

Adding synesthetic metaphors in English-Ukrainian translations of fiction

Olha Zhulavska ^{a,*}, Vladyslava Kulish ^a, Maryna Chernyk ^a

^a*Sumy State University, Ukraine*

Received February 18, 2024; Revised May 23, 2024; Accepted May 28, 2024

Abstract. This article combines analytical tools of cognitive translation analysis and affordances of corpus linguistics to inquire into the translation procedure of addition of synesthetic metaphoric descriptions in English-Ukrainian translations of fiction. The research is based on 40 examples of addition, extracted manually from Ukrainian translations of *Little Fires Everywhere* by Celeste Ng, *The Hours* by Michael Cunningham, and *The Secret History* and *The Goldfinch* by Donna Tartt. All the 40 synesthetic metaphoric descriptions introduced into Ukrainian translations correspond to the source-text non-metaphoric descriptions, though in theory, added synesthetic metaphors could refer to a point in the original where there is no text at all. All of the added synesthetic metaphoric descriptions are based on the TOUCH source domain, which supports Ullmann's (1957) claim that TOUCH being the most accessible sensory mode, is a predominant source of cross-sensory transfer. The analysis of results suggests that the translators' choice to add synesthetic metaphoric descriptions to the target text is influenced by the higher conventionality degree of such descriptions compared to that of the direct non-metaphoric translation equivalents of the non-metaphoric source-text material.

Keywords: *addition; conventionality degree; cross-sensory transfer; synesthetic metaphor; translation, GRAC corpus.*

Жулавська Ольга, Куліш Владислава, Черник Марина. Привнесення синестезійних метафор в англо-українські переклади художніх текстів.

Анотація. У статті поєднано аналітичні інструменти когнітивного перекладацького аналізу та можливості методів корпусної лінгвістики задля детального дослідження когнітивної перекладацької процедури привнесення синестезійних метафор в англо-українські переклади художніх текстів. В основу дослідження лягли 40 прикладів привнесення синестезійних метафор, які було вилучено безпосередньо з текстів українських перекладів «Усюди жевріють пожежі» Селесте Інґ, «Години» Майкла Каннінгема, та «Темна Історія» та «Щиголь» Донни Тартт. Усі 40 синестезійних метафоричних дескрипцій, привнесені в українські переклади, відповідають оригінальним, не метафоричним дескрипціям, хоча теоретично вони взагалі можуть відноситися до такого місця, де оригінальний текст відсутній. Усі привнесені синестезійні метафоричні дескрипції ґрунтуються на домені дотикові відчуття, Усі привнесені синестезійні метафоричні дескрипції ґрунтуються на домені дотикові відчуття, що відповідає теорії Ульмана, за якою домен дотикові відчуття вважається найбільш сенсорно доступним та частіше за інші слугує джерельним доменом. Результати аналізу дозволяють припустити, що перекладач свідомо

* Corresponding author. Olha Zhulavska,  <https://orcid.org/0000-0002-3132-6877>,  o.gulawskay@gf.sumdu.edu.ua

обирає когнітивну операцію привнесення синестезійної метафоричної дескрипції спираючись на той факт, що ступінь конвенційності таких метафоричних дескрипцій, у порівнянні з прямими не метафоричними еквівалентами, є вищим.

Ключові слова: привнесення, ступінь конвенційності, міжсенсорне перенесення, синестезійна метафора, переклад, корпус ГРАК.

Introduction

Cognitive metaphor translation studies have gained significant popularity in recent years since they aim to look at the mental structures and processes “behind” the observable linguistic facts by applying various empirical and experimental research designs (Risku, 2013). Process-oriented research employs advanced technologies, including eye-tracking, keystroke logging, EEG measurements of brain activity (Krings, 1986; Tirkonen-Condid, 2002; Risku, 2013) as well as think-aloud protocols (TAP) (Alves et al., 2010; Halverson, 2010). Product-oriented investigations use methodological tools of cognitive linguistics to discover conceptual structures that underpin the source- and target-text metaphoric descriptions and influence translators’ choices (Al-Harrasi, 2001; 2020; Kovalenko & Martynyuk, 2018; Papadoudi, 2010; Schaffner, 2004). Combined with the corpus data, such studies reveal cross-linguistic differences between conceptual metaphors and work out classifications of their linguistic variation (Deignan, Danuta & Solska, 1997, p. 352-360).

This research article aligns with the product-oriented conceptual metaphor translation studies as it is focused on translating a non-metaphoric source-text material using a synesthetic metaphor. Putting together analytical tools of cognitive metaphor translation theory and affordances of corpus linguistics, it aims to reveal correlations between the translators’ choice to introduce a synesthetic metaphoric description into the target text and the conventionality degree of this description compared to that of the non-metaphoric translation equivalent of the non-metaphoric source-text material. Besides, it touches upon psycholinguistics by exploring how translators cognitively process and convert non-metaphoric source-text material into synesthetic metaphoric descriptions. This process demonstrates how synesthetic metaphors, which involve atypical ‘cross-talk’ between brain areas and perceptual domains, can influence linguistic interpretation and translation (Simner, 2007)

Firstly, despite great interest in metaphor in contemporary translation studies, synesthetic metaphors have been given little attention so far (Day, 1996; Strick-Lievers, 2016, Zhao, 2015). However, synesthetic metaphors represent an attractive object of translation analysis since, unlike typical conceptual metaphors that map abstract concepts in terms of sensory-motor experience, they map one sensation in terms of another. Therefore, it is challenging to investigate how the conventionality degree of the non-metaphoric material and the metaphoric synesthetic description intertwine with the translator’s choices.

Secondly, it has been stressed that the addition of a metaphor to the target text should be accounted for in metaphor translation studies (Toury, 1995, p. 83) since it

is mainly caused by differences between the source-language and target-language cultures (Newmark, 1988, p. 91), most translation scholars ignore this translation procedure. Therefore, it requires further exploration.

Theoretical background

Linguistic synesthesia has a neurological basis (Werning, Fleischhauer & Beşeoğlu 2006, p. 2365). It is defined as “the perception or description of the perception of one sense modality in terms of another” (Preminger, 1974, p. 839) or “a perceptual phenomenon upon which linguistic description is based” (Yu, 2003). Neurological is described as the abnormal interaction of neural processes involving different senses or modalities (Werning, Fleischhauer & Beşeoğlu, 2006, p. 2365). According to varying estimates, it occurs in about 1/20000 to 1/200 of the population (Cytowic, 1997; Baron-Cohen et al., 1996; Ramachandran & Hubbard 2001; Werning, Fleischhauer & Beşeoğlu, 2006, p. 2365).

In most linguistic studies, synesthetic descriptions are addressed as metaphors (Duan & Gao, 2014, p. 290-300; Werning, Fleischhauer & Beşeoğlu, 2006, p. 2365; Zhao & Huang, 2015). In cognitive linguistics, **metaphor** is defined as a set of mappings (conceptual correspondences) between two conceptual domains: the source domain/concept that is drawn upon to create a metaphoric construction and the target domain/concept that is described by the metaphor (Lakoff & Johnson, 1980; Kövecses, 2002; 2005). In this research, the domain is understood in Langacker’s interpretation (2008, p. 44-46) as “any conception or realm of experience”. In a synesthetic metaphoric mapping, both domains are perceptual (Strick-Lievers, 2016; Werning, Fleischhauer & Beşeoğlu, 2006, p. 2365). For example, vision is touch (*lights glowing softly in the living rooms*); smell is touch (*The air was thick with sweat and the sharp sour smell of beer*) / taste (*same smell – dusty and sweet*) / temperature (*warm spicy scent of her skin*); hearing is temperature (*in a voice icy enough*) / touch (*Mrs. Richardson opened her mouth for a sharp remark*) / taste (*savouring the words like a cherry Life Saver*), etc.

Metaphor translation requires not only the understanding of cross-sensory mappings but also the cognitive effort associated with re-mapping these metaphors into the target language. Recent studies have highlighted that translating novel metaphors is more cognitively demanding than translating literal language. Specifically, Jankowiak and Lehka-Paul (2021) found that novel nominal metaphors necessitate longer translation times due to the robust activation of comparison mechanisms, especially in the source language – target language translation direction. This suggests that the complexity of translating metaphors is modulated by the directionality of translation, thereby increasing the cognitive load on translators (Jankowiak & Lehka-Paul, 2021).

Empirical studies have shown that linguistic synesthesia is selective and mostly one-directional (Ullmann, 1957; Williams, 1976; Yu, 1992; Shen 1997). According to Ullman, cross-sensory transfers are characterized by three principles. The first one is that of “hierarchical distribution,” which states that synesthetic transfers tend to go

from the ‘lower/accessible/basic’ to the ‘higher/less accessible/less basic’ sensory modes, namely, touch → taste → smell → sound → sight (Ullmann, 1957). Such distribution “is more natural and is preferred over the opposite mapping” (Shen, 1997). The second principle claims that “touch, the lowest level of sensation, is the *predominant source* of transfers”. The third principle is that “sound rather than sight is the *predominant destination* for synesthetic transfers” (Ullmann, 1957). Ullmann’s theory was supported by Williams’ study of synesthetic descriptions in colloquial English (Williams, 1976) and Shen’s (1997) research of synesthetic poetic metaphors.

Following Strick-Lievers (2016), we divide synesthetic metaphors into conventional and original. In conventional synesthetic metaphors like *soft smell* or *said sharply*, the focal words (adjectives or adverbs) adapt their meaning to the tenor words (nouns or verbs). In the above examples, the focal words lose their literary meanings that are incompatible with the meanings of the tenor words and, consequently, their reference to the touch domain and acquire figurative synesthetic meanings prompted by the linguistic context. In original synesthetic metaphors like *the candyfloss twinkle of a Disney princess / the golden hush of her*, both the focal and tenor words keep their conflicting meanings.

Methodology

Our sample includes 40 synesthetic metaphoric descriptions added in Ukrainian translations to render non-metaphoric linguistic expressions. All metaphoric descriptions were extracted manually from Ukrainian translations of novels by American authors. They are Celeste Ng’s *Little Fires Everywhere* (2017) translated by Anastasiya Dudchenko (Ng, 2018), Michael Cunningham’s *The Hours* (1998), translated by Oksana Postranska (Cunningham, 2017), and Donna Tartt’s *The Secret History* (1992), translated by Bohdan Stasiuk (Tartt, 2017), and *The Goldfinch* (2013), translated by Volodymyr Shovkun (Tartt, 2016).

Little Fires Everywhere (Ng, 2017) is Celeste Ng’s second novel, which in April 2020 was number one on *The New York Times* fiction best-seller list. The story is about two families living in 1990s Shaker Heights who are brought together through their children. The novel touches upon the crucial topic of family and parent-children’s relationships in families with different social statuses. *The Hours* (Cunningham, 1998) won the 1999 *Pulitzer Prize for Fiction* and the 1999 *PEN/Faulkner Award for Fiction*. The book is about three generations of women affected by the classic novel *Mrs. Dalloway* by Virginia Woolf, published in 1925. Cunningham’s novel shows thoughts and sensations of the main characters, depicted as they would occur in real life, unfiltered, flitting from one thing to another, and often unpredictable. The narrator of *The Secret History* (Tartt, 1992), Richard Papen, one of the six students who murdered their friend Edmund “Bunny” Corcoran, reflects years later upon the situation that led to the murder. The novel explores the circumstances and lasting effects of Bunny’s death on the academically and socially

isolated group of Classics students he was a part of. *The Goldfinch* (Tartt, 2013) won the 2014 *Pulitzer Prize for Fiction*. The novel tells about 13-year-old Theodore Decker, who survived a terrorist bombing at the Metropolitan Museum of Art where his mother was killed. Abandoned by his father, Theo is taken in by the family of a wealthy friend. Bewildered by his strange new home on Park Avenue, disturbed by schoolmates who do not know how to talk to him, and tormented above all by his unbearable longing for his mother, he clings to one thing that reminds him of her: a miniature mysteriously captivating painting *The Goldfinch* that ultimately draws Theo into the underworld of art. These novels were chosen as they are authored by modern American fiction writers, depicting the lives of contemporary American society there. Besides, in these novels, sensations play a crucial role, revealed in the richness of the authors' language in linguistic synesthesia.

Procedure

To handle the bulk of our sample, we take the following steps.

1. To identify the cases of addition of synesthetic metaphoric descriptions in Ukrainian translations using Shuttleworth's (2017) definition of addition, according to which it occurs "when a metaphorical expression in the target text corresponds to a source text non-metaphor, or to a point in this source text where there is no text at all." To interpret the meanings of the source- and target-text descriptions, we refer to dictionary definitions of the corresponding textual material and consider the context. All the 40 examples of addition analysed in this research represent the cases in which synesthetic metaphors, added in Ukrainian translations, correspond to the source-text non-metaphoric descriptions. We have not registered any cases in which the target description occurs at the point where there is no text at all in the original.

Following one of Ullmann's theoretical principles, we hypothesise that the TOUCH cross-sensory mapping is the predominant source of the added synesthetic metaphors as, according to the "hierarchical distribution", it is the 'lowest/most accessible/basic' of sensory modes (Ullmann, 1945, 1957, 1966 [1963]).

2. To explain the translator's choice, we identify the direct equivalent of a non-metaphoric source-text expression, establish its conventionality degree, and compare it with the conventionality degree of the metaphoric synesthetic description chosen by a translator. We hypothesise that synesthetic metaphoric descriptions are preferable because their conventionality degree is higher.

To describe the conventionality degree, we exploit the affordances of the "General Regionally Annotated Corpus of Ukrainian" (Grac v.17), available at <http://uacorus.org/>. Grac v.17 is an extensive representative collection of Ukrainian texts (more than 600 million tokens) with a built-in program to extract the necessary samples and process them with quantitative and statistical instruments.

The degree of conventionality is linked to the relative frequency of a description. To interpret the relative frequency, we turn to the probability theory assumptions, according to which the event is considered original/unique if the

probability of its occurrence is/or tends to 0,00. The more often the event happens, the higher the probability of its occurrence (Kenney & Keeping, 1948). One can assume that metaphoric descriptions, which relative frequency in Grac v.17 is .00 or tends to .00, are unique or, in other words, original, their degree of conventionality is approaching 0. At the same time, metaphoric descriptions which relative frequency in Grac v.17 tends to 1.00 are conventional. The higher the relative frequency is, the higher is the conventionality degree.

Results and Discussion

This section presents the qualitative and quantitative analysis results of the 40 synesthetic metaphoric descriptions added in Ukrainian translations. The metaphors added in Ukrainian translations are all of a conventional nature. The results show that all descriptions are based on the touch source domain cross-sensory mapping.

In examples (1-4), the translator retains the tenor noun using its direct literal equivalent but substitutes the focal adjective with its contextual synonym, which results in a synesthetic metaphoric description:

(1) Across the table, Lexie and Trip exchanged **wary**, unsurprised **glances** (Ng, 2017). – На іншому кінці столу Лексі й Тріп обмінялися **напруженими поглядами** людей, які нічого іншого не чекали [Na inshomu kintsi stolu Leksi y Trip obminialysia **napruzhenyumu pohliadamy** liudei, yaki nichoho inshoho ne chekaly] [**strained glances**] (Ng, 2018).

In example (1), Celeste Ng employs a non-metaphoric description *wary glances* to depict the tense atmosphere during the supper in the Richardson family. The adjective *wary* is used in its literal meaning, “feeling or showing caution about possible dangers or problems” (OUP, n.d.; MWD, n.d.).

Instead of using the direct equivalent of *wary*, the adjective *насторожений* (“attentively strained, concerned on waiting for something” (ADUL, n.d.) to modify the noun *погляди* [*looks*], the translator chooses to employ the adjective *напружений* [*strained*] creating a conventional synesthetic metaphor based on the vision is touch cross-sensory mapping. The literal meaning of the focal adjective “expressing/showing toughness and stiffness” (ADUL, n.d.) belongs to the domain of touch. Its figurative meaning concerning vision is “showing tension” (ADUL, n.d), making it quite suitable in the given context.

We hypothesise that at least partly, the translator’s choice can be explained by a higher conventionality degree of the synesthetic metaphoric description (0,54) in comparison with the direct translational equivalent (0,25) (Grac v.17, 2023).

(2) Mr. and Mrs. Wright exchanged **uneasy looks**, as she had known they would (Ng, 2017). – Містер і місіс Райт обмінялися **важкими поглядами** — вона розуміла, що так і буде [Mister i misis Rait obminialysia **vazhkymy pohliadamy** – vona rozumila, shcho tak i bude] [**heavy glances**] (Ng, 2018).

In example (2), the author uses the adjective *uneasy*, meaning “feeling anxiety; troubled or uncomfortable” (OUP, n.d.), to describe the Wrights’ reaction to a request from Mrs. Richardson to give their daughter’s phone number. They felt uneasy because they had broken up with their daughter Mia when it became known that she would have a baby, and this anxiety was reflected in their looks.

The translator prefers the contextual synonym of *uneasy*, the adjective *важкий [heavy]*, to its direct equivalent *зніяковілий [embarrassed]* (Multitran, n.d.). The direct equivalent of the source-text non-metaphoric description, *зніяковілий погляд* is non-metaphoric too, as the adjective means literally “feeling embarrassed and taken aback” (ADUL, n.d.). The literal meaning of the adjective *важкий [heavy]*, chosen by the translator, “the one that has a heavy weight” (ADUL, n.d.) belongs to the TOUCH domain. However, in the given context, regarding vision, this focal adjective realises its figurative meaning, “expressing the severeness and gloom” (ADUL, n.d.). Thus, in combination with the noun *погляд [look]*, it creates a conventional synesthetic metaphor that rests on the vision is touch cross-sensory mapping.

Its relative frequency in Grac v.17 is 0,60 (Grac v.17, 2023), and it is higher than the relative frequency of the corresponding literal description – 0,02 (Grac v.17, 2023). Consequently, it has a higher degree of conventionality, making it preferable for the translator.

(3) (...) **a distinct polyvinyl reek** that threw me straight back to childhood and my bedroom back in Vegas: chemicals and new carpet, falling asleep and waking up every morning with the painting taped behind my headboard and the same adhesive smell in my nostrils (Tartt, 2013) – (...) цей **гострий запах полівінілу** відкинув мене в дитинство та в мою спальню у Вегасі: хімікати і новий килим, коли я засинав і прокидався щоранку з картиною, приліпленою до ліжка, і з тим самим липучим запахом у ніздрях [tsei **hostryi zapakh polivinilu** vidkynuv mene v dytynstvo ta v moiu spalniu u Vegasi: khimikaty i novyi kylym, koly ya zasynav i prokydavsia shchoranku z kartynoiu, pryliplenoiu do lizhka, i z tym samym lypuchym zapakhom u nizdriakh] [**sharp polyvinyl smell**] (Tartt, 2015).

In example (3), Donna Tartt employs the non-metaphoric adjective *distinct* meaning “recognisably different in nature from something else of a similar type” (OUP n.d. Merriam-Webster n.d.) to modify the noun *reek*. The adjective describes the smell in the storage facility where Theo believed the picture taken from the Metropolitan Museum had been shut away for many years.

The direct translational equivalent of the adjective *distinct* is *чіткий* (Multitran, n.d.) that means literally “clear, legible, suitable for reading (about handwriting)” (ADUL, n.d.), and it is non-metaphoric. The translator uses its contextual synonym *гострий [sharp]* (Multitran, n.d.) that means literally “able to prick or cut” (ADUL, n.d.) and associates with touch. At the same time, in combination with the noun *запах [smell]*, which is the contextual synonym of the noun *reek* (Multitran, n.d.), it is associated with smell, as its figurative meaning is “strongly influencing the sense organs” (ADUL, n.d.). Thus, the translator creates and introduces into the target text a synesthetic metaphor based on the smell is touch (smelling something unpleasant is touching sharp surface) cross-sensory mapping.

The relative frequency of the metaphoric description *зоструїй запах* [*sharp smell*] is 0,42 (Grac v.17, 2023), which is higher than the relative frequency of the non-metaphoric translational equivalent (0,01) (Grac v.17, 2023), and that can influence the translator's choice.

(4) Here is her heavy tread; here are her **knowing**, suspicious eyes (Cunningham, 1998). – Ось її важка хода, ось її **пронизливий**, недовірливий **погляд** [Os yii vazhka khoda, os yii **pronyzlyvyi**, nedovirlyvyi **pohliad**] [**piercing glance**] (Cunningham, 2017).

In example (4), Michael Cunningham employs the non-metaphoric adjective *knowing*, meaning “showing or suggesting that one has knowledge or awareness that is secret or known to only a few people” (OUP, n.d.) to describe Mrs. Dalloways's vision of her daughter's friend, Mary. She was older and more experienced than Julia, making Mrs. Dalloway angry and uncontented, and she expected her daughter's betrayal.

The direct translational equivalent of the adjective *knowing* is *розуміючий* (Multitran, n.d.), meaning “understanding on something; showing the understanding” (ADUL, n.d.), so the description *розуміючі очі* [*knowing eyes*] is non-metaphoric. Its relative frequency in Grac v.17 is 0,04 (Grac v.17, 2023).

The translator resorts to a contextual synonym of the adjective *розуміючий* [*knowing*] – *пронизливий* [*piercing*] (Multitran, n.d.). In combination with the noun *погляд* (the translator substitutes the direct equivalent of the noun *eyes* [*очі*] with its metonym *погляд* [*look*]), it creates a synesthetic metaphoric description based on the vision is touch cross-sensory mapping. The literal meaning of the focal adjective *пронизливий* [*piercing*] “piercing through the clothes and arising unpleasant sensations” (ADUL, n.d.) belongs to the domain of touch. Used to describe a person's look, it means “attentive, coming through” (ADUL, n.d.).

According to Grac v.17 (2023), the relative frequency of the metaphoric description (.67) is higher than the relative frequency of the direct non-metaphoric equivalent (.04), making it preferable for the translator (Grac v.17, 2023).

In the next example, the translator creates a synesthetic metaphor substituting a predicatively used non-metaphoric adjective with its contextual synonym:

(5) ‘You're right,’ he murmured. ‘He doesn't **sound** well. Very **groggy** and confused, don't you think? (Tartt 1992). – Ваша правда, – підтвердив він, – з голосу можна сказати, що йому зле. **Нетвердий голос**, плутані слова Вам теж так здалося? [– Vasha pravda, – pidtverdyv vin, – z holosu mozhna skazaty, shcho yomu zle. **Netverdyi holos**, plutani slova Vam tezh tak zdalosia?] [**unsolid voice**] (Tartt, 2017).

Donna Tartt uses the adjective *groggy*, meaning “dazed, weak, or unsteady, especially from illness, intoxication, sleep, or a blow” (OUP, n.d.) in the situation when one of the students tried to explain to the tutor the absence of his fellow student Charles from the class. He described Charles's voice as *groggy*, implying that he was unwell.

The direct equivalent of *groggy* – *безсилій* (Multitran n.d.) that means “having no physical force, weak, exhausted” (ADUL, n.d.) is non-metaphoric.

The translator employs the synonymic Ukrainian description *нетвердий голос* [*unsolid voice*] (Multitran, n.d.). The adjective *нетвердий* [*unsolid*] means literally “which is easy to mould, dent or press; soft” (ADUL, n.d.). This meaning is associated with the touch domain. The same adjective is used to figuratively characterise hearing as “unstable, unclear, uncertain” (ADUL, n.d.). In the given context, this description instantiates a synesthetic metaphor based on the hearing is touch (hearing a weak sound/voice is touching unsolid surface) cross-sensory mapping.

According to Grac v.17 (2023), the relative frequency of the metaphoric description (.03) is higher than the relative frequency of the non-metaphoric one (.01) (Grac v.17, 2023), which influences the translator’s preference.

Examples (6) – (7) illustrate different translations of the same source-text non-metaphoric description expressed by a verb modified by an adverb:

(6) “I am hungry too,” **he said**, rather **formally**. (Tartt, 2013). – Я теж голодний, – **сказав він досить сухо** [Ya tezh holodnyi, – **skazav vin dosyt sukho**] [**he said dryly**] (Tartt, 2016).

In example (6), the non-metaphoric description instantiated by the verb *said* modified by the adverb *formally* that means literally “following convention or etiquette; officially” (OUP, n.d., MWOD, n.d.) is used in the situation when Theo and his friend Boris, just after arrival in Amsterdam, came to a café to discuss the picture rescue operation plan. As at that moment their relations were strained, Boris spoke to Theo in a formal tone.

The direct non-metaphoric translation equivalent of the adverb *formally* is *формально* (Multitran n.d.) meaning “officially; keeping to the settled rules and executing necessary formalities” (ADUL, n.d.). The relative frequency of the description *сказав формально* [*said formally*] in Grac v.17 (2023) is 0,05 (Grac v.17, 2023).

Employing the contextual synonym of the adverb *сухо* [*dryly*] (Multitran, n.d.), the translator adds to the target text a synesthetic metaphor, based on the hearing is touch (hearing an unpleasant sound is touching dry surface) cross-sensory mapping. The focal adverb *сухо* [*dryly*] means literally “being not soaked with water; not wet or damp” (ADUL, n.d.), and this meaning belongs to the domain of TOUCH. Its figurative meaning concerning hearing is “lacking brightness, softness; crispy” (ADUL, n.d.).

According to Grac v.17 (2023), the relative frequency of the metaphoric description (.09) is higher than that of the direct non-metaphoric one (.05) (Grac v.17, 2023). This supports the hypothesis that translators favour descriptions with a higher conventionality degree.

(7) “This should be easy,” **he said** to me **formally** as we pulled out of the garage and back out onto the Overtoom... (Tartt, 2013). – Усе має бути дуже легко, – **сказав він мені**

сухим формальним тоном, коли ми залишили гараж і знову виїхали на Овертом... [Use maie buty duzhe lehko, – **skazav** vin meni **sukhym formalnym tonom**, koly my zalyshyly harazh i zнову vyikhaly na Overtom...] [**he said to me in a dry formal tone**] (Tartt, 2015).

In example (7), the same source-text description is used to characterise a conversation between business partners. The translator substituted the adverb with the phrase *сухим формальним тоном* [*in a dry formal tone*] adding the adjective *сухий* [*dry*] meaning “the one, which is not soaked with water, not wet or damp” (ADUL, n.d.) and associated with the TOUCH domain. Concerning hearing, it means “lacking brightness, softness; crispy” (ADUL, n.d.). In the given context, the translation instantiates a synesthetic metaphor based on the hearing is touch (hearing an unpleasant sound is touching dry surface) cross-sensory mapping.

According to Grac v.17 (2023), the relative frequency of the synesthetic metaphoric description (0,09) is higher than that of the direct non-metaphoric equivalent (.05) (Grac v.17, 2023).

In the following example, the translator substitutes a non-metaphoric description expressed by a verb modified by a prepositional phrase with a metaphoric one of a similar structure:

(8) “Good afternoon, Mrs. Bell,” she **says** with an **executioner’s studied calm** (Cunningham, 1998) – Добрий день, місис Белл, – озивається вона підкреслено **ХОЛОДНИМ ГОЛОСОМ** ката [Dobryi den, misis Bell, – ozyvaietsia vona **pidkresleno kholodnym holosom** kata] [**emphatically cold voice**] (Cunningham, 2017).

In the source text, the non-metaphoric adjective *studied*, meaning “achieved or maintained by careful and deliberate effort (about quality or result)” (OUP, n.d.), modifies the noun *calm* to convey the feelings of a frustrated cook (Nelly) who was sent on an errand a couple of hours before the guests’ arrival. To hide her anger, Nelly spoke to her mistress in a studied manner.

The direct equivalent of the target adjective *studied* is *завчений* (Multitran, n.d.) meaning “habitual, mastered” (Multitran, n.d.). The relative frequency of this description is .00 (Grac v.17, 2023).

The translator resorts to contextual substitution rendering *studied calm* as *холодний голос* [*cold voice*] and creating a synesthetic metaphoric description based on the hearing is touch/temperature (hearing an unpleasant sound is touching cold surface) cross-sensory mapping. The literal meaning of the adjective *холодний* [*cold*] is “having low or relatively low temperature” (ADUL, n.d.). Referring to voice, it means “expressing, anger, inhospitality, pointed self-resistance”. The relative frequency of metaphoric description in Grac v.17 is .43 (Grac v.17, 2023), which is higher than the relative frequency of the non-metaphoric one (.00) (Grac v.17, 2023), explains the translator’s choice.

The quantitative analysis results indicate that the synesthetic metaphors based on the cross-sensory mapping hearing is touch accounts for 55% of the total instances of

additions, smell is touch presents 25%, and seeing as touch constitutes 20% of the cases.

Conclusions

The 40 added synesthetic metaphoric descriptions were extracted manually from Ukrainian translations of American authors' novels. The meaning of the source- and target-text descriptions were interpreted considering the dictionary definitions and context. The translator's choice was explained through the comparative analysis of the conventionality degrees of the direct translational equivalents and the metaphoric synesthetic description chosen by the translator, it depends on the atypical 'cross-talk' between brain areas and perceptual domains that influence the choice of translation equivalent. The results of our research prompt us to the following conclusions.

Addition of synesthetic metaphors in translations of fiction texts is a challenging object of translation studies as it reveals that the conventionality degree of a linguistic expression can influence translators' decisions. Though theoretically, synesthetic metaphors can refer to a point in the source text where there is no text, all the analysed added synesthetic metaphors replaced non-metaphoric source-text descriptions. All the added synesthetic metaphors are based on the touch source domain cross-sensory mapping, which complies with Ullmann's "hierarchical distribution", according to which touch is the 'lowest/most accessible/basic domain'.

Addition of synesthetic metaphors results from the following translation techniques: 1) retaining the tenor noun using its direct literal equivalent and substituting the direct non-metaphoric equivalent of the focal adjective with its metaphoric contextual synonym; 2) retaining the tenor verb using its direct literal equivalent and substituting the direct non-metaphoric equivalent of the focal adverb with its metaphoric contextual synonym or transforming the focal adverb into a metaphoric synesthetic description of the adjective + noun structure; 3) replacing a non-metaphoric description expressed by a verb modified by a prepositional phrase with a metaphoric one of the same structure.

Combining analytical instruments of cognitive translation analysis with the affordances of corpus linguistics to investigate the addition of synesthetic metaphors in translations of fiction texts results in the conclusion that translators' choices can be influenced by the conventionality degree of the linguistic expressions linked to their relative frequency of use. Due to these choices, the target text conveys and preserves the senses underlying the source text and simultaneously acquires the features specific to the Ukrainian language, making it understandable and transparent for readers.

Disclosure Statement

The authors reported no potential conflicts of interest.

References

- Alves, F., Pagano, A., Neumann, S., Steiner, E., & Hansen-Schirra, S. (2010). Translation units and grammatical shifts. *American Translators Association Scholarly Monograph Series*, 109–142. <https://doi.org/10.1075/ata.xv.07alv>
- Baron-Cohen, S., Burt, L., Smith-Laittan, F., Harrison, J., & Bolton, P. (1996). Synaesthesia: Prevalence and Familiarity. *Perception*, 25(9), 1073–1079. <https://doi.org/10.1068/p251073>
- Cytowic, R. E. (1997). Synaesthesia: Phenomenology and neuropsychology – A review of current knowledge. In J. E. Harrison & S. Baron-Cohen (Eds.), *Synaesthesia: Classic and contemporary readings* (pp. 17–39). Wiley-Blackwell.
- Day, S. (1996). Synesthesia and Synesthetic Metaphors. *PSYCHE*, 2(32), 1–19. Retrieved from <http://www.daysyn.com/Day1996.pdf>
- Deignan, A., Gabrys, D., & Solska, A. (1997). Teaching English metaphors using cross-linguistic awareness-raising activities. *ELT Journal*, 51(4), 352–360. <https://doi.org/10.1093/elt/51.4.352>
- Duan, H. D., & Gao, Li. (2014). Construction of Sensory Transfer Model of Gustatory and Olfactory-Synaesthetic Metaphor (GO-STM) and English-Chinese Comparative Study. *Open Journal of Modern Linguistics*, 04(02), 290–300. <https://doi.org/10.4236/ojml.2014.42023>
- Halverson, S. L. (2010). ‘Cognitive translation studies: Developments in theory and method’. In G. M. Shreve & E. Angelone (Eds.), *Translation and cognition* (pp. 349–370). Van Haren Publishing.
- Jankowiak, K., & Lehka-Paul, O. (2021). Novel metaphor translation is modulated by translation direction. *Applied Psycholinguistics*, 43, 177–192.
- Kenney, J. F., & Keeping, E. S. (1948). *Mathematics of Statistics*. Van Nostrand.
- Kovalenko, L., & Martynyuk, A. (2018). ‘English Container Metaphors of Emotions in Ukrainian Translations’. *Advanced Education*, 5(10), 190–197. <https://doi.org/10.20535/2410-8286.142723>
- Kövecses, Z. (2002/2010). *Metaphor: A Practical Introduction*, 2nd Edition. Oxford University Press, USA.
- Kövecses, Z. (2005). *Metaphor in Culture: Universality and Variation* (Illustrated ed.). Cambridge University Press.
- Krings, H. P. (1986). *Was in den Köpfen von Übersetzern vorgeht: Eine empirische Untersuchung zur Struktur des Übersetzungsprozesses an fortgeschrittenen . . . Beiträge zur Linguistik* (German Edition). Narr.
- Lakoff, G., & Johnson, M. (1980). *Metaphors We Live By* (1st ed.). University of Chicago Press.
- Langacker, R. W. (2008). *Cognitive Grammar: A Basic Introduction* (Illustrated ed.). Oxford University Press.
- Newmark, P. (1988). *A Textbook of Translation*. Prentice Hall.
- Papadoudi, D. (2010). *Conceptual Metaphor in English Popular Technology and Greek Translation*. M. Olohan, Ed.. Amsterdam University Press.
- Preminger, A., Warnke, F. J., & Hardison, O. B. (1974). *Princeton Encyclopedia of Poetry and Poetics* (Enlarged ed.). Princeton University Press.
- Ramachandran, V. S., & Hubbard, E. M. (2001). Synaesthesia – a window into perception, thought and language. *Journal of Consciousness Studies*, 8(12), 3–34.
- Risku, H. (2013). Knowledge management and translation. *Handbook of Translation Studies*, 4, 92–97. <https://doi.org/10.1075/hts.4.kno1>
- Simner, J. (2007). Beyond perception: Synaesthesia as a psycholinguistic phenomenon. *Trends in Cognitive Sciences*, 11(1), 23–29. <https://doi.org/10.1016/j.tics.2006.10.010>
- Schäffner, Ch. (2004). ‘Metaphor and translation: some implications of a cognitive approach’. *Journal of Pragmatics*, 36(7), 1253–1269. <https://doi.org/10.1016/j.pragma.2003.10.012>
- Shen, Y. (1997). Cognitive constraints on poetic figures’. *Cognitive Linguistics*, 8(1), 33–72. <https://doi.org/10.1515/cogl.1997.8.1.33>
- Shuttleworth, M. (2017). *Studying Scientific Metaphor in Translation*. Taylor & Francis.

- Strik-Lievers, F. (2016). Synaesthetic metaphors in translation. *Studi e saggi linguistici*, 54(1), 43–68. <https://doi.org/10.4454/ssl.v54i1.149>
- Tirkkonen-Condit, S. (2002). Metaphoric Expressions in Translation Processes. *Across Languages and Cultures*, 3(1), 101–116. <https://doi.org/10.1556/acr.3.2002.1.8>
- Toury, G. (1995). *Descriptive Translation Studies – and beyond* (Benjamins Translation Library). John Benjamins Publishing Company.
- Ullman, S. (1957). *The Principles of Semantics: A Linguistic Approach To Meaning*. (2nd Edition). Basil Blackwell.
- Werning, M., Fleischhauer, J., & Beşeoğlu, H. (2006). The Cognitive Accessibility of Synaesthetic Metaphors. In R. Sun & N. Miyake, (Eds.). *Proceedings of the Twenty-Eighth Annual Conference of the Cognitive Science Society* (pp. 2365–2370). Lawrence Erlbaum Associates.
- Williams, J. M. (1976). Synaesthetic Adjectives: A Possible Law of Semantic Change. *Language*, 52(2), 461. <https://doi.org/10.2307/412571>
- Yu, N. (1992). A possible semantic law in synesthetic transfer: Evidence from Chinese. *The SECOL Review*, 16(1), 20–40.
- Yu, N. (2003). Synesthetic metaphor: A cognitive perspective. *Journal of Literary Semantics*, 32(1), 19–33. <https://doi.org/10.1515/jlse.2003.001>
- Zhao, Q., & Huang, Ch-R. (2015). *A Corpus-Based Study on Synaesthetic Adjectives in Modern Chinese*. Springer International Publishing. https://doi.org/10.1007/978-3-319-27194-1_54
- Zhao, Q., Huang, Ch-R., & Ahrens, K. (2019). ‘Directionality of linguistic synesthesia in Mandarin: A corpus-based study’. *Lingua*, 232, 102744. <https://doi.org/10.1016/j.lingua.2019.102744>

Sources

- ADUL. (n.d). *Academic Dictionary of Ukrainian Language*. Academic Dictionary of Ukrainian Language. Retrieved from <http://sum.in.ua>
- Cunningham, M. (2000). *The Hours: A Novel* (Picador Modern Classics, 1) 1st ed. Picador.
- Cunningham, M. (2017). *Hodyny* [The Hours: A Novel (Picador Modern Classics, 1)]. Klub Simeinoho Dozvillia.
- Grac v. 17. (n.d.). *The General Regionally Annotated Corpus of Ukrainian*. Retrieved from <https://uacorporus.org>
- Multitran Dictionary. (n.d.). Retrieved from <https://www.multitran.com>
- MWOD. (n.d.). *The Merriam-Webster. Com Dictionary*. Retrieved from <https://www.merriam-webster.com>
- Ng, C. (2018). *Usudy Zhevriuiut Pozhezhi* [Little Fires Everywhere] [E-book]. Klub Simeinoho Dozvillia. Retrieved from <https://bookclub.ua/catalog/books/pop/usyudi-jevriyut-pojeji?search=усюди>
- OUP. (n.d.). | Oxford University Press. *Definitions, Meanings, Synonyms, and Grammar by Oxford Dictionary on Lexico.com*. Lexico.Com. Retrieved from <https://www.lexico.com>
- Tartt, D. (1992). *The Secret History*. Alfred A Knopf.
- Tartt, D. (2016). *Shchyhol* [The Goldfinch: A Novel (Pulitzer Prize for Fiction)] [E-book]. Klub Simeinoho Dozvillia”. Retrieved from <https://bookclub.ua/catalog/e-books/e-books-modern/shchigol-e-1?search=rapr>
- Tartt, D. (2017). *Taiemna Istoriia* [The Secret History] [E-book]. Klub Simejnogo Dozvillia. Retrieved from <https://bookclub.ua/catalog/e-books/e-books-modern/taiemna-istoriya-e-1?search=rapr>