nagu põrgus (ülekõetud ruum) ‘hot as in hell (overheated room)’

Experiment 2/Participant 13:

tulikuum, põrgukuum ‘boiling/burning hot, hot as hell’

Experiment 2/Participant 21:

kuradi palav/kuum, kuum tükk ‘goddamned hot, hot piece’ (hottie, very attractive)’

All three metaphors exemplified above are used and acceptable in Estonian in similar contexts and with a similar colour or temperature word as in English. The participants who chose different translation options either explained this with the intent to comply better with the overall context or, in the case of the context-free translation experiment, the lack of context motivated them to provide several potential choices that could be used in different contexts or to explain in brackets their associations with the particular phrase. One of the participants of Experiment 2 explained their choice for Example (3):

“I didn’t know what the meaning was supposed to be. To me, it could mean several things, depending on the context of the phrase. I couldn’t decide which one to choose, so I wrote down both options, as to me they’re equally possible.”

Contrary to the context-free Experiment 2, in Experiment 3 the context supported the translation choice, and since the metaphor was not novel, neither comprehension problems nor translation challenges arose. In Experiment 3, the context supported translation, and all translation choices were either *palav nagu põrgus* or *kuum nagu põrgus* ‘hot as hell’. (In Estonian, the adjectives *palav* ‘hot’ and *kuum* ‘hot’ are full synonyms in this context.)

A similar struggle is illustrated with three examples from Experiment 1 in which the participants altered the original literal translation in Example (1): two of them were satisfied with a second option, while the third edited the phrase several times and settled on a third option. In the words of one of the participants:

“Sometimes you just don’t feel like settling for the first and most obvious translation choice. It’s difficult to explain... Even if it sounds suitable at first, when you start revising, something just doesn’t sound quite as it should. Then you try different options. Read it again. And again. And ultimately make your decision. What then surprises you is the amount of time you spend translating that one single phrase, even if it seems so easy at first glance.”

Example (2) presented above illustrates a similar case in which the first translation choice failed to satisfy the participants and they changed their original translation choice. The timed screen-recordings of context-based experiments revealed that for some participants the deliberation process was quite time-consuming as a single translation choice had to be selected. One particular metaphor that stood out in the data in terms of the cognitive effort and time expended on its translation was the colour metaphor *awash under a brown tide*. The selected translation choices are listed in Example (4) below.

(4) *awash under a brown tide*

Experiment 1/Participant 3:

Version 1: *põgenike sisseränd* ‘immigration of refugees’

Version 2: *põgenike tulv* ‘flood of refugees’

Version 3: *sisserändajate tulv* ‘flood of immigrants’

Experiment 1/Participant 16:

Version 1: *immigrantide sissevool* ‘inflow of immigrants’

Version 2: *immigrantide tulva tõusulaine* ‘tidal wave of the flood of immigrants’

Experiment 1/Participant 20:

Version 1: *katkematu põgenike vool* ‘endless flow of refugees’

Version 2: *katkematu immigrantide laine* ‘endless wave of immigrants’

Experiment 2/Participant 3:

mudalaviini alla jääma, jäljetult kaduma ‘to get caught under a mudslide, disappear without a trace’

Experiment 2/Participant 7:

immigrantide sissevool, migraatsioonilaine ‘inflow of immigrants, migration wave’

Experiment 2/Participant 27:

poriga üle kallatud, porri tallatud ‘smothered in mud, trampled into the mud’

Experiment 3/Participant 4:

Version 1: *tõkestada sisserändajate horde* ‘block the hordes of immigrants’

Version 2: *ennetada sisserändajate horde* ‘prevent the hordes of immigrants’

Experiment 3/Participant 13:

Version 1: *pruun laine* ‘brown wave’

Version 2: *pruun tulv* ‘brown flood’

Version 3: *tumedanahalisele tulvale vastu* ‘against the dark-skinned flood’

Experiment 3/Participant 16:

Version 1: *immigrantide laine* ‘the wave of immigrants’

Version 2: *põgenikelaine* ‘the wave of refugees’

This metaphor was among the most frequently mentioned challenges faced in the translation task. This was a novel metaphor for the participants, causing not only translation problems but also issues with comprehension. A participant from Experiment 3 explained:

“I genuinely struggled to translate that phrase. The context gives you hints, yes, but it’s a phrase I hadn’t seen before. With novel expressions you hesitate, that’s normal, and especially so when you’re dealing with figurative language. I don’t think I got enough information from the source text to translate the phrase properly, I mean to find the right words. I wrote down lots of options to choose from, and to be honest, I’m not 100% satisfied with the end result.”

Translation challenges related to this metaphor will be further discussed with regard to the use of external resources when dealing with translation challenges and cultural specificity in Sections 4.1.2 and 4.2.1, respectively.

To conclude, the participants were unanimous that context helps translators cope with challenges that occur when translating perception metaphors. Contemporary theory of metaphor also emphasises the importance of context (Ervás, Gola 2017; Glucksberg 2003; Kövecses 2015). In order to analyse how translators select acceptable translation choices in a particular context, it is important to study how they use online sources when resolving translation problems.

4.1.2 Use of dictionaries and other web-based sources for assistance

Research on how translators themselves use translation aids and resources is clearly part of Translator Studies, since it forms part of the study of the translator’s working procedures (Chesterman 2009: 18). It also constitutes a substantial part of translation process studies (Hvelplund 2017).

In all three experiments, the participants were allowed to use online sources as translation aids. The consultation process was closely monitored in Experiment 1 with screen-recording and in Experiment 3 with eye-tracking data. In Experiment 2 the participants were asked to provide information regarding each metaphor they consulted. Apart from four of the 33 participants in Experiment 1, 12 of the 48 participants in Experiment 2, and two of the 21 participants in Experiment 3, all took advantage of online sources when completing the task.

All the searches made during Experiments 1 and 3 were documented based on screen-recordings and eye-tracking data. The data gathered revealed that the majority of the searches were related to the metaphors. The data also revealed that Googling an expression about which they were uncertain was the most frequent tactic chosen by the translators. This was followed by browsing different types of dictionaries. Interestingly, the participants preferred monolingual dictionaries to bilingual ones when resolving translation problems related to the perception metaphors.

One of the metaphors most commonly looked up during the experiments was the perception metaphor *awash under a brown tide*. As previously mentioned, this was a novel metaphor that caused both comprehension and translation problems. Examples illustrating the search behaviour for this perception metaphor are presented in Example (5).

(5) *awash under a brown tide*

Experiment 1/Participant 3:

Keeleveeb.ee: awash

Google: awash under a brown tide

Google: awash under a brown tide meaning

Google: *põgenike sissevool* ‘inflow of refugees’

Experiment 1/Participant 12:

urbandictionary.com: brown tide
merriam-webster.com: brown tide

Experiment 1/Participant 23:

Google Translate: awash, brown tide, tide
Google: under a brown tide

Experiment 2/Participant 7:

urbandictionary.com: awash under a brown tide
Google: awash under a brown tide
Keeleveeb: *migratsioonilaine* ‘migration wave’

Experiment 3/Participant 3:

eki.ee: brown tide
Google: brown tide
Google: brown tide definition
Google: brown tide meaning
Google: brown tide metaphor
Google: *immigrantide laine* ‘wave of immigrants’

Experiment 3/Participant 13:

Google: to get awash under a brown tide
Google: to get awash under a brown tide meaning

Experiment 3/Participant 15:

Google translate: brown tide
Google: brown tide meaning
Google: *migratsioonilaine* ‘migration wave’

Experiment 3/Participant 16:

Google: brown tide, brown tide refugee
Linguee.com: brown tide
Google: awash under a brown tide
Google: *pagulaste laine* ‘wave of immigrants’

Experiment 3/Participant 19:

Glosbe.com: brown tide
Google: what is meant by a brown tide
Google: what is meant by a brown tide in politics
Google: brown tide definition

Experiment 3/Participant 20:

Google translate: awash, brown tide
Google: under a brown tide
Google: under a brown tide meaning
Google: awash under a brown tide meaning
Google: to get awash under a brown tide meaning

Experiment 3/Participant 21:

Google: get awashed meaning -> merriam-webster.com, dictionary.cambridge.org
Google: brown tide meaning -> merriam-webster.com
Google: get awashed under a brown tide
Google: *migrantide laviin* ‘avalanche of migrants’

This perception metaphor seemed to be one of the most challenging to translate and the participants reflected on this during the interviews. One specific comment made by a participant in Experiment 2 summarised the nature of these reflections:

“I think I comprehended the metaphors. However, I often had to check the meaning of them online to be sure I’d understood the original meaning or because I wanted to find the figurative meaning in Estonian, how it’s used. Especially in the cases of metaphors that were completely new to me, like the brown tide one.”

In all three experiments, the tendency to check the use of a metaphor in the target language occurred mostly in the translation process of participants with a professional background in translation. Googling was the most common action taken to find examples of actual language use. During the interviews, the explanation given was that evidence of a similar Estonian expression being used online would serve as proof of the fact that potential readers would understand the translated text better (see further discussion about the perception metaphor *awash under a brown tide* in Section 4.2.1.).

During the interviews, the participants noted certain issues with dictionaries. Namely, there are inaccuracies in bilingual dictionaries that might mislead translators and result in unintentional mistranslations regarding culturally specific metaphors. Another issue related to dictionaries was mentioned during an interview with a participant in Experiment 1, who expressed the need to compile thematic dictionaries, both English-Estonian and Estonian-English:

“If we had such dictionaries, the translator’s job would be much easier! [LAUGHING] Seriously though, I know compiling such dictionaries is more or less impossible. For pure idioms it’s possible, but capturing the figurative nature of language in a dictionary... that’s impossible...”

Another participant in Experiment 3 concurred:

“I’ve thought about this before, and this task cemented my view that someone should take on the challenge and compile a metaphor dictionary. I know there’s an English-Estonian one for idioms, but I’ve checked and it doesn’t include everything it should include. Well... yes, if it’s difficult to compile a comprehensive dictionary about idioms, then including metaphoric stuff... yes, wishful thinking...”

The instructions for the three experiments did not stipulate that participants had to revise their results. The majority of them, however, re-read their translations and sought alternative wordings. The distinctive translation process of one particular participant in Experiment 3 attracted attention: it was marked out by long pauses while the translator revised their texts, and by the fact that the translator did not spend a considerable amount of time consulting online sources. During the interview while discussing issues of language construction and syntax, the participant stated:

“I read the text in English and understood the phrases, but my brain froze a couple of times. I think it was because I started thinking about the structures of the two languages. They’re different, and it’s difficult to put English structures into Estonian. It’s difficult to translate literally. I tried, and as a combination of words it was perfectly grammatical in Estonian, and understandable as well, but not used like that. I didn’t want to look for the phrases online too much, as for me all this Googling and searching gets confusing sometimes. And besides, I got the meaning from the context anyway.”

This issue is also addressed in academic literature (e.g. Jensen *et al.* 2009). The task of the translator becomes more complicated when two languages do not share a construction and there is no equivalent readily available to translators (Rojo, Valenzuela 2013: 289). For example, Penttilä *et al.* (1998) studied idioms and found out that idiom interpretation relies heavily, although not completely, on the form of the expression. Yet they point out that figurative expressions become more understandable when they are based on figurative forms that are supposed to be common to all mankind (meaning cross-cultural) than when they are based on figures that are more dependent on cultural background. It must be borne in mind that in the case of metaphors and idioms, their meaning is not a compositional function of the meanings of their parts; therefore, the meaning of such phrases is not related to the form of the expression in any straightforward manner (Penttilä *et al.* 1998: 244). The participant who struggled to convey English structure and forms in Estonian was dealing with form-mapping rather than meaning-mapping.

The data gathered during the three experiments revealed that professional translators approach the translation process slightly differently. A more detailed quantitative overview of the use of external sources of assistance when translating perception metaphors in a context-based translation experiment (Experiment 3) is available in Kalda 2020. As described above, translators focus on the use of the expression in the target language, rather than just finding a corresponding dictionary equivalent. In Chesterman's words, they focus on the reception of translations in the target socio-culture (Chesterman 2009: 16). Some strive for what Venuti calls the strategy of domestication (Venuti 2008; further discussed in Section 4.2.1).

4.2 Factors that enable or hinder the translation of perception metaphors

Close observation of the participants during the translation experiments and retrospective interviews suggest that there are certain factors that influence the process of translating. In this section, these aspects are discussed along with illustrative examples taken from the experiments.

4.2.1. Cultural issues related to perception metaphor translation

In addition to the usefulness of context discussed in the previous section, studies on metaphor translation cannot neglect the importance of cultural aspects. Without exception, the interviews with the participants in the three experiments evolved around the importance of cultural issues in translation and reaching acceptable outcomes as a result of the translation process. Cultural issues do matter.

In the case of metaphor translation, which is an act of recreating the original rather than just echoing it (Guldin 2016), translators should consider the fact that the metaphors were created in different contexts. But do translators aim to adhere to the context of the source language or to the new one (Alshniet 2019: 75)?

In the majority of the interviews, the fact that some English metaphors have been “adopted” from English-speaking cultures or “melted down into” the daily use of native Estonians (e.g. *bittersweet memories* in this study, or *my cup of tea*) was emphasised. Example (6) illustrates the translation choices for *bittersweet memories*. Despite the fact that this metaphor is not unknown and indeed is used in Estonian, some of the participants reported it as challenging to find an acceptable equivalent in the target language.

(6) *bittersweet memories*

Experiment 2/Participant 5: *kibemagusad (mõrud) mälestused* ‘acerbic-sweet (bitter) memories’

Experiment 2/Participant 7: *ilusad ja valusad mälestused* ‘beautiful and painful memories’

Experiment 2/Participant 11: *mõrumagusad mälestused* ‘bittersweet memories’

Experiment 2/Participant 13: *maguskurvad mälestused* ‘sweet-sad memories’

Experiment 2/Participant 15: *maguskibedad mälestused (ilusad mälestused, mis teevad ka haiget)* ‘sweet-acerbic memories (beautiful memories that also hurt)’

Experiment 2/Participant 19: *nukrad, nostalgilised, südantsoojendavad mälestused* ‘sad, nostalgic, heart-warming memories’

Experiment 2/Participant 22: *vastakaid tundeid tekitavad mälestused* ‘memories that induce contradictory feelings’

Experiment 2/Participant 34: *heldimapanevad, nukrad mälestused* ‘emotional, sad memories’

Experiment 3/Participant 1, 7: *mõrumagusad* ‘bittersweet’

Experiment 3/Participant 2, 9: *mõrkjasmagusad* ‘bitterish-sweet’

Experiment 3/Participant 3, 4, 14, 15, 17: *kibemagusad* ‘acerbic-sweet’

Experiment 3/Participant 5, 8, 11: *magusvalusad* ‘sweet-painful’

Experiment 3/Participant 6, 10: *mõrkjad* ‘bitterish’

Experiment 3/Participant 12: *maguskurvad* ‘sweet-sad’

Experiment 3/Participant 13: *kibedad* ‘acerbic’

Experiment 3/Participant 16: *nukrusevarjundiga* ‘with a shade of sadness’

Experiment 3/Participant 18: *magushapud* ‘sweet-sour’

Experiment 3/Participant 19: *magusmõrud* ‘sweet-bitter’

Experiment 3/Participant 20: *mõnevõrra valusad mälestused* ‘memories that are somewhat painful’

Experiment 3/Participant 21: *kurblõbusad* ‘sad-happy’

A participant in Experiment 3 raised the topic of domestication when discussing the translation challenges encountered with this perception metaphor:

“The meaning of the metaphor is clear, but transferring it into Estonian was tricky. To my surprise, it sounded really anglicised when translated. I don’t like it when the source language can be sensed behind the target text when I read it.”

Other cultures, in particular English-language culture (from literature, television, and the Internet), influence the Estonian language and therefore English metaphors influence Estonian metaphors. In translation practice, foreignisation cannot exist without employing some domestication; similarly, domestication cannot exist without employing some foreignisation (Shi 2014: 769).

There are differences which seem to be related to age or belonging to a certain group of language users. Younger people are likely to listen to and use English more often (due to the growing importance of social media). This may cause them to use literal translations of English metaphors more often, which may be novel to the elderly. Some, as proponents of “proper language use”, would prefer this not to happen, but others feel that this tendency enriches Estonian and that it is a completely natural process. This was also mentioned in one interview:

“I think it’s natural, to a degree, that Estonian speakers take on expressions from other languages. English first and foremost, of course. With movies, books, the growing importance of social media, use of apps and so on, it’s unavoidable. Our entire lives are online nowadays. I suppose younger people hear and read English so often that their everyday language use has changed. English permeates their speech and they use literal translations of English expressions a lot. I personally don’t like it all that much. Such expressions sound too foreign to me.”

This form of copying is common practice in real language use. Estonian, as a relatively small language compared to English (in terms of number of speakers²), cannot prevent the fact that there are external influences. Discussion about age-related issues in metaphor translation continues in Section 4.2.2.

Culture-specific metaphors can be referred to as opaque since their meaning may not be clear at first. In this study, the perception metaphors *purple prose* and *awash under a brown tide* were the most challenging for the translators to comprehend. In several cases in the three experiments carried out as part of this study, finding a satisfactory equivalent to *bittersweet memories* can be characterised similarly although it is cross-cultural in nature.

The culture-specific perception metaphor *awash under a brown tide* proved challenging to translate in both the context-based and context-free experiments. Indeed, this is a novel metaphor, a political one, which is not widespread (Santa Ana 1997) and is a good illustration of cases where if there is no

² According to Statistics Estonia, in 2020 there were 894,336 people who spoke Estonian as their mother tongue. If we add proficient users of Estonian, a language with more than a million speakers is not a small language compared to the majority of those spoken in the world. <https://www.stat.ee/et/uudised/eesti-elanikud-aaagivad-231-eri-emaakeelt>

corresponding metaphor in the native tongue, then comprehension and translation difficulties arise. Examples (4) and (5) presented in Sections 4.1.1 and 4.1.2 clearly illustrate this.

The metaphor in question is a political one which refers to being anti-immigration and is a subcategory of the conceptual metaphor *IMMIGRATION IS DANGEROUS WATERS* (Santa Ana 1997: 321). In Estonian there is no information about a similar metaphor being lexicalised and containing a perception word that would convey a similar meaning. However, dark colours are sometimes associated when referring to the Negroid race and therefore indirectly with immigration. According to a colour association study, to native Estonians, the colour brown bears more positive than negative associations, including warmth, calmness, safety, being down-to-earth, and chocolate (Käsk 2015: 57). It may cause comprehension problems when the metaphor is encountered for the first time, i.e. when it is novel, but as comments in the interviews revealed, the context helped in the process of translating it (see also Kecskés 2006).

Another example of cultural issues related to the comprehension and translation of perception metaphors which emerged during the interviews concerned a supposedly uncomplicated and straightforward cross-cultural perception metaphor. Namely, one of the participants in Experiment 3 told a short story about a discussion with a native English speaker (an Australian in this case) about the metaphor *soft in the head*:

“Years ago, when I was in Australia, I was asked to describe Estonians as people, since it was the first time that the person I was talking to had met an Estonian. I used the expression “simple people”. I didn’t suspect that there’d be any misunderstanding, as “a simple person” in literal translation is often how Estonians tend to characterise themselves. By the word “simple”, I meant that Estonians are easy-going, modest, hard-working, not very demanding or pretentious. To my surprise, to native speakers of English, being simple refers to being “soft in the head”, which is to say either crazy or stupid. I was strongly advised not to describe a person as “simple”, because it could be interpreted rather differently than expected.”

There are different connotations of perception words that are relevant in English and in Estonian although both are culturally Western. This influences the comprehension and translation of metaphors even if the metaphor appears to be transparent. The value of such conversations cannot be underestimated because of the lessons they teach about foreign cultures. For translators, it is of the utmost importance to obtain such information so as to be able to successfully transfer the cultural content, as Bernárdez (2013: 314) put it.

In conclusion, an observation from all three translation experiments is that colour metaphors seem to be more culturally dependent than the other perception metaphors included in the tasks. Firstly, when the participants were asked whether anything was difficult in the task, and if so, what, all the participants immediately referred to figurative language. Then, when asked to provide examples of difficult phrases or parts of text, the first examples they gave, without exception, were colour metaphors.

4.2.2 Social issues pertaining to the translation of perception metaphors

In addition to cultural aspects, there are personal factors which can influence the translation of perception metaphors: previous translation experience and education, personal experience of living in the culture of the source language, and the changing nature of language perception.

• *Changing nature of language perception and use*

The first and arguably most important stage of metaphor translation is comprehension. Younger generations are likely to be exposed to different kinds of texts and materials and therefore to somewhat

different metaphors than older generations. However, Newsome and Glucksberg (2002: 253) note that older adults, like younger ones, enhance metaphor-relevant properties and filter out metaphor-irrelevant properties in metaphor comprehension, suggesting that age does not influence such comprehension.

How language is perceived and conceptualised by a generation may be different compared to the generation before it. This is partly due to language contact: younger people are more likely to accept phrases and language use of which others may not approve, which in itself may be evidence of different language perception (Bahtina *et al.* 2021). Contact and sociolinguistic studies focus on naturalistic language use. Such studies can contribute to translation studies in providing information on how translation choices are made (see also Verschik 2017 for a discussion on language contact and language awareness).

There are metaphors which originate from the Bible, e.g. *salt of the earth* in Experiments 2 and 3. For the participants, this metaphor did not pose comprehension problems. It was pointed out during the interviews that there are several biblical expressions that have permeated our daily language although we do not recognise them as being biblical. There are, for example, a large number of biblical idioms which have been translated from one language to another and which are therefore common to the Judeo-Christian world as a whole. These are obviously culture-dependent, but their origin might as well be biology-based (Penttilä *et al.* 1998: 235).

However, the biblical origin of this metaphor was only remarked upon by the older participants in the study. In some interviews it was said that the language younger people use is not as rich in vocabulary as it should be or as it has been to date; people are reading fewer and very diverse texts (of different registers). The language proficiency of the young may be higher since they consume more content in English, but the sources they use may not be particularly heterogeneous. One reason for this ignorance of the origins of certain figurative phrases is that they are not used very often and language users do not come across such expressions in the texts they read. A phrase may be becoming more or less frequent than it was in the past. If it is becoming much less frequent, its use may come across as archaic, especially to younger readers, and thus not very idiomatic (Mossop 2020: 154). The translation choices in Example (7), provided by a participant in Experiment 2, exemplify the possibility of lost figurativeness in perceiving the meaning of the metaphor (*sool maa seest* ‘salt from inside the earth/ground’). This could be a consequence of the fact that a translator may produce a very literal translation if in doubt of the exact meaning of the text (Englund Dimitrova, Tiselius 2009: 121). The question remains whether such translation choices manage to convey the cultural content.

The examples presented in Example (7) illustrate that although the expression *maa sool* ‘salt of the earth’ is used in literal translation in Estonian and is available in dictionaries, the participants provided several different translation choices.

(7) *salt of the earth*

Experiment 2/Participant 2, 35, 42: *ühiskonna koorekiht* ‘cream of society’

Experiment 2/Participant 3: *maa sool* (=õpetajad) ‘salt of the earth (= teachers)’

Experiment 2/Participant 22: *asjatundjad/teadjamehed* (*see tuleb piiblist*) ‘experts/wise men (it comes from the Bible)’

Experiment 2/Participant 28: *maa sool, sool maa seest* ‘salt of the earth, salt from inside the earth/ground’

Experiment 3/Participant 4: *põneva karakteriga sell* ‘a dude with an exciting character’

Experiment 3/Participant 14: *karune mees* ‘a harsh man’

Experiment 3/Participant 22: *läbinisti aus ja heasüdamlik mees* ‘a profoundly honest and good-natured man’

A comment made by one of the participants in Experiment 3 illustrates the translating challenges related to *salt of the earth*:

“This metaphor is from the Bible. I think its meaning in Estonian is a bit different from its meaning in English. My first association with the phrase made me think of teachers and knowledge, wisdom. But the context in this text motivated me to refer to a decent, hard-working person instead. Or perhaps in Estonian the meaning of the metaphor has changed and shifted a bit? I think common knowledge associates salt of the earth with teachers, doesn't it? Frankly, we don't use the expression very often, do we? At least younger people, I think.”

This is an example of a metaphor that is seemingly equivalent in both languages. The dictionary equivalent in Estonian is *maasool*, literally ‘salt of the earth’. Cases involving other cross-cultural metaphors that might have seen a shift in meaning in different languages deserve further investigation and empirical research.

• Experience of living in the source-language environment

Language communities have always been in contact, but globalisation has meant language contact of a very different kind. Possibilities to travel and study abroad, to communicate with foreigners, to get hold of literature, art, films, and other materials not as accessible even a couple of decades ago have opened up our world in every possible sense. This inevitably influences how we think, speak, interpret, and translate. All the participants in the three experiments in this study claimed to have daily contact with English (reading, communicating, watching films, etc.). Reading (and reading different types of texts), listening, and speaking enrich personal language skills, which are the basic tool and instrument of the translator.

With regard to translation, among the participants in the three experiments, living in an English-speaking country clearly had a positive impact on metaphor translation. As the data gathered during the experiments confirm, the participants with such experience faced fewer comprehension problems, and fewer cases of obvious mistranslation occurred in their translations, irrespective of whether they had previous translation experience. For example, a participant in Experiment 3 claimed:

“I lived in the United States for 10 years. I'm really glad I did. I didn't have any comprehension problems in this experiment. For me the task was relatively easy. I didn't feel the need to consult any online sources. I quite enjoyed the task.”

What kind of perception metaphors are easy to comprehend and/or translate is highly subjective and individual, because personal backgrounds, extra-linguistic knowledge and experience are all different. Instances like the anecdote about *soft in the head* in Section 4.2.1 represent invaluable opportunities to gain knowledge about the source language and culture that are learned through personal experience rather than by simply reading books. Of course, this is not to diminish the importance of language-learning: a participant may have sufficient knowledge of a second language (L2) to perform a word-translation task, but aspects of it (e.g. the contextual environment, attentional demands, and memory load) may affect translation speed and overall performance accordingly (Hatzidaki 2013: 397).

• Translation experience

The behaviour of professional translators during the translation process in terms of decision-making and consulting online sources differs from that of participants without such experience. The professional translators faced fewer comprehension problems and tended to put more effort into finding the most suitable translation. The attention of non-translators was mainly concerned with comprehension.

Previous literature confirms this. Translators seem to focus more on production-related problems (or goals) than non-translators, who seem primarily to encounter comprehension issues (Enríquez Raído 2014: 12).

However, there are exceptions. The data revealed that the translation field of the participant can affect the comprehension and translation of perception metaphors. Previous research confirms this possibility (see e.g. Hvelplund, Dragsted 2018, who analysed genre familiarity in the translation process). In this study, the topic was most evident in the translation process of a participant in Experiment 3. The participant claimed:

“This was a difficult task for me. I struggled. My main field of translation is technical texts, and my educational background is technical as well. These texts were more fictional than I expected, and the vocabulary was a bit unusual, especially the figurative expressions. Many of the metaphors were totally new to me. I don’t read books in English with this sort of vocabulary in them either. Despite the more than 10 years of translation experience I have, it took a lot of effort to complete the task.”

This indicates that cognitive effort in translating metaphors is indeed higher even for professional translators. The experiments were designed to reflect a potential translation task in real life, and previous translation experience seemed to help participants with such a background. Their experience in resolving translation problems, their decision-making process, and their habits in consulting online sources for help gave them an advantage in completing the task. In addition, specialisation in a particular field of translation seemed to have an effect.

Undoubtedly, apart from translation experience, an individual’s proficiency in the languages they use is of paramount importance for successful translation (Hatzidaki 2013: 403). In addition to previous translation experience and language proficiency, which both influence the translation process and the accuracy of its results, translation education also matters. The participants who had studied or were still studying translation at university seemed to “understand” or “approach” the task somewhat differently from those without such a background. An argument in favour of this claim was made by a participant in Experiment 1. They said that practical and theoretical courses at university had made them consider the needs of the reader more than they had tended to prior to their translation studies. They added that the commonly held belief about translators being mere technical workers who mechanically convert the source text into the target text changed completely during their studies and they became aware of both the complexity and the responsibility of the profession. Triin van Doorslaer also claims that both translation education and experience matter when decisions are made during translation (van Doorslaer 2015: 239). The complexity of the task was summarised by a participant in Experiment 3:

“I think it comes with experience that you start translating more quickly and more skilfully. And you learn that even if you’re not entirely satisfied with everything, then at some point you just have to stop editing your work. But no matter what, you strive for perfection.”

5. Conclusion

This study described the challenges participants faced when translating English perception metaphors into Estonian in three translation experiments. Translating cultural phenomena such as metaphors can cast light on distinctive aspects influencing the translation process. The factors which influence translation choices and the translation process are clearly manifold, and this article does not claim to present a conclusive list of them. However, the results of the three different translation experiments, involving three different samples of participants and different source material, give grounds to draw some conclusions.

Observations of the translation process and retrospective interviews revealed that perception metaphors are cognitively more demanding in translation than other linguistic items for both professional translators and non-translators. Deliberating between translation choices and using online sources to resolve translation problems support this claim. Although literal translation may be considered acceptable, the translators themselves claimed not to prefer such a word-for-word strategy. They rather chose to appeal more to the reader and to domesticate the translation choice because they want to get the cultural content across (cf. Bernardez 2013; Meriläinen *et al.* 2016: 118). This increases cognitive effort further. Context had a positive effect in dealing with decision-making challenges during the task, especially when translating culture-specific and novel metaphors.

The study revealed differences in translation behaviour between professional translators and participants without such experience. The aim was not to demonstrate that the translation behaviour of translators was more correct or that their translation choices were more accurate: rather the results indicate that previous translation experience and education have a positive effect on dealing with challenges in translation. Such experience helps the translator take into account the potential cultural differences that perception metaphors convey.

Another factor enabling comprehension and facilitating translation is familiarity with the culture of the source language. The participants who had lived in an English-speaking country coped better with the tasks whether or not they had previous translation experience. This was confirmed by the results of the analysis and clearly stood out in the retrospective interviews conducted with the participants.

These interviews provided a valuable insight into the factors that are present and play a role in the process of translation. Each participant clearly had their own unique view on the translation of the metaphors, and each added something new to both the discussion and the analysis based on their background and experience. Such interviews are vital in gaining knowledge about both the translation process and the product of the translation.

The aim of this article was not to cover all the challenging aspects in the process of translating perception metaphors. It rather aims to initiate new studies and analyses of the metaphor translation process from the perspective of the translators themselves.

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