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## Some Current Trends and Research Possibilities in the Audiovisual Translation of the 2020s

### Wybrane aktualne trendy i możliwości badawcze w tłumaczeniu audiowizualnym w latach 20. dwudziestego pierwszego wieku

#### Abstract

This overview article explores some of the current trends and research possibilities in audiovisual translation which is a rapidly growing field of translation studies due to the increased demand for audiovisual content in the era of technology. It briefly describes audience-oriented studies and research possibilities regarding humour perception and eye tracking with a special focus on making audiovisual content available to hearing and visually impaired audience. Moreover, it outlines collaborative translation and crowdsourcing along with fansubbing and fandubbing as a popular forms of non-professional practice. The article also discusses the employment of the machine, neural machine and speech translation to audiovisual or media content.

**Key words:** *audiovisual translation, reception studies, accessibility, crowdsourcing, collaborative translation, speech translation.*

#### Abstrakt

W niniejszym artykule omówione zostały wybrane trendy badawcze w zakresie tłumaczenia audiowizualnego, które jest szybko rozwijającą się dziedziną transla-

toryki ze względu na zwiększone w dobie rozwoju technologii zapotrzebowanie na treści audiowizualne. Artykuł krótko opisuje badania zorientowane na odbiorcę, a także możliwości, jakie dają technologie rozpoznawania emocji i śledzenia wzroku. Szczególny nacisk został położony na udostępnianie treści audiowizualnych odbiorcom niedosłyszącym i niedowidzącym.

Autorka podejmuje również zagadnienie tłumaczenia zespołowego – odnosi się zarówno do crowdsourcingu, jak i do fansubbingu i fandubbingu jako popularnych form przekładu amatorskiego. W artykule omówione zostały też sposoby wykorzystywania tłumaczenia maszynowego, neuronowego tłumaczenia maszynowego i tłumaczenia mowy w przekazie audiowizualnym lub multimedialnym.

**Słowa kluczowe:** *tłumaczenie audiowizualne, studia recepcyjne, dostępność, crowdsourcing, tłumaczenie wspólne, tłumaczenie mowy.*

## Introduction

There has been a significant increase in scholarly attention towards translation in the second half of the twentieth century. It is because translation has developed from the traditional language learning since the early 1950s into an independent academic discipline in the 1980s. (Holmes in: Toury, 1998) Therefore, translation studies along with translation practise has undergone transformations on various levels with the advent of the Web 2.0 in the first twenty years of the new millennium. Due to the technological turn in translation studies, the phenomena of corpus-based approaches, globalization and localization, as well as audiovisual translation have become a vital part of the translation practice. (Bednárová-Gibová, 2018, 2021) Therefore, the present paper is devoted to audiovisual translation as a fast-growing branch of translation studies since there has been a significant rise in audiovisual products, video games and multimedia content thanks to the development of digital technologies over the past two decades. Moreover, due to the shift from the cable into Internet TV, streaming services such as Netflix, HBO Max, Hulu and many others offer plentiful of audiovisual content to their audiences. (Bolaños-García-Escribano et al., 2018) 'Multimedia translation', 'multimodal translation' or 'screen translation'; thus 'audiovisual translation' (henceforth AVT) "focuses on practices, processes and products that are involved in or result from the transfer of multimodal and multimedial content across languages and/or cultures". (Pérez-González, 2020, p. 30) This includes subtitling, surtitling, dubbing, voice-over, subtitling for the de-

af and hard of hearing, audio description for the deaf and visually impaired, as well as fansubbing or fandubbing which make audiovisual products accessible to various audiences worldwide. (Chaume in: Chaume, 2013) The rapid development of the media industry alongside with globalization has led to a significant increase in the need for AVT practice but also the need to devote scholarly attention to AVT and its complex nature. The main objective of this overview paper is, thus, to present some of the latest trends in the AVT of 2020s and to outline some possible research avenues in the discipline worthy of academic reflection. The first part of the paper is devoted to reception studies, thus to eye tracking and humour perception studies with a special focus on making audiovisual content accessible to the vision and hearing-impaired audience. The second part of the paper offers some research avenues associated with non-professional translation practice, thus crowdsourcing and online collaborative translation. In addition, machine translation, speech translation, along with speech translation for low-resource languages and multimodal translation is proposed as a promising research area in the last part of this overview paper.

### **Reception Studies in AVT**

Theories of reception studies have been applied to literary translation along with other areas; however, studies of reception of translated texts, especially in AVT, has only recently gained its position within translation studies. Research approaches of this kind aspire to “not only push the discipline beyond descriptivism, but first and foremost to map reception so as to feed it back into research but also into practice of AVT”. (Di Giovanni, 2020, p. 398) The use of technology and evaluation of the statistically obtained data has become well received among researchers in the field with the aim to explore how viewers interpret and understand AVT in different contexts. Díaz Cintas and Szarkowska (2020, p. 4) state that scholars

[t]o reach their objectives, they have started to implement a combination of new methods and technologies that allow them to examine the various cognitive aspects that influence not only reception of translated audiovisual programmes but also the actual translation process behind practices like subtitling, captioning, dubbing, voice-over and audio description, to name but a few.

One of such methods implemented in the given research field oriented towards the reception of translated audiovisual material is eye tracking as

it can provide essential knowledge about text and image procession. It can also offer information about the way in which attention of viewers' is distributed, what the presentation speed should be, what a subtitle type would be the most appropriate, how division of lines affects the overall subtitles processing by audience and others. (Kruger, 2019) There are various studies aimed to deepen the knowledge about the conscious and unconscious reactions of viewers to subtitles and they strive for bridging the gap between the actual practice and academia. To mention just a few of the most recent ones, Lång (2023) paid the attention to exploring how modern subtitling conventions impact viewers' reception, whether subtitles can be perceived as functional information channel and what aspects influence reading subtitles the most. Moreover, Silva et al. (2022), compare traditional statistical methods, t-tests, to the linear mixed models to propose benefits of the use of linear mixed models in researching eye tracking since such models offer more variation in characteristics of participants and subtitles.

Study of humour, linguistic references and culture-specific references in audiovisual materials has also been a noteworthy area in the field of AVT since “[t]he peculiar exploitations of language specific-elements are often difficult to translate, especially when languages belong to different families”. (Dore, 2020, p. 164) Furthermore, Dore (2020) explores these elements via strategies such as transference, equivalence, neutralisation, omission, etc. coming to conclusion that the preferential strategies used in the given study were transfer or equivalence. Nevertheless, it was found out that the AVT mode influences translators' choices; thus, dubbing allows for more variety in in decision-making process of a translator than the captioning. Another rather recent study into humour perception has been done by Lacković (2022) who focused on challenges that translating humour poses on a translator; particularly to determine strategies used by non-professional translators. Moreover, culture-specific elements in AVT products seem also to be an intriguing object of the study. Božović (2019, p. 81) proposes that “industry's translation guidelines should be modality-specific and that over-simplistic approach to the treatment of such a complex issue as rendering culture within certain modalities should be avoided”. Some scholars who aspire to give a rise to the area for further investigation of such questions are Bolaños-García-Escribano (2022) or Alfaify and Pinto (2022) with their study of cultural references in Arabic subtitling.

## Accessibility and AVT

Interlingual or intralingual translation for the deaf and hard of hearing is yet another research ground closely related to reception studies since changes that have taken place in the translation industry, especially in AVT, are an adaptation to the era of development and technology. Such an adjustment to the demand for audiovisual content can be seen in the rise of streaming platforms that intend to attract the highest possible number of audiences and subscribers by offering a huge amount of diverse content. Therefore, according to Bednárová-Gibová (2018, p. 21) the industry's

attention has moved from the study of interlingual subtitling (as present in various forms for the cinema and DVD), dubbing, surtitling (where the subtitles are projected above the stage at the opera or theatre) to intralingual subtitling for disabled groups of recipients (such as the hard of hearing).

Hence, apart from the audiovisual content being subtitled or dubbed, AD (audio description) or SDH (subtitles for the deaf or hard of hearing) are commonly used as a means to make the content accessible also to audiences with vision and hearing impairment. (Bolaños-García-Escribanos et al., 2021) Since it is highly desired nowadays to make media accessible also to people with given disabilities, there are studies focused on what challenges translators and the audience encounter, they are aimed to explore how visually impaired people perceive what takes place on the screen. (Valdeón, 2022)

Another possible research avenue linked to SDH is an investigation of reading speeds, chunking, comprehension, and editing in order to discover what type of subtitles and strategy of subtitling would be the most appropriate for the audience. (Néves, 2019) The above-mentioned issues are present even when subtitling for hearing audiences; however, they are of much greater importance for hearing-impaired audience since they “may have little or no access to aural cues, may (or may not) rely on visual cues such as lip movement, and may read subtitles in what is their second language”. (Néves, 2019, p. 89)

Nevertheless, some of the latest research is an EEG (electroencephalogram) study of emotions transferred via sound and music in audiovisual products via captions resulting in the need for an increased attention rather than emotional processing of captions transcribing musical information. (Revuelta et al., 2020) Aleksandrowicz (2018) also devoted his attention to exploring music perception via subtitling of the selected highly emotional

clips. One more rather innovative research example would be a study by Siri Ekswärd and Julia Falk (2021) whose main objective is the development of a potential assistive device for people with hearing impairment; therefore, they proposed AR (Augmented Reality) glasses that can convert speech to text via speech-to-text systems and thus certainly create a space for further research into the subject matter.

## **Crowdsourcing and Online Collaborative Translation**

Non-professional translating has become a common practice over the years and it has definitely influenced the industry of professional translating. However, it seems to be a thrilling area of the research mostly because of creativity that comes from human-human and human-technology interaction. (Fan, 2020) According to Fan (2020, p. 340) “[c]ollaborative translation involves the joint efforts of translators and experts in related fields.” Crowdsourcing has been practised by many organizations or institutions “to harness the wisdom of the crowd, be it a large group of amateurs, experts, volunteers, professionals, fans, or citizens, to accomplish any given task”. (Gambier, 2017, p.13) It is also true that the definitions of the two phenomena often overlap; however, they differ in “the agent(s) who initiate the translation process and where the locus of control resides, whether in the self-organized community or in a company organization”. (ibid., p. 21) In other words, ones are a self-organized community while the others work for a company organization. Another difference between the two is that crowdsourcing is “a market-driven phenomenon” and collaborative translation is “a user-centred process”. (Fernández-Costales, 2013, p. 98) Furthermore, the technology usage seems to be a distinguishing feature between both types as well. Therefore, crowdsourcing depends on platforms like Facebook or Twitter which have a management system (i.e. manager, translator, editor, etc.) while a management system of self-organized collaborative translation might be a forum or excel spreadsheet. (Jiménez-Crespo, 2017) Nevertheless, the phenomena involve practices such as fansubbing or fandubbing. Fansubbing is a process of “a fan-produced, translated, subtitled” version of a given audiovisual material. (Díaz-Cintas, Muñoz Sánchez, 2006, p. 37) Fandubbing is also a non-professional practice of dubbing “done by fans for fans”. (Baños, 2020, p. 210) Both areas have been researched to a certain extent; however, there are still new avenues to be explored that emerge, such as motivation for crowdsourcing, how to guarantee and assess its quality (Thaler, 2017) or translation quality with a special focus on economic factors. (e.g.

Jiménez-Crespo, 2018) More recently, Mertens (2023), for instance, explored parody phenomenon in anime series and argued that fandubbers might opt for orientalist or sexist perspectives that might not seem as the best cultural interpretation of the given text.

## From Machine to Speech Translation

Another adjustment to the era of technology and development is unquestionably machine translation as a branch of computational linguistics. Machine translation (henceforth MT) is very commonly used not only by freelancers but also by language service providers. (Hui-chin Lin, Shih Chien Chien, 2009) MT has developed from the stage of dictionary matching into the stage of “neural machine translation with artificial intelligence as its core technology in recent years”. (Zong, 2018, p. 2) Plentiful research (e.g. Guerberof Arenas, 2008; Koponen, 2016; Yang, Mustafa, 2022) has already proven higher efficiency in time and quality of post-editing machine translation rather than translating from the scratch. (Sanchez-Torron, Koehn, 2016) However, the rise of audiovisual material available on the Internet has resulted in a large volume of content that can be translated. Furthermore, content providers are demanded to make content accessible in various languages to different kinds of audiences at the at the shortest pace as possible, which creates ongoing stress for AVT workflows. One of the potential solutions for the increased demand is thus MT that can increase efficiency, and on the contrary, decrease time and project expenses as well. (Bywood et al., 2017) Nevertheless, in case of MT or neural machine translation (NMT), there is still the need of a human to transcribe a text.

Furthermore, speech translation (henceforth ST) seems to be a groundbreaking advancement in the field of AVT due to no need for human transcription in translating speech. ST system, also known as ‘cascade’ or ‘pipeline’, operates via the automatic speech recognition that transcribes speech into text and machine translation system that performs translation. (Karakanta, 2022) In case of subtitling in particular, the automatic speech recognition components “can also be used to obtain the timestamps by estimating start and end times of the transcribed words” and boundaries are predicted by another component. (Karakanta, 2022, p. 7) However, the ensuing advancement in the given area, that being end-to-end ST is a development of a direct speech translation from a source to a target language without any steps such as speech-to text and text-to-text translation. (Gállego, 2021) Despite the fact that this sequence-to-sequence models surpass the previous

ones; the main disadvantage is that end-to-end ST models “are usually trained with a single language pair only (i.e. bilingual translation)”. (Inaguma et al., 2019, p. 570) Nevertheless, it has already shown promising results with its application predominantly in areas such as multilingual communication or language learning.

A largely unexplored research avenue in AVT is dedicated to speech translation for low-resource languages with usually have fewer resources and training data available. One of possible matters to be discussed might be if it is even possible to acquire well-founded phonetic information of speech in language that is not written. The method of byte pair encoding, “which compresses a phone sequence into a syllable-like segmented sequence” (Cheng, Lee, Wang, 2021, p. 2252) might be one of possible solutions to the given issue due to the fact that it is similar to a method used when a source transcription is available. Moreover, when properly explored, speech translation for low-resource languages might offer various merits in e.g. education or cross-cultural communication.

Another possible research area concerned in this area of innovations is devoted to multimodal machine translation which is an umbrella term for “tasks that involve both multiple modalities and different input and output languages”. (Sulubacak et al., 2020, p. 98) By way of illustration, M3D-GAN is a model that has already been proposed by Ma, McDuff and Song (2019) that incorporates facial expressions and lip movement to enhance unambiguousness of speech recognition and translation resulting in the model outperforming speech-to-text methods for translation. The use of multiple modalities in translation seems to be a promising means of improving speech recognition accuracy when dealing with translation.

However, Bolaños-García-Escribano, Díaz-Cintas (2019, p. 212) stress the importance of students of translation studies being “exposed to the latest advances in the industry, including up-to-date technologies and translation workflows”. Nevertheless, all of the above-mentioned adjustments that have occurred in the era of digitalization (e.g. automatic speech recognition, text-to-speech, speech-to-text, speech-to-speech technologies) seem to be new-fashioned for AVT and professionals working in the field since they help to speed the translation work process. On the other hand, the same system might be viewed not as an advantage for professionals but rather as a disadvantage or danger to the workflow as the need for human beings in the process seems unessential in some cases. (Bolaños-García-Escribano et al., 2021)



## Conclusion

Overall, the AVT field is rapidly changing and developing, thus offering researchers many and underexplored possibilities for experimental and perception-oriented studies to improve the accuracy and efficiency of AVT. The main objective of this article was to outline some of the current trends and possible research areas in AVT. Moreover, the article also aims to not only stress the importance of AVT products as a research field but, it also tries to draw attention to AVT end-users as an important element of the subject matter. The article attempts to emphasize that knowing the audiences seems to be crucial for the translation industry in order to fulfil their needs and expectations. However, the present article offers only a snapshot of some of the current trends and research possibilities in the field, thus being not exhaustive. There are certainly many other paths that are also in need of deeper explorations such as e.g. quality assessment (since the nature of an AVT text differs from a 'traditional' text), the development of the corpus-based AVT studies or game localization. In addition, scholars may also want to devote their attention to the research on AVT training, AVT in language learning, teaching or live subtitling, to name just a few. Therefore, it is crucial to devote proper scholarly attention to AVT and keep up with the latest advancements in academia and translation practice since the technology is ever-changing and developing, ultimately affecting translation studies.

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***Acknowledgements:*** This paper has been written as part of the KEGA 004PU-4/2023 research grant project “Innovative Translation Theory and Practice Based on Blended Learning”.

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