Hearing the moving pictures: a target audience perspective

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Abstract

When vision is impaired, the other senses may be more important. "Sound, touch, smell and taste are a natural part of our sensory world, and can be used to complement vision" (Holsanova, 2016:62). In order to make foreign films accessible to blind and visually impaired people (B/VIP), audio description (AD), as an access service that translates visual images into words, should be combined with audio subtitling, as spoken subtitles.

This paper will place emphasis on "Sororal" ("Sororelle"), a stop-motion animation film, directed by Frédéric Even and Louise Mercadier with production by Papy3D and JPL Films, for which AD and audio subtitles were created, recorded by voice talents, adjusted, synchronised, presented and evaluated by Greek people with visual impairments. This is an end-user perception study, constituting part of our wider research on the topic, trying to understand the usefulness of pre-screening touch tours for blind and visually impaired audiences, when engaging with stop-motion animation films.

Following the screening of the aforementioned animation film, questionnaires, with questions on linguistic choices, voice delivery, synchronisation, as well as sensory engagement, were read to the participants, discussions took place, and feedback was gathered. We could say that emotional engagement, enjoyment, and narrative understanding are the main *Skopos* for the target audience, who, in fact, underlined the necessity of information prioritisation and highlighted the importance of sound mixing and voice adjustment in a way to weave AD and audio subtitles (namely the French subtitles that were translated into Greek to be read and recorded) among sounds of the film. Delivery and reading speed were issues that were investigated, discussed, and resolved.

Last but not least, trying to embed senses other than vision and hearing, could a pre-screening touch tour provide the audience with additional details on animation films? Is the information load provided with AD influenced by the tactile material? Does such an approach engage the audience with visual impairments? For a multi-sensory approach, the main characters' 3D face models were printed, dressed, and adjusted for a pre-screening touch tour, with a view to checking the impact of touch along with AD for the end user.

Acknowledgement

1.   Introduction

1.1   Aim of the paper

Audio description (AD) is a type of intersemiotic translation that translates (describes) images through words, thus making the visual-verbal, and a modality of audiovisual translation (AVT) that enables people with visual impairments, to have access to audiovisual content. As Zabrocka argues,

> [s]ince AD is classified as a type of translation, an audio describer has the same aim as the translator who translates from language A to language B, in order to make any given text comprehensible for a person with linguistic or other barriers. However, for an audio describer the difference is that the source code is a language of images and the target code is any language understood by the AD receivers (2018, 212–36).

When it comes to foreign films, namely those that are not dubbed but subtitled, the AD service needs to be delivered in combination with audio subtitles or spoken subtitles in order for the dialogues to be accessible to the audience. Given that, in Greece, at least to our knowledge, there is a lack of academic research regarding audio description of films that are in a language other than one of the target viewers, the goal of our research is to make foreign, stop-motion short animation films accessible to the Greek blind and visually impaired adult people, combining it with pre-screening touch tours in that film medium. In other words, since our senses are interdependent (Holland 2009), the study attempts to measure the impact that the pre-screening touch tours have on the audience by delivering additional information along with AD.

1.2   Brief background of the study

The AD takes place in the existing pauses, but the film's dialogue, sounds, and silences should also be respected, as all these elements may convey meaning, and create an atmosphere. In order words, AD needs to peacefully co-exist with the soundscape of the film, being able also to stimulate the imagination of the viewer. What is more, in foreign films, the AD is not drafted independent of audio subtitles, so textual cohesion should be met.

Apart from hearing, which is a passive sense, other senses may also complement the access of a blind and/or visually impaired viewer to a 3D stop-motion animation film. Taking into consideration that stop-motion, as a technique, evokes a tactile perception, because it uses materials and textures that appeal to the viewers' experience and address the sense of touch (e.g., Barker 2009), objects and puppets (i.e., the film's characters) may be able to engage the audience. As it happens in museums, performances, and exhibitions, we believe that this animation film medium can incorporate a pre-screening touch tour along with AD and audio subtitles. This could lead to the reception of further and even more accurate information on the protagonists, or even the setting, encompassing also a richer film experience, without overloading the user.

1.3   Material used

Here, we will focus on "Sororal" ("Sororelle"), a French, short stop-motion animation film with puppets, directed by Frédéric Even and Louise Mercadier with production by Papy3D and JPL Films (2019). The film's running time is 14:56 minutes, and its summary reads as follows:

> *"Three sisters are facing an impending disaster: the imminent flooding by the Sea of the lands where they live. In the midst of such chaos, the sisterly union is shaken up and each of the sisters experiences the imminence of death, in their inner selves, in a different way"* – Film synopsis.

As appears from above, the animated film is based on an impending natural disaster, and all of its elements show the perspective of chaos as well as the link between the environment and human relationships. According to the directors (2020)[1], they "chose the sea as the natural elements because of the poems collection Amers written by Saint-John Perse" since they "were fascinated by his way of evoking the sea, the metaphysical dimension it gives it, how it shows that its power and its vastness are capable of troubling us". This means that apart from the story itself and plot development, there are also images and visual details that 'complement' the film's perspective.

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[1] The film's directors, Frédéric Even and Louise Mercadier, talked to Laura-Beth Cowley on 2020 at the online animation magazine Skwigly.

We selected this film since we believe that it can help us meet our research goal. More specifically, its 15-minute duration and the co-existence of dialogues among the three sisters and a farmer gave us the opportunity to test the impact of voice assignments with regard to the audio subtitles (i.e., four different voices), the audio description (i.e., one voice), and the respect of the soundscape and silence that were in harmony with the plot. The film has a recent production year (i.e., 2019), it is also available online and it is awarded at an international level, which we believe would appeal to the audience. With regard to the storyline, the announcement of the flooding of the land by the sea was the key to observing how the three sisters will each face the oncoming disaster in their own individual ways, as they were waiting for the potential death and nothingness. This influenced also their physical appearance by altering it, which is something obvious to the puppets themselves. According to the directors (2020), "[w]e didn't want to hide that they were puppets, to be realistic and give them the appearance of flesh and blood characters. We found that seeing the mouth replacement lines and the joints in their hands help make them fragile and touching and although the distance is established with a being of flesh and bone it creates more empathy than with more realistic representation. We feel that they can break, we feel the precariousness of their construction. They appear all the more disarmed in the face of the immense wave which threatens them". This means that the impact of the disaster is obvious not only on the characters' behaviours, with the reaction mode of each one of the three sisters being different, but also on their faces and flesh, with the imprint of the wind on their body to be obvious (e.g., wounds or fragility for example through mouth replacement lines and joints in their hands, etc.). Based on the above, we thought that the specific film was appropriate to embed a pre-screening tactile tour and make the audience touch and "feel" their fragility and flesh wounds.

The film was viewed from us internally several times for its comprehension, and details, like the original (source) video, summary and specific information on the film, 3D face models' files, advice on making the characters' replicas, and the subtitles officially translated from French to English, which is one of our working languages, were provided to us

from the directors for our project. Thus, we drafted, annotated (e.g., marking pauses, intonation, pronunciation if needed, etc.), added, and synchronised the AD script in Greek in Subtitle Edit, recorded in a studio, which had the equipment needed, by a voice talent (here a professional actor), synchronised, mixed, edited, and checked. Then, we translated the subtitles, following a similar procedure as above, and recorded them using human voice talents (each character's voice by another voice talent). With regard to the multi-sensory approach, we printed the original 3D face models sent to us from the directors, dressing and adjusting them internally. All audio tracks (namely the source one, the AD track, and the audio subtitles' track) were mixed, and the film was screened in an accessible way to adult members of the District Union of Western Greece in Patras. The audience took part also in the pre-screening touch tour, thus having the chance to experience a tactile exploration of the main characters of the film with a view to a better engagement, and comprehension of the features of the protagonists and animation as a film medium, as hearing is a passive sense, while touching an active one. Following the screening of the film, questionnaires were then read, including questions on linguistic, paralinguistic, sensory, as well as technical aspects, and discussions followed. It is noted that a blind or visually impaired person is advised to serve as a consultant in the process of drafting the AD script and the audio subtitles, as well as before its screening for an optimal final audiovisual product and result.

2.   Research approach

2.1   The film

As previously mentioned, the present paper focuses on "Sororal" ("Sororelle"). It is the fifth film in our project, being part of our wider user-oriented study, with reception studies on the topic, for the Greek language regarding animation films (Karantzi 2021, Karantzi 2020). Given the materiality in animation, and the fact that multi-sensory experiences apply, among others, to visual arts (Neves 2012), performances (Di Giovanni 2018), theaters, and education, enhancing enjoyment and memorability (e.g., through touch), we designed a pre-screening tactile tour. In this framework, apart from the AD and the audio subtitles for the viewers with visual impairments, we thought that it would be a useful idea for the audience to be able to touch these models for better comprehension and engagement, information of which will be given below, since, according to Baker (2009), the textures of the objects in stop-motion animation evoke materiality and "beg to be touched".

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2.2 Participants

Twelve (12) adult members from the District Union of Western Greece in Patras participated in this reception study (the fifth one in our project's series), watching the film mentioned above. Although the number may seem low, it is also essential to finalise our project by validating the results we have already received, analysed, and implemented in this last film, since all these persons have taken part in all previous four films. In terms of statistics, the participants' details are the following:
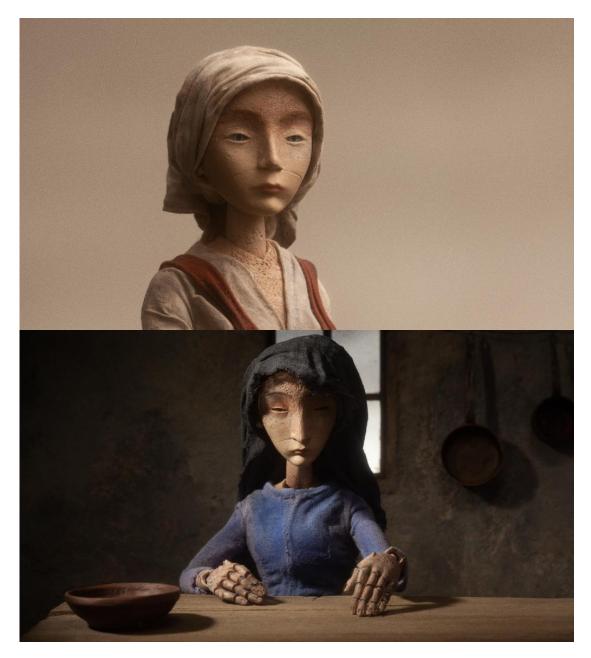
Gender	Male			Female	
	7			5	
Age	18-25	26-39	40-59	60-74	75+
	0	5	5	2	0
Vision loss	Total			Partial	
	5			7	
Type of impairment	Congenital			Acquired	
	5			7	
Education	Primary		Secondary		Tertiary
	5		3		4
Previous access	Yes			No	
	12			0	

Table 1. Participants' demographic data

The above Union's president and secretary gave us permission to screen the film for their members at their offices. Apart from the adult age (i.e., above 18 years old), which is set as the single criterion for participation, no other limitation was defined. To put it differently, our audience here was varied, as varied may be the audience in any screening.

2.3 Pre-screening touch tour

There is no doubt that stop-motion animation with puppets and objects is directly related to the sense of touch, as it evokes a tactile perception. People who suffer from visual impairments rely on hearing to enjoy a film. In cases of theater performances, opera, exhibitions, and museums, touch tours are designed, allowing the blind and partially sighted audiences a hands-on experience of objects, artifacts, sets, costumes, sculptures, etc., which are accompanied by verbal descriptions. Taking the above into consideration, we implement such an approach to our project, either by constructing hand-made replicas of the characters following the directors' advice, or by giving the original characters and set

offered for the purpose of our research by the production or distribution company, or by printing 3D models, like in this film.

In particular, for "Sororal" ("Sororelle"), the directors sent us the characters' 3D face models and provided us with guidance and ideas on how to print and adjust their faces, bodies, and clothing. Taken also into account the plot itself and the medium of the film (i.e., stop-motion animation) that co-creates art through touch, we could notice that there is an obvious contrast between dry, rough materials and the liquid element (sea) and that the original puppets were inspired by gothic sculptures and art (slanting eyes and very inexpressive faces), aspects that were taken into consideration when making replicas for the pre-screening touch tour. What is more, their mouth replacement lines and joints were obvious in the film, creating the sense that the sisters are fragile, like the below ones.

After analysing the above parameters, we printed and adjusted the 3D face models sent by the directors, and bodies were added and dressed as re-productions.

As we believe that touch, through tactile exploration, may be addressed as mediating sensory modality, a pre-screening touch tour took place, describing to the audience what they were going to touch. That way, they could use touch to engage another sense beyond hearing, handling the characters' features, clothes, and faces, and, at the same time, allowing for a tangible understanding of the film itself and a more engaging experience. The participants were able to familiarise themselves with the three sisters' replicas ahead of the film. Such a process is something personal since each adult had as much time as they needed alone to explore the replicas. It is underlined that the time each participant devoted to touching the objects was different and had to do with factors such as partial, complete, inherent, or acquired sight loss.

2.4   Main challenges in the process

The main challenges with regard to the AD script writing were, among others, the hidden messages, the existence of many visual details not only in the scenery but also on the characters' flesh, the perspective of chaos, the impending natural disaster, the lighting, the natural element and the different reaction modes (e.g., instinctive, mysticism, existential emptiness, flexibility, apathy, etc.). Moreover, the sisters' feelings were different in the idea of the immense wave which threatens them. The imaging power in this film is quite strong, as it implies the disaster also through lighting that creates an atmosphere that can be regarded as "apocalyptic". The same happens with the scenery as well as the appearance and clothing of the characters, which contribute to the total aesthetic of the film. Other important aspects when creating AD scripts for

foreign films are potential culture-bound elements, geographical references, and naming.

As far as the subtitles' translation is concerned, the directors provided us with the official English translation of the original French subtitles to translate them into Greek. The main challenge, here, is to be able to adapt its translation so as for it not to overlap with the original sounds and dialogue. In order for the audience to be able to understand individually that the film is not Greek, we left the original dialogue playing for only some seconds in the beginning and at the end of each translated subtitle, where possible, lowering the volume of the original; otherwise, it could be considered to be dubbed. Also, our translated version in Greek was time-coded and adjustments were made prior to the recording, which took place at the studio of the Department of Audio and Visual Arts (Ionian University, Greece), synchronised with the use of a program called "REAPER", which is a complete digital audio production application for computers, offering full multi-track audio and MIDI recording, editing, processing, mixing and mastering toolset, and re-edited in collaboration with the sound designer from the aforementioned department, with whom we have collaborated in all previous four films. Since the two tracks, i.e., the AD script and the audio subtitles, complement each other, special care is to be taken with regard to the information load.

Last but not least, each character of the film was recorded by a different voice talent, and the AD was recorded by the actor being acceptable by a majority in the four previous films in our project, which resulted in the identification of the speakers' voices.

2.5 Post-screening feedback

Having the tactile material ready, and the AD script and audio subtitles synchronised and embedded in a complete video file, a pre-screening touch tour and then the screening of the film to the participants took place. After that, questionnaires were read to the participants, and a round-table discussion followed.

Regarding the post-screening questionnaires, they included 17 open-ended and closed-ended questions (Likert scale), while some of them included sub-questions, as well as personal questions.

➢ Post-screening questionnaires:
- (a) personal questions;
- (b) questions on sensory approach;
- (c) questions on content and use of language;
- (d) questions on the voice delivery; and
- (e) questions on synchronisation and audio subtitles.

➢ Round-table discussions for feedback and new ideas:
- Information not asked on the questionnaires;
- Input and food for thought for the future.

In the following section, we will provide a summary of our results, concerning the usefulness of touch tours in stop-motion animation films,

the information load, grammar, syntax and linguistic choices, synchronisation as well as voice delivery and its assignment.

3. Main research findings and evidence

As mentioned above, this paper deals with the fifth film that we audio described, audio subtitled, and approached in a multi-sensory way for our project. Following the internal analysis of the answers we received in the four previous films, as well as implementations of corrective actions, advice, and suggestions to the short, stop-motion animation film "Sororal" ("Sororelle"), it seems that there is a consistency in the feedback obtained.

- Sensory approach

Question:	Did the pre-screening touch tour help you understand the film's elements?	
Answers:	Yes, it was necessary for me to obtain more information about the characters' features.	9
	It was not necessary for me, but I think it was an interesting approach.	3
	No, it was not necessary for me at all.	0

75% of the participants (audience) found this experience useful and necessary because, that way, they received further information and details about the characters, namely the protagonists, and had more time to consume "exploring" them alone through touch. On the contrary, 25% noted that, even if it was an interesting and potentially helpful approach for other blind and/or visually impaired people, such an experience was not necessary, especially if the AD is as complete as possible. Nevertheless, we believe that a pre-screening touch tour could reduce the audience's over-reliance of a single medium to convey meaning, making it also come closer to the creative nature of the respective animation as a film medium. However, we need to underline that not all people have the same needs, preferences, and priorities, and answers may vary based on the age, upon which the persons have lost or impaired their vision, and other factors. For example, we noticed that some congenitally blind people not only devoted more time to "explore" the characters, but also found it necessary to come closer to the film, and receive as much information as possible about them. Moreover, the "damage" in this film was present not only in the story itself but also in the scenery, the lighting, the sound effects, and the characters, all of which created a specific atmosphere for the audience. We could say, however, that such an approach could be optional; besides, this experience is also implemented in audiovisual materials, exhibitions, etc.

- Content and use of language

Question:	Did the use of adjectives and colours contributed to the understanding of the film?	
Answers:	Yes, the adjectives were necessary for the accurate film description, and the colours made me imagine the scenery (for instance "blue", "gold", etc.).	12
	Not at all.	0
Question:	Given your participation and comments in the previous screenings, were you satisfied with the information load and prioritisation?	
Answers:	Yes, very much. It was the most balanced information load of all your screenings.	12
	Not at all.	0
Question:	Were you satisfied with the description of logos, opening and closing credits?	
Answers:	Yes, because they were visual information that should be conveyed and accessed.	12
	No, it was very tiring.	0
Question:	How comprehensible was the AD in combination with the narration?	
Answers:	Very much. Touch was also helpful in this regard (e.g., skin corrosion).	10
	Much.	2
	Not so much or not at all.	0

All participants (i.e., all twelve ones) underlined the significance of precise and descriptive adjectives, the avoidance of relative clauses, and complex syntax, as well as the encouragement of colour use, since, as they noted, colour makes them better imagine the scenery, and the setting, which is something that it has also to do with lighting (s. above) (e.g., colour description of sea, straws, sky, the sisters' flesh, wounds, textures, and clothes). It was also suggested not to use participles that may be interpretative (e.g., anxious), but descriptions that may lead to this conclusion. The AD should not be overloaded, (prioritisation and hierarchy of information) but serve as an access service to contribute to the comprehension and enjoyment of the film, and not distract the audience.

- Voice delivery

Apart from linguistic aspects, paralinguistic issues are crucial. The voice talents used for each character were tested in the previous (four) films and found to be acceptable. Particularly, the AD was read by a male actor, because not only had he gathered the most positive comments before but also because we would like to make a contrast among the

voices head (i.e., the protagonists were three sisters and a male farmer). The differentiation among all sounds, namely source sound effects, and all voices, was clear by all participants. The speed also helped here, as the plot had not had much action and all sounds were in "harmony".

Question:
"Did you find the AD-voice selection and delivery successful?", and "Which criteria should meet the AD-voice selection?"
Answers:
All of them, i.e., 12 (twelve), replied "Yes, because the AD voice was 'harmoniously' consistent with the film plot and the source sounds of the film", and none replied "No, I would prefer another describer". Also, two (2) of the participants placed emphasis on clear articulation, one (1) on the proper intonation, and nine (9) on all of the above. Additionally, all participants underlined the importance of human voices (naturalness) and not synthetic ones. Regarding the reading speed, it is also noted that film is all about enjoyment and not reading.

- Synchronisation and audio subtitles

Question:	In what volume do you prefer the original voices to be heard?	
Answers:	A bit lower than the AST voices.	10
	At the same volume (i.e., AST and original dialogue) for a "sound harmony".	2
Question:	Do you prefer the original voice to be heard with a voice-over or a dubbing effect?	
Answers:	With a voice-over effect (i.e., a bit lower than the AST), in order to self-understand individually that it is an animation film in a foreign language).	5
	With a dubbing effect (i.e., not to hear the original voices at all), in order not to get distracted).	7
Question:	How satisfied were you with the synchronisation and rhythm of the dialogues and AD in Greek?	
Answers:	Very much.	9
	Much.	3
	Not at all.	0

Technically, 42% of our participants preferred the audio subtitles to be heard with a voice-over effect, while 58% would prefer its reading with a dubbing effect. Interestingly enough, though, 83% would like to self-understand that the film is foreign and not dubbed, by hearing the original voices for some seconds, adjusted at a lower volume than the audio subtitles. In any case, no overlapping is advised. Last but not least, the film's sound, recording, synchronisation, voice rhythm, and then screening

quality play a significant role as well, which means that making foreign films accessible to the target audience is a complex procedure, and all the above parameters are interdependent for the accessible audiovisual product.

4.   Conclusion

There is no doubt that audio describing foreign animation films involves a complex array of intersemiotic transfers, making the visual verbal. According to Taylor (2020:92), "the skills required to produce an effective AD are many, but the judicious selection of the elements to describe is paramount". This is consistent with our results regarding information load and prioritisation of information, that can be fulfilled by using words that are concrete (e.g., specific adjectives and colours), main clauses, direct speech, and easy-to-follow grammar and syntax. Even if the film(s) under research is short, meaning that there is limited plot and dialogue running time and thus even more limited time for AD, AD should not be a quickly running commentary, and thus not fill every pause of description, so as to leave room for processing, comprehension, and enjoyment of the film, as well as audience's imagination. Having gathered results from the four previous films for this project and comparing them with this fifth film, it can be said that the decision-making process applies not only when selecting information to be audio described with words (visual to verbal), but also when assigning voices for AD, and audio subtitles, as well as when annotating the script (by marking the mark pauses, intonations and other voice elements on word and SRT file), editing, mixing, synchronising, and finally checking the accessible audiovisual product before screening it to the audience.

Apart from the hearing aspect, touch – and other senses – may complement the vision loss. It has been found out that pre-screening touch tours, accompanied by a spoken description guiding each user, may apply also to stop-motion animation films since the audience becomes involved in the film experience in an additional way (i.e., through touch). The exploration of the characters, set, costumes and other tactile material of the film may enhance the "seeing" ability of the audience, without overloading the users, making them either receive further information about them that was not conveyed in AD due to time limitations or confirming what is heard through AD. This experience has also an educational and creative aspect and can be implemented not only for people with visual impairments but also for all people interested in that, leading to inclusion. Moreover, based on our cooperation with the audience, a blind or visually impaired person is encouraged to serve as a consultant in AD, audio subtitles, and design of a multi-sensory experience, providing invaluable insights, advice, and feedback for improvements. Taking into account that the research is dynamic, meaning that more reception studies on the topic and sub-topics need to be conducted, among larger audiences, not only in Greece but all over the world, shedding light on accessibility quality and delivery.

References:

Barker, Jennifer. 2009. *The tactile eye: Touch and the cinematic experience.* Los Angeles: University of California Press.

Chaume, Frederic. 2020. Dubbing. In: Bogucki, Łukasz and Deckert, Mikołaj (eds.). 2020. *The Palgrave Handbook of Audiovisual Translation and Media Accessibility*. Palgrave Studies in Translating and Interpreting. pp. 103-132.

Cowley, Laura-Beth. 2020. Interview with 'Sororal' directors Frédéric Even and Louise Mercadier. In: *Skwigly Online Animation Magazine.* https://www.skwigly.co.uk/frederic-even-louise-mercadier-sororal/. Accessed on: 10 September 2022.

Di Giovanni, Elena. 2018. Audio description for live performances and audience participation. In: *The Journal of Specialised Translation*, Issue 29: pp. 189-211.

Fryer, Louise. 2016. *An Introduction to Audio Description: A practical guide.* London and New York: Routledge.

Holland, Andrew. 2009. Audio Description in the Theatre and the Visual Arts: Images into Words. In: Díaz Cintas, Jorge and Anderman Gunilla (eds.). 2009. *Audiovisual Translation Language Transfer on Screen*. Palgrave Macmillan. pp 170–185.

Holsanova, Jana. 2016. A Cognitive Approach to Audio Description. In: Matamala, Anna and Orero, Pilar (eds.). 2016. *Researching Audio Description: New Approaches.* Palgrave Macmillan UK, pp. 49-73.

Karam, Maria; Russo, Frank; Branje, Carmen; Price, Emily and Fels, I. Deborah. 2008. Towards a model human cochlea: Sensory substitution for crossmodal audio-tactile displays. In: *Proceedings of the 34th annual graphics interface conference*. Canadian Information Processing Society, pp. 267.

Karantzi, Ismini. 2021. Making Foreign Animation Films Accessible to Blind and Visually Impaired Audiences: A Multi-sensory Perspective. In: *Bridge: Trends and Traditions in Translation and Interpreting Studies.* 2 (Special issue (2021)): pp. 71-83. https://www.bridge.ff.ukf.sk/index.php/bridge/article/view/50. Accessed on: 10 September 2022.

Karantzi, Ismini. 2020. 'Feeling' the Audio Description: A Reception Perspective. In: *Bridge: Trends and Traditions in Translation and Interpreting Studies.* 1 (1): pp. 39-56.

https://www.bridge.ff.ukf.sk/index.php/bridge/article/view/20.   Accessed on: 10 September 2022.

Mazur, Iwona. 2020. Audio Description: Concepts, Theories and Research Approaches. In: Bogucki, Łukasz and Deckert, Mikołaj (eds.). 2020. *The Palgrave Handbook of Audiovisual Translation and Media Accessibility*, Palgrave Studies in Translating and Interpreting, pp. 227-247.

Mitroo, J.B.; Herman, Nancy and Badler, Norman I. 1979, Movies from music: Visualizing musical compositions. In: *SIGGRAPH '79: Proceedings of the 6th annual conference on computer graphics and interactive techniques*, ACM, pp. 218-225.

Neves, Joselia. 2012. Multi-sensory approaches to (audio) describing the visual arts. In: *MonTI. Monografías De Traducción E Interpretación*, (4): pp. 277-293.

Papy3D   Productions.   2019.   *"Sororal"   ("Sororelle")*. https://www.papy3d.com/html/en/films/sororal.   Accessed   on: 10 September 2022.

Szarkowska, Agnieszka. 2015. Audio describing foreign films. In: *The Journal of Specialised Translation*, 23: pp.243-269.

Taylor, Christopher. Multimodality and Intersemiotic Translation". 2020. In: Bogucki, Łukasz and Deckert, Mikołaj (eds.). 2020. *The Palgrave Handbook of Audiovisual Translation and Media Accessibility*, Palgrave Studies in Translating and Interpreting, pp. 83-99.

Udo, John Patrick and Fels, I. Deborah. 2010. Enhancing the entertainment experience of blind and low vision theatregoers through touch tours, In: *Disability and Society*, 25(2): pp. 231-240.

Whitfield, Margot and Fels, I. Deborah. 2013. Inclusive Design, Audio Description and Diversity of Theatre Experiences. In: *The Design Journal*, 16(2): pp. 219-238.

Zabrocka, Monica. 2018. Rhymed and traditional audio description according to the blind and partially sighted audience: Results of a pilot study on creative audio description. In: *The Journal of Specialised Translation,* 29 (January): pp. 212–36.