Linguacultural isomorphism / anisomorphism and synesthetic metaphor translation procedures

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Abstract: In this paper, we combine analytical tools of conceptual metaphor theory with the affordances of corpus-based linguistics and quantitative analysis to investigate the translation of synesthetic metaphors found in Donna Tartt's novels into Ukrainian. A synesthetic metaphor is addressed as a linguistic expression representing a sensation of one modality in terms of another. We claim that the choice of a translation procedure – retention, removal, omission, modification, or addition is partly determined by linguacultural similarity (i.e. isomorphism) or specificity (i.e. anisomorphism) of cross-sensory mappings that underlie the source-text and target-text linguistic expressions and partly – by the translator's free choice, which cannot be explained by objective reasons. The obtained results show the following trends. Original metaphors as well as conventional metaphors based on isomorphic cross-sensory mappings are mostly retained. Conventional metaphors that rest on anisomorphic mappings are mostly modified or removed/omitted. However, the translator can choose to remove/modify a synesthetic metaphor that rests on an isomorphic mapping. Added synesthetic metaphors usually root in isomorphic mappings. The applied methodology minimizes subjectivity of judgment in differentiating between the compulsory (i.e. imposed by the linguacultural specificity) and free strategic choices, which contributes to the potential impact of this research.

Keywords: Anisomorphic / isomorphic cross-sensory mapping; linguaculture; synesthetic metaphor; translation procedure.

1. Introduction

Cognitive translation studies have recently become an integral part of translation theory. Not surprisingly, special attention has been given to metaphors since, in cognitive linguistics, where language is conceived as an integral part of human cognition, metaphor is addressed as an essential mental tool that shapes human cognition and language. Having adopted the critical stance of conceptual metaphor theory that metaphor is "primarily a matter of thought and action and only derivatively a matter of language" (Lakoff & Johnson, 1980, p. 153), cognitive metaphor translation studies aim to discover mental mechanisms that license translation of metaphoric linguistic expressions. Product-oriented research that focuses on translators' solutions (Al-Harrasi, 2001; Kovalenko & Martynyuk, 2018; Mandelblit, 1995; Schäffner, 2004; Shuttleworth, 2011) is complemented by process-oriented

inquiries that exploit introspection (think-aloud protocols) and/or the affordances of modern technologies (eye-tracking, keystroke logging, EEG measurements of brain activity) to throw light on mental processes behind the metaphoric transfer (Göpferich, 2008; Martikainen, 1999; Tirkkonen-Condid 2001; 2002). Both trends also employ corpus analysis (Shuttleworth, 2004; Shuttelworth & Schäffner, 2015; Zhao, 2020).

Within the cognitive framework, where linguistic and conceptual aspects are integrated, product-oriented research goes beyond "the replacement of textual material in one language (SL) by equivalent textual material in another language (TL)" (Catford, 1965, p. 20) to investigate the cognitive models and operations underlying source-text and target-text linguistic expressions. As such, product-oriented research has not exhausted its resources. Besides, its development is encouraged by some methodological challenges it faces at present.

Firstly, there is a gap between theory and methodology since although most researchers theoretically recognize the cognitive nature of metaphor, "when it comes to analyzing actual occurrences of metaphors and their translations, they resort to traditional classifications" (Samaniego Fernández, 2013, p.161).

Secondly, it has not been investigated whether and how the universality and cultural specificity of metaphoric cognitive models influence choice of translation procedures.

The third issue concerns the types of metaphors analyzed in translation studies. Most papers, including those mentioned above, have focused on conceptual metaphors, and very few (Strik-Lievers, 2016; Zhulavska, 2019; 2020; Ginter, 2019) explored the translation of synesthetic metaphors. Synesthetic metaphors need to be given more attention since, unlike conceptual metaphors that represent abstract concepts in terms of sensory-motor experience, synesthetic metaphors map the sensory-motor experience of one modality in terms of another. Although "all experience is cultural through and through" (Lakoff & Johnson, 1980, p. 58), synesthetic metaphors deal with experiences that are more physical and, probably, more universal. Translation studies of synesthetic metaphors can reveal how cultural similarity and cultural specificity, intertwined in such metaphors, influence the choice of translation procedures.

Our study attempts to meet these challenges by applying analytical tools of conceptual metaphor theory as well as the affordances of corpus-based linguistics and quantitative analysis to establish whether there is a correlation between the choice of a procedure to translate synesthetic metaphoric expressions from English fiction texts into Ukrainian and the universality or cultural specificity of the cognitive models that underlie these expressions.

The significance of this research stems from its methodological design, which provides the tools to differentiate between the translation choices imposed by the linguacultural specificity of the cross-sensory mappings behind the source-text and target-text linguistic expressions and the translators' free choices.

2. Theoretical background

Synesthesia is understood as a neurological phenomenon "in which a capacity to experience sensation in one modality is manifested when a different modality is stimulated" (Zhao, 2020, p. 1). This neurological phenomenon is reflected in many linguistic expressions that describe a sensation of one modality in terms of another, e.g., *warm color, sweet smell, and bright sound*.

Linguistic synesthesia has been traditionally addressed as a synesthetic metaphor (Cacciari, 2008; O'Malley, 1957; Strik-Lievers, 2016; Yu, 2003; Zhao, 2020). Within the cognitive linguistics framework, it appears to be a specific type of *conceptual metaphor*, which is a product of conceptual mapping where one conceptual structure (the target domain) is identified in terms of another conceptual structure – usually more directly grounded in bodily experience – (the source domain) (Kövecses, 2002, p. 6; Lakoff, 1999, p. 210).

The domain is generally understood in Ronald Langacker's interpretation as "any conception or realm of experience" (2008, p. 44). Our study needs to distinguish between basic and nonbasic domains. *Basic domains* are "realms of experiential potential, within which conceptualization can occur, and specific concepts can emerge" (ibid., pp. 44–45). Their examples include "space, time and the ranges of unanalyzed experience associated with the various senses: color space (the range of colors we are capable of experiencing), pitch (the range of pitches we can perceive), temperature, taste and smell, and so on" (ibid., p. 44). The rest of the conceptions of various degrees of conceptual complexity, from minimal concepts to entire systems of knowledge, are referred to as *nonbasic domains* (ibid.). It is also important to accentuate that nonbasic domains arrange themselves in hierarchies so that each conception at a given level incorporates one or more lower-level conceptions, with basic domains representing the lowest level (ibid., p. 45).

In a typical conceptual metaphor, both domains or, at least, the target domain, are nonbasic, and the mapping is directed from lower-level ("more embodied") to higher-level ("less-embodied") domains. Thus, in Lakoff & Johnson's (1980) classic examples, *I demolished his argument,* or *If you use this strategy, he'll wipe you out* ARGUMENT as a concept of a "less-embodied" nonbasic domain of mental and verbal action is structured by WAR as a concept of a "more-embodied" nonbasic domain of physical battle, representing sensory-motor experience. The mapping is directed from WAR to ARGUMENT.

In a synesthetic metaphor, both domains are basic, i.e. representing concrete sensory experience, e.g., TASTE is TOUCH (*dipped bread into the* **sharp,** *melted* **cheese**); SMELL is TOUCH (*the same* **adhesive smell** *in my nostrils*) / TASTE (*sharp* **sour smell**) / TEMPERATURE (**warm** *spicy* **scent** *of her skin*); HEARING is TEMPERATURE (*His* **tone was** *friendly but* **cool**) / TOUCH (*a* **wet,** *miserable* **sound**) / VISION (*a* **dark roar**), etc.

Some authors (Rakova, 2003; Zhao et al., 2019) regard this specificity as a challenge to conceptual metaphor theory (Lakoff & Johnson, 1980; 1999). Other scholars (Shen, 1999; Yu, 2003) point out that sensory domains have different degrees of embodiment and metaphoric transfer goes from "more embodied" to "less embodied" domains corresponding with Stephen Ullmann's (1967) directional pattern: touch → taste → smell → hearing → vision (see also Salzmann, 2004; Whitney, 1952; Yu, 2003). These observations suggest similarity of mechanisms underlying conceptual and synesthetic metaphors and provide arguments in favor of treating linguistic synesthesia as metaphoric rather than metonymic (Barcelona, 2000; Marks, 1990) or non-figurative expression (Paradis & Olofsson, 2013; Rakova, 2003).

Another argument in favor of regarding linguistic synesthesia as metaphor rather than metonymy is the nature of conceptual conflict behind synesthetic descriptions (Prandi, 2012; Strik-Lievers, 2016). Metonymic conceptual conflict is solved due to the existence of consistent conceptual relations that link conflicting concepts within the same domain. To explain this idea, Strik-Lievers (2016, p. 45) gives the following example: "in *John likes playing Bach,* the conflict between Bach and its object Bach is resolved thanks to the consistent relation that links the human being Bach to the music he wrote". Metaphoric

relations do not rest on any consistent conceptual links, and metaphoric conceptual conflict can only be solved by transferring one of the incompatible concepts into a different domain. This idea is implied by Prandi (2012, p. 154), who interprets Alcman's line *They sleep, the mountain peaks* in the following way: "the concept of sleep is transferred from the area of living beings into the area of inanimate nature; to solve the conceptual puzzle, one has to wonder in what sense mountains can be seen as sleeping living beings."

3. Methodological design

Our sample consists of 195 English synesthetic metaphoric descriptions found in the novels *The Goldfinch* (Tartt, 2015) and *The Secret Story* (Tartt, 1992) by Donna Tartt, and their translations into Ukrainian by Volodymyr Shovkun (Tartt, 2016) and Bohdan Stasiuk (Tartt, 2017). *The Goldfinch* (2015) centers around a thirteen-year-old boy, Theo, whose life is turned upside down when his mother dies in a terrorist bombing in the Metropolitan Museum of Art. "The Secret History" (1992) explores the circumstances and lasting effects of an act of murder committed by a group of six classics students at Hampden College. Both novels are abundant in sensory language, which explains our choice.

Our sample represents the total number of synesthetic metaphors found in the novels and their translations: 127 in *The Goldfinch* and 68 in *The Secret Story*. The source-text and the target-text synesthetic metaphoric descriptions were retrieved manually and separately and then compared. This allowed registering 14 synesthetic metaphors added in translations.

All the analyzed translations of synesthetic metaphors and quantitative analysis results are arranged in tables and reported in a publicly accessible repository (see Table 1, Table 2 at https://doi.org/10.5281/zenodo.7683667).

The research methodology rests on the assumption that translation is a cognitive process presupposing the construction of "a mental model of what is being communicated" (Padilla, Bajo, & Padilla, 1999, p. 63). *Cognitive models* are understood as more or less stable cognitive structures resulting from *cognitive operations*, which are defined as "mechanisms that our minds use in order to store and retrieve information" (Ruiz de Mendoza & Galera, 2014, p. 85). In this light, a synesthetic metaphoric mapping is both a cognitive operation producing metaphoric models that underlie synesthetic metaphoric descriptions and a product of such operations, a cross-sensory cognitive model.

To handle the sample, we take the following steps:

1. Disclose the translation procedures considering the mappings behind the source-text to the target-text metaphoric transfer of the analyzed synesthetic metaphoric descriptions.

To achieve this aim, we use Shuttleworth's (2017) classification of translation procedures and adapt it to the research purposes, methodology and specificity of the data. Shuttleworth's list includes retention, modification, removal, omission, and addition.

Retention is roughly defined as "a translation that is essentially unchanged" (ibid., p. 126). In this paper, retention refers to a translation procedure in which the source-text and target-text synesthetic metaphoric descriptions are based on the same cross-sensory mapping or its *specification*, a mapping in which lower-level concepts are substituted by higher-level, more specific concepts of the same domains (see Table 1, examples 1-115 at https://doi.org/10.5281/zenodo.7683667).

Modification "indicates a change to a different mapping" (ibid., p. 129). In other words, it involves cases where the source-text and target-text synesthetic metaphoric descriptions are rooted in different cross-sensory mappings (see Table 1, examples 176-181 at https://doi.org/10.5281/zenodo.7683667).

Removal accounts for the cases where a source-text synesthetic metaphoric description "is replaced by identifiable non-metaphorical textual material" (ibid., p. 131) (see Table 1, examples 116-166 at https://doi.org/10.5281/zenodo.7683667).

Omission occurs "when a metaphorical expression is totally missing from the target text" (ibid.) (see Table 1, examples 167-175 at https://doi.org/10.5281/zenodo.7683667).

Addition takes place when a target-text metaphoric expression corresponds to a source-text non-metaphor (ibid., p. 132) (see Table 1, examples 182-195 at https://doi.org/10.5281/zenodo.7683667).

We refer to dictionary definitions of the metaphor structural components to identify the cross-sensory mappings underlying the source-text and target-text synesthetic metaphoric descriptions and their specifications. In addition, we consider the narrative context in which the analyzed description is used and the shades of meaning it displays within this context.

2. Establish correlations between the choice of a translation procedure and the universality or cultural specificity of the cross-sensory mappings that underlie the source-text and target-text metaphoric descriptions.

To avoid the subjectivity of judgment in deciding which translation procedure is employed in a particular case, we investigate whether the cross-sensory mappings behind the transfer of a source-text metaphoric expression to the target text are *isomorphic*, i.e. shared by representatives of the source and target linguacultural communities or *anisomorphic*, i.e. culturally specific. To fulfil this task, we find out whether conventional synesthetic metaphoric descriptions in the target language are based on the same cross-sensory mappings as the source-language ones.

Following Strik-Lievers (2016), we understand *conventional* or *dead synesthetic metaphoric descriptions* as those that instantiate mappings shared by most members of a linguacultural community, which is realized in their common use. It is assumed that descriptions like *sharp look* or *say sweetly* are conventional / widely spread in common use since it is typical of English speakers to conceive VISION in terms of TOUCH and HEARING in terms of TASTE. The mappings of conventional descriptions are mostly *productive*, i.e. instantiated in more than one synesthetic description, "because it is possible to imagine new instances that are the creative expression of the same metaphorical concept" (ibid., p. 46). A good example is the VISION IS TOUCH mapping, which instantiates in quite many descriptions, including *sharp/soft/hard/harsh/piercing/dry/shrewd/steely look* (OOCD, n.d.). The more descriptions, the more productive the mapping. In conventional/dead descriptions, the modifying words (adjectives or adverbs) adapt their meanings to those of the headword shead (nouns and verbs) (Strik-Lievers, 2016, p. 45-46 based on Prandi, 2012, p. 154). Thus, in the cases of *sharp look* or *say sweetly,* the noun and verb keep their meanings, while the adjective and adverb lose their literary meanings referring to the TOUCH and TASTE domains, correspondingly, and acquire figurative meanings that are compatible with the linguistic context.

Non-productive mappings are instantiated in *original* or *living synesthetic metaphoric descriptions* (e.g., *loud flash* (VISION IS HEARING), *dark roar*

(HEARING IS VISION)), which are unique, produced by a creative mind for specific purposes of self-expression to be used in fiction or poetry. In original/living synesthetic metaphoric descriptions, both the head and modifying words keep their literal meanings (ibid.), which creates the conceptual conflict since, like any creative item of thought and language, they rest on incongruity, blending elements from two previously unrelated matrices of thought into a new matrix of meaning (Koestler, 1964). Being unique original metaphoric descriptions cannot be described in terms of cultural specificity.

To assess the conventionality degree of a synesthetic metaphoric description, we consider its relative frequency per million word-tokens and its sphere of usage: whether it is used in everyday speech. These data are given, correspondingly, in the *Corpus of Contemporary American English* (COCA), available at www.english-corpora.org/coca and *General Regionally Annotated Corpus of Ukrainian* (Grac v.10), available at http://uacorpus.org. The COCA contains over one billion word-tokens from texts of eight genres: spoken language, fiction, popular magazines, newspapers, academic texts, TV and Movies subtitles, blogs, and other web pages. The Grac v.10 includes more than 600 million word-tokens from samples of spoken language, fiction, magazines and newspapers, academic and scientific texts, and web pages. Both corpora have installed statistical mechanisms that provide useful information about the (relative) frequency of words, phrases, and grammatical constructions across the genres.

To interpret the results, we turn to the probability theory, which states that if an event does not happen or tends to be unique, the probability of its occurrence is/or tends to 0.00. The more often the event happens, the higher is its probability of occurrence (Kenney & Keeping, 1948). Thus, metaphoric descriptions, which relative frequency in the COCA or Grac v.10 is 0.00 or tends to 0.00, are considered original/living. The higher is the relative frequency of a description, the higher is the degree of its conventionality. According to our data, the lowest relative frequency (0.00) is observed for *loud flash* in the COCA and its direct equivalent *гучний спалах [loud flash]* in the Grac v.10. The highest relative frequency observed in the COCA (0.85) is for *low voice* (COCA, 2020) and the highest relative frequency observed in the Grac v.10 is for *гострий погляд [sharp look]* – 0.98 (Grac v.10., 2020)

3. Conduct quantitative analysis to establish correlations between translation procedures, and the isomorphic/anisomorphic nature of cross-sensory mappings.

We calculate the percentage of each of the translation procedures (retention, removal, omission, modification, and addition) and then the percentage of the retained, removed, omitted, modified, and added synesthetic metaphors – living and conventional that are based on anisomorphic or isomorphic cross-sensory mappings.

4. Results and discussion: Translation procedures and strategies

In this section, we present the results of qualitative and quantitative analysis of translation procedures that have been discovered based on the analysis of the sample and reveal correlations between these procedures and linguacultural similarity or specificity of the source-text and target-text synesthetic metaphors. The results of the quantitative analysis show that 63.5% of the source-text metaphoric descriptions were retained, 28.2% removed, 5% omitted, and 3.3%

modified. Besides, 14 metaphoric descriptions were added in the Ukrainian translation (see Table 2 at https://doi.org/10.5281/zenodo.7683667).

The **retained** descriptions include 108 (94%) conventional/dead and 7 (6%) original/living metaphors. It is worth mentioning that the retained descriptions constitute 108 (57.4%) of the overall number of the target-text conventional synesthetic metaphors (188) and 100 % of the original synesthetic metaphors (7). Most of the retained conventional metaphors (95.3% (103 out of 108)) are based on isomorphic cross-sensory mappings, and the rest (4.7% (5 out of 108)) – on anisomorphic ones. The fact that all the original synesthetic metaphors were retained can be explained by a stylistic purpose. The translators chose to retain the original sensory imagery to achieve similar interpretations and effects among the target-text readers.

The example below illustrates retention of a conventional metaphor based on an isomorphic mapping:

> (1) ***His tone*** *was friendly but* ***cool*** (Tartt, 2015). – ***Його тон*** *був дружній, але* ***прохолодний*** *[**Yoho ton** buv druzhnii, ale **prokholodnyi**] [**His tone** was friendly, but **cool**]* (Tartt, 2016).

Describing the character's tone of voice as *cool*, Donna Tartt creates a HEARING IS TEMPERATURE/TOUCH synesthetic metaphor. Dictionary definitions (see, for example, "cool tone/voice is not friendly, interested or enthusiastic" (OAAD, n.d.)) specify that the description under analysis rests on the HEARING AN UNFRIENDLY / NOT INTERESTED / UNENTHUSIASTIC TONE IS TOUCHING COOL SURFACE mapping. The metaphor is engaged to describe the voice of Mr. Bracegirdle, the lawyer who took care of the money left to the main character, Theodore Decker, by his mother, who had been killed in a bombing at the Metropolitan Museum. Though Mr. Bracegirdle sympathized with Theo, his profession required cool judgment and restraint, which on the surface could border on cold and unenthusiastic behavior. The analyzed description renders all these implications.

The relative frequency of this description is 0.41 (COCA, 2020), and it is based on a productive metaphoric mapping since the head noun *tone* can acquire other adjectives naming qualities of the TEMPERATURE/TOUCH domain (e.g., *cold/sharp/soft/dry/flat/warm/cracked/ silky/smooth/ velvet/firm tone*) (OOCD, n.d.), which suggests conventionality of the description.

The translator retains the source-text metaphor with no changes, using the direct vocabulary equivalent of the modifying adjective *прохолодний [cool],* which has implications similar to the original adjective when employed to describe sounds and voice: "indifferent (about attitude, look, voice, etc.)" (ADUL, n.d.). The relative frequency of this description is 0.28 (Grac v.10, 2020). The underlying mapping is productive because it instantiates in other similar descriptions (e.g, *тепле слово [warm word], теплий/гострий/ шовковий/м'який/сухий голос [warm/sharp/silky/soft/dry voice]* (ADUL, n.d.; DCUW, 1999).

These data show that the source-text and target-text descriptions are based on an isomorphic productive cross-sensory mapping instantiated in conventional metaphoric descriptions with similar semantic potential. As a result, the translator is not challenged by any translation difficulties caused by linguacultural specificity.

The next example represents retention of a synesthetic metaphoric description that is based on an anisomorphic specification of an isomorphic basic mapping:

(2) *He stood and **looked** at me, **hard*** (Tartt, 2015). – *Він стояв і **дивився** на мене **твердим поглядом** [Vin stoiav i **dyvyvsia** na mene **tverdym pohliadom**] [He stood and **looked** at me **with a hard look**]* (Tartt, 2016).

Modifying the predicate *looked* with the adverb *hard*, Donna Tartt produces a VISION is TOUCH synesthetic metaphor. Adapting its meaning to that of the head verb, in this context, *hard* means "to look intently or to stare intensely" (LDOCE, n.d.). Thus, the source-text metaphoric description rests on the SEEING AN INTENSE LOOK IS TOUCHING HARD SURFACE specification of the VISION IS TOUCH mapping.

Donna Tartt employs the adjective *hard* to describe how James Hobart was looking at Theo when the latter first came to his shop to return the ring given to him by Hobie's dying partner, who had happened to be another victim of the bombing at the Metropolitan Museum. It was difficult for Hobie to accept that his friend and partner was dead. Furthermore, his friend's niece Pippa had been injured in the bombing, and now Hobie had to take care of her. When Theo appeared before him, Hobie already had too much on his plate without this unknown boy who came from nowhere carrying his late friend's ring. All these hard thoughts and worries were reflected in Hobie's look, portrayed through the synesthetic metaphoric description.

The relative frequency of the description is 0.38 (COCA, 2020). This kind of synesthesia is productive (see *he looked sharply, dry/cold/cool/dry/frosty/steely look* (OOCD, n.d.).

The translator retains the metaphor, introducing some grammatical changes and employing the adjective with the same root as the direct vocabulary equivalent of the source-text adverb. The problem with such a translation is that it does not read natural. The ADUL (n.d.) does not give any collocations with the adjective *твердий [hard]* to describe the way people look at each other, which suggests that this description rests on a specification of the VISION IS TOUCH mapping that is not entrenched in the mind of the average member of the Ukrainian linguacultural community.

At the same time, this description is employed to describe a powerful/dominating look in psychology (Zymovin, 2016), which accounts for its 0.19 relative frequency in the Grac v.10, which contains academic and scientific texts in psychology, social sciences, and other humanities (Grac v.10, 2020). The data lead to the conclusion that this description is based on a cross-sensory mapping shared by the members of a specific professional community and functions as a *term/professional slang/jargon* in the corresponding sphere of human activity.

Nonetheless, the analyzed Ukrainian description is based on the SEEING A DOMINATING LOOK IS TOUCHING HARD SURFACE specification of the VISION IS TOUCH basic mapping and, consequently, has implications different from its English equivalent.

All the **modified** synesthetic metaphoric descriptions are conventional: 50% (3 out of 6) are based on anisomorphic cross-sensory mappings, and the rest on isomorphic. The next example illustrates a modification of a synesthetic metaphoric description based on an isomorphic cross-sensory mapping:

(3) *(…) **said** Mrs Corcoran **sweetly*** (Tartt, 1992). – *(…) **з теплотою промовила** пані Коркоран [z **teplotoiu promovyla** pani Korkoran] [**with warmth said** Mrs Corcoran]* (Tartt, 2017).

In the original text, Donna Tartt describes a hearing sensation by modifying the verb *said* with the adverb *sweetly* and thus creates the HEARING

is TASTE synesthetic metaphor. This metaphor is employed to characterize the voice of an insincere woman trying hard to sound polite and friendly. These implications are captured by the synesthetic description *said sweetly,* where *sweetly* means "in a generally pleasing or endearing way; with a melodious or pleasant sound" (OUP, n.d.).

This metaphor is conventional (its relative frequency is 0.42 per million word-tokens in COCA (2020), and it is productive since the verb *to say* combines with other adverbs (e. g., *to say bitterly*) to create descriptions based on the same cross-sensory mapping.

The adverb *sweetly* is translated by the prepositional phrase *з теплотою [with warmth].* Thus the translator creates a description based on a different cross-sensory mapping (compared to the original) – HEARING is TEMPERATURE. This description fails to convey the connotation of insincerity.

Typically, modification is employed in cases where the source-text metaphoric description and its direct target equivalent instantiate anisomorphic cross-sensory mappings, and the change of mapping is compulsory. However, in this case, the translator's choice cannot be explained by linguacultural factors since Ukrainian has a direct equivalent of *sweet/sweetly – солодкий/солодко*, which is used to describe a human voice and has similar connotations: "conspicuously suave, too or insincerely amiable, flattering" (ADUL, n.d.). The relative frequency of this description is 0.37 (Grac v.10, 2020), which proves its conventionality. Thus, the translator chooses to modify a metaphor based on a culturally isomorphic mapping.

Such cases suggest that translation analyses should consider translators' choices that cannot be explained by objective factors like the specificity of the source and target language structures or the cultural specificity of the cognitive models behind these language structures.

All the **removed** and **omitted** synesthetic metaphoric descriptions are conventional, and all of them are based on anisomorphic cross-sensory mappings. The next example illustrates removal:

(4) *(...) his **voice was flat** and toneless* (Tartt, 1992). – *(...) **у голосі не звучало ні краплинки емоцій** чи інтонацій [**u holosi ne zvuchalo ni kraplynky emotsii** chy intonatsii] [**in his voice there was not a drop of emotions** or intonations]* (Tartt, 2017).

Describing Francis Abernathy's voice as *flat,* Donna Tartt creates a HEARING IS VISION (specifically, HEARING A MONOTONOUS VOICE IS SEEING FLAT SURFACE) synesthetic metaphor since, in reference to a human voice, *flat* means that "someone speaks in a monotone" (LDOCE, n.d.; OAAD, n.d.), "and listeners do not know how the speaker feels when everything sounds the same" (ibid.). The author exploits this meaning: Francis was drunk and very tired after a sleepless night and could not experience any emotions.

The relative frequency of this description is 0.19 (COCA, 2020). The mapping is productive since we find other instantiations (e.g., *low/high/faraway voice; at the top of your voice*) (OOCD, n.d.).

The direct Ukrainian equivalent of *flat*, the adjective *плоский [flat],* is not used to describe a human voice in everyday conversation or fiction since no collocations of this kind are registered (ADUL, n.d.). Its usage is limited to academic texts on the Art of Singing (Grac v.10, 2020), where *плоский [flat]* has a negative meaning, characterizing an unwanted throaty quality of a voice (see a similar use of its English equivalent: *A helpful exercise to help prevent singing in **a flat voice** is to find a safe note. Pick a note that is comfortably within your range* (Poppy, S. & Open Mic UK, 2019)).

Having this information we might presuppose that HEARING A MONOTONOUS VOICE IS SEEING FLAT SURFACE cross-sensory mapping is not rooted in the mind of the average Ukrainian but is embedded in the mind of a vocal specialist as a member of a particular professional community. This specificity presents a difficulty for the translator and makes them look for a contextual synonym. Thus, *flat* is translated descriptively by word-combination *ні краплинки емоцій [not a drop of emotions]*, which means literally "without any signs of excitement, agitation or alarm" (ADUL, n.d.). It is worth mentioning that the removed synesthetic metaphor is substituted by a conventional metaphor EMOTION IS WATER.

In this case the translator's choice is limited by the linguacultural repertoire of synesthetic mappings.

As for the **added** synesthetic metaphoric descriptions, all of them are conventional and have direct English equivalents based on isomorphic cross-sensory mappings. The next example instantiates this translation procedure:

(5) *(...) I **said, more curtly** than I'd meant to* (Tartt, 2015). – *(...) сказав я сухішим тоном, аніж хотів [skazav ya sukhishym tonom, anizh khotiv] [(...) **said I in a drier tone** than I wanted]* (Tartt, 2016).

The adverb *curtly* is used to describe "replying with very few words in a way that does not seem polite, so brief or abrupt as to be rude" (LDOCE, n.d.; OAAD, n.d.). In the source text, it suggests Theo's resistance to being persuaded by a bridal consultant to buy expensive plates for his upcoming wedding. The consultant's speech and manners reminded him of older women he had met through work as a dealer in antique furniture, women who were trying to sell him their old-fashioned furniture items for a fortune. This situation irritated him, so he answered abruptly, not trying to be polite. The use of the adverb *curtly* to describe a human voice is not metaphoric.

In the target text, the adverb *curtly* is rendered by the phrase *сухішим тоном [in a drier tone]*, which verbalizes a HEARING IS TOUCH cross-sensory mapping, more specifically, HEARING AN IMPOLITE VOICE IS TOUCHING DRY SURFACE. Besides its literary meaning "not damp, not wet" (ADUL, n.d.), the adjective *сухий [dry]* has a figurative meaning "without emotions, not bright, not expressive; deprived of softness, sappiness; sharp, crispy" (ADUL, n.d.). Thus, the Ukrainian synesthetic metaphor evokes conceptual content similar to that implied in the source text.

Its direct English equivalent *dry voice* is registered in dictionaries (see, for instance, "If you describe a voice as dry, you mean that it is cold or dull, and does not express any emotions" (CED, n.d.). It is just that the author of the original text chose not to use this synesthetic metaphor in the given context.

5. Conclusion

The results of the analysis of the synesthetic metaphoric descriptions found in the novels "The Goldfinch" and "The Secret History" by Donna Tartt and their translations into Ukrainian, performed by Volodymyr Shovkun and Bohdan Stasiuk, suggest the following conclusions.

To render the source-text synesthetic metaphors into Ukrainian, translators employed such translation procedures as retention, modification, removal, and omission. Besides, several synesthetic metaphors were added to the target text, taking the place of source-text non-metaphors.

The affordances of the corpus-based linguistics helped differentiate between conventional synesthetic metaphors that instantiate mappings shared

by most members of a linguaculture and can be culturally alike or culturally different and original synesthetic metaphors that are unique creations and cannot be described in terms of cultural specificity. As a rule, the original metaphors are retained to preserve the peculiarities of the author's style.

In addition, using a corpus linguistics approach allowed us to determine the degree of the conventionality of synesthetic metaphors. The results of the quantitative analysis show that the choice of a translation procedure is determined partly by the cultural specificity / universality of the cross-sensory mappings underlying the source-text to target-text metaphor transfer and partly by the translator's free choice, which cannot be explained by objective reasons. Conventional synesthetic metaphors of a higher conventionality degree have more chances to be retained. Modification is mostly applied to translate conventional synesthetic metaphors based on anisomorphic mappings, though a translator can choose to modify an isomorphic metaphor. The removed conventional synesthetic metaphors tend to rest on anisomorphic mappings, while the added synesthetic metaphors tend to be based on isomorphic mappings.

The study demonstrates that employing corpus-based linguistics and quantitative analysis minimizes judgment subjectivity in differentiating between free translators' choices and the choices imposed by the linguacultural specificity. However, it is necessary to acknowledge the limitations of the study, as it is impossible to confirm that the similarity or specificity of a cross-sensory mapping will always lead to a particular translation procedure.

The results call for further discussion and investigation with a larger body of empirical evidence. Another possibility is exploiting the methodology of the process-oriented approach to study synesthetic metaphor translation procedures with the help of think-aloud protocols, eye-tracking, keystroke logging, and EEG measurements of brain activity to reveal the algorithms of mental operations that underlie metaphoric transfer.

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