University of Warsaw
Faculty of Applied Linguistics

Agnieszka Walczak

Album number: 235930

Audio description for children. A case study of text-to-speech audio description of educational animation series *Once Upon a Time... Life*.

M.A. THESIS
Field of study: Philology
Scope of study: Applied Linguistics

Supervisor:
Agnieszka Szarkowska, Ph.D.
Institute of Applied Linguistics

Warsaw, July 2010

Uniwersytet Warszawski
Wydział Lingwistyki Stosowanej

Agnieszka Walczak

Numer albumu: 235930

Audiodeskrypcja dla dzieci z użyciem syntezatora mowy na podstawie animowanego filmu edukacyjnego pt. *Było sobie życie*.

PRACA MAGISTERSKA
Na kierunku: Filologia
W zakresie: Lingwistyka Stosowana

Praca wykonana pod kierunkiem:
dr Agnieszki Szarkowskiej
Instytut Lingwistyki Stosowanej

Warszawa, lipiec 2010

Oświadczenie osoby kierującej pracą

Oświadczam, że niniejsza praca została przygotowana pod moim kierunkiem, i stwierdzam, że spełnia ona warunki do przedstawienia jej w postępowaniu o nadanie tytułu zawodowego.

Data Podpis

Oświadczenie autora pracy

Świadomy/-a odpowiedzialności prawnej oświadczam, że niniejsza praca dyplomowa została napisana przeze mnie samodzielnie i nie zawiera treści uzyskanych w sposób niezgodny z obowiązującymi przepisami.

Oświadczam również, że przedstawiona praca nie była wcześniej przedmiotem procedur związanych z uzyskaniem tytułu zawodowego w wyższej uczelni.

Oświadczam ponadto, że niniejsza wersja pracy jest identyczna z załączoną wersją elektroniczną.

Data Podpis

Streszczenie

Praca poświęcona jest problemowi tworzenia audiodeskrypcji (AD) dla dzieci z użyciem syntezatora mowy na podstawie animowanego filmu edukacyjnego pt. *Było sobie życie*. Celem pracy jest przybliżenie problematyki opracowywania audiodeskrypcji do tego typu programów, zbadanie jej przydatności dla najmłodszych widzów oraz sprawdzenie, czy użycie systemu syntezy mowy ma w tym przypadku szansę zastosowania. W pierwszej części pracy omówione zostały zagadnienia teoretyczne stanowiące punkt odniesienia dla autorów audiodeskrypcji przy tworzeniu skryptu AD. Część druga koncentruje się na specyfice przekładu audiowizualnego oraz na szczegółowym przedstawieniu tematu audiodeskrypcji. W trzeciej części pracy zawarta została metodologia badania, jego analiza oraz wnioski.

Słowa kluczowe

audiodeskrypcja, synteza_mowy, syntezator, przekład_audiowizualny, film_edukacyjny, dostępność, było_sobie_życie

Dziedzina pracy

0.94 Translatoryka

Temat pracy w języku angielskim

Audio description for children. A case study of text-to-speech audio description of educational animation series *Once Upon a Time... Life*.

Table of Contents

Introduction

There is no denying the role of translation in human cognition and communication in the history of the world's cultures. The arrival of the new millennium brings new challenges to be met in the field, new quality standards are being set and theoretical approaches are being rethought and reviewed. The last century saw the birth of new translational activities, among them the majority related to the field of audiovisual translation, a mode of which is going to be the focal point of this thesis.

The role of audiovisual translation becomes more important in our daily lives. The recent flourish of activities within the discipline cannot be denied. Nowadays, rapid developments in the field of accessibility to the media for people with sensory impairments can be observed in numerous countries all around the world. Also in Poland, such services as audio description (AD) or subtitling for the deaf and hard of hearing (SDH) are becoming part of the daily audiovisual landscape and attracting the interest of many researchers, teachers and students.

Since audio description (AD), among other modalities, undergoes constant metamorphoses, quite a few challenges are there to be addressed. In general, until recent times, visually disabled media audiences have been the focus of a fairly small amount of academic research. The existing studies have concentrated on adult rather than young viewers of audio described programmes. Research concerning the accessibility and reception of AD services by the group of blind and visually impaired children, especially in the case of educational programmes, is particularly lacking. Since this audience constitutes quite a large group within AD receivers in Poland, a research study focusing on AD for children was undertaken.

The study is aimed at examining the acceptability and reception of an educational programme with text-to-speech audio description (TTS AD) by young visually impaired viewers. It focuses on a rather demanding audience group which requires special approach towards AD creation on the part of the audio describer. The task seems to be even more challenging due to the fact that the audio visual material chosen for the project is not a feature film, but an animation programme designed to be used as an educational tool. It is the author's contention that audio described films can greatly enhance the learning process of children and make classes more enjoyable.

The audiovisual material employed in the study is an episode from the educational animation series *Once Upon a Time... Life*. Directed by Albert Barillé, this programme was

originally produced in France in 1987 and then aired in numerous countries in the world. The episode chosen for the purpose of this research is titled *Blood* and it is meant to be used in the biology/environment class in schools for blind and partially sighted children.

Bearing in mind possible inconveniences as well as prohibitive costs connected with preparation of traditional pre-recorded human AD, the delivery of AD in this study was made with the use of text-to-speech software. It was hoped for the findings of this research to present a new look at the issues concerning not only preparation, but also the reception of AD. The questionnaire carried out after the screening of the film showed how this alternative delivery technique is perceived by visually impaired children and whether it suits their needs. It was also hoped to find out whether audio describing this kind of films could be of any use for young viewers with vision impairments, and more importantly, whether it could prove helpful in their school education process and become an additional didactic tool. Given that TTS AD has the potential of becoming a more easily available alternative to conventional AD, the results of the completed research may also provide a valuable insight into its particular value and could be of great use for other studies conducted in this area in the nearest future.

This thesis sets out from a theoretical perspective to discuss pertinent issues in Translation Studies which might be of assistance within the field of audio description. It then goes on to present the phenomenon of audiovisual translation along with its major and emerging modes. Subsequently, the area of audio description is discussed in detail. Next, research methodology is presented, with special attention towards guidelines for the preparation of AD in children's programmes. Text-to-speech software is briefly characterised as well. Finally, the thesis concentrates on the analysis of audiovisual material employed for the purpose of the research study. What follows is a presentation of results, discussion and suggestions for further research.

I. Theory behind Audiovisual Translation

For quite a long time, the theory and practice of translation have concentrated mainly on written texts. First, literary translations and then the translations of specialist texts, became the focus of numerous scholars and practitioners. In the 1960s, studies concerning oral translations, both simultaneous and consecutive ones, started to appear (Tomaszkiewicz 2006: 7). However, certain forms of translations, particularly those pertaining to the sphere of media or cinema, although widely practiced, have not been the subject of academic scrutiny until the recent times. Nevertheless, it turned out that rapid technological progress as well as increased international cooperation in numerous areas contributed to translation development also in these contexts. As Orero (2004: 8) aptly notices, the evolution in the field of technology which has changed paper-oriented society towards media-oriented society has also made media translations, or precisely speaking, audiovisual translations (AVT), one of the most dynamic fields of Translation Studies (TS).

The practice of AVT can be traced back to the beginnings of the cinema, but it is in the past two decades that it has received increased attention both in academic and professional circles. The reason for this lies in the fact that the activity of AVT, due to its various limitations and constraints, was perceived as an adaptation rather than translation proper. But according to Díaz Cintas, this view is "puristic and outdated" (2003: 194), because current trends aimed at accommodating new realities in the concept of translation focus on making it more flexible and open to the notions that already became a standard in our daily lives. Although AVT varies from the classic definition of the translation process, it should not be treated as a marginal phenomenon but rather as a peculiar type of translation. First of all, it has to be realized that, indeed, like in every type of translation the translator acts here as an intermediary whose main task is to convey the sense to the target culture (Tomaszkiewicz 2006: 102). Since in the case of AVT the visual dimension cannot be ignored by the translator, the sense is the resultant of meanings of both picture and text as well as relations between these signifying elements (ibid.: 97). Therefore, the classical procedure of translation operation seeing the translation as transfer of a text in language A into a text in language B should be left aside. In audiovisual communication, translation should be rather seen as a transfer between two semiological complexes, namely the source semiological complex and the target semiological complex (ibid.: 100).

Based on the current level of knowledge, it can be stated that AVT is a type of translation activity with its own set of complex and specific rules. Due to the change of language that takes place during the process, dubbing or subtitling clearly fall under the general concept of translation. But the situation seems to be not so straightforward when it comes to more innovative practices in the field of AVT, namely subtitling for the deaf and hard of hearing or audio description. One could claim that since these practices do not involve the transfer from a source to a target language, they cannot be classified as translation. Nothing further from the truth – a confirmation to this argument provides one of the most cited translation taxonomies. Its author, Roman Jakobson (2000 [1959]: 114) distinguishes three kinds of translation:

1. Intralingual translation, also labeled as *rewording*;
2. Interlingual translation, which he also calls *translation proper*;
3. Intersemiotic translation, also referred to as *transmutation*.

According to Jakobson (2000 [1959]), the first type consists in interpreting verbal signs by means of other signs of the same language, the second one is connected with the interpretation of verbal signs by means of another language and the third one relies on the interpretation of verbal signs by means of signs of nonverbal sign systems. Subtitling for the deaf and hard of hearing can therefore be classified as belonging to intralingual category[1] of translation as it consists in providing a written rendering of the dialogues together with additional information concerning sound effects (Díaz Cintas 2005: 4). Audio description, on the other hand, falls under the third type, but in its reverse definition since it relies on transforming visual images into words, which are inserted in the silent intervals of the programmes (ibidem).

As can be seen, AVT is not an unspecified activity dominated only by technical constraints. Quite on the contrary, a vast majority of translation decisions in the context of audiovisual translation is based on a thorough and careful analysis of a source text, attentive observation of the picture, and finally, assessment of relations which put these elements together. The process of creating an AVT product, although quite different from that of translating a literary work, does have a lot in common with it, starting from text analysis and ending with consideration of the addressee's needs. Therefore, the application

[1] In Poland, the majority of programmes are subtitled intralingually, but some foreign productions are available with interlingual subtitles for the deaf and hard of hearing.

of translation-oriented models, theories or approaches to the field of AVT seems to be not only possible, but also quite useful.

Within the theoretical framework of TS there are numerous concepts which appear to be of assistance when discussing the field of AVT, such as the notion of equivalence studied by Eugene Nida (1964), John C. Catford (1965) and Mona Baker (1992), Relevance Theory developed by Dan Sperber and Deirdre Wilson (1995 [1986]) and applied to TS by Ernst-August Gutt (1991) or the notion of norms in translation discussed by Gideon Toury (1995), Theo Hermans (1991) or Andrew Chesterman (1997). Although some need certain adaptation or redefinition in order to suit the specific needs of AVT, they can, in essence, function as helpful tools when researching the discipline.

1.1. Equivalence

The notion of equivalence is one of the most controversial areas in the field of TS. Although much time has passed from the moment of the first discussions concerning this very concept, it is still the subject of ongoing debates by contemporary theorists. Among many, Eugene Nida (1964), John C. Catford (1965) and Mona Baker (1992) are those who studied the notion of equivalence and its importance in translation.

According to Nida (1964), there are two types of equivalence: formal equivalence and dynamic equivalence. The former one "focuses attention on the message itself, in both form and content" (ibid.: 159), meaning that it is oriented towards the structure of the source text. The latter one, in turn, is based on "the principle of equivalent effect", where "the relationship between the receptor and message should be substantially the same as that which existed between the original receptors and the message" (ibidem). Nida claims that the message needs to be tailored to the expectations of the receiver, emphasizing at the same time the importance of its naturalness. For him, naturalness is a key requirement in translation. He even defines the aim of dynamic equivalence as seeking "the closest natural equivalent to the source-language message" (ibid.: 166). The success of a given translation is therefore conditioned most of all upon achieving equivalent response.

Catford's (1965) idea of equivalence differs from that presented by Nida. Having a preference for a more linguistic-based approach towards translation, Catford followed the linguistic model of Firth and Halliday. He distinguishes between formal correspondence and textual equivalence, where formal correspondence is connected with general features

of “langue” and textual equivalence relates to the “parole” of a specific pair of source and target text. Therefore, it can be said that formal equivalence is a concept of a general system-based nature which involves a pair of languages and textual equivalence is bound with a particular pair of texts. When these two concepts diverge, the occurrence of translation shifts is observed. They are defined by Catford as “departures from formal correspondence in the process of going from the SL [source language] to the TL [target language]” (1965: 73). He claims that there are two major types of shifts, namely the shifts of level and the shifts of category. Level shifts occur when a given item at one linguistic level in a source language has an equivalent at a different level in a target language. As far as category shifts are concerned, Catford divides them into four groups:

1. structural shifts, which involve a change in grammatical structure between source and target text;
2. class shifts that comprise changes in parts of speech;
3. unit shifts or rank shifts, which occur when the translation equivalent in the target language is at a different rank to the source language;
4. intra-system shifts that take place when source language and target language “possess systems which approximately correspond formally as to their constitution, but when translation involves selection of a non-corresponding term in the TL [target language] system” (ibid.: 80).

Another interesting approach to the notion of equivalence is presented by Baker (1992), who seems to offer a detailed list of conditions upon which this concept may be defined. She puts together the linguistic and communicative approach towards translation equivalence. According to her, four types of equivalence can be distinguished: (1) equivalence at the word level and above it, (2) grammatical equivalence, (3) textual equivalence and (4) pragmatic equivalence. She believes that the translator’s role relates to the recreation of the author’s intention in another culture so that the reader of the target text could be able to understand it clearly.

The notion of equivalence has been analysed and approached from various perspectives by several different scholars. This brief outline provided above indicates how important it is for the field of TS. But it seems to be important and, most of all, helpful also in the area of AVT. It can provide the translator of audiovisual texts with useful guidelines for comprehension and analysis of the original text. This, in turn, could prove to be of great assistance when working on the target text production, both in terms of achieving its cohesion and getting across its message.

1.2. Relevance Theory

Developed by Sperber and Wilson (1995), Relevance Theory investigates communication and human cognition. The point of departure for its development is the question of how people communicate with each other. According to Sperber and Wilson, the answer to this question is the pursuit of optimal relevance, which is the central factor that makes communication successful on the part of the communicator and the audience. When an utterance is "relevant enough for it to be worth the addressee's effort to process it, and when it is most relevant one compatible with the communicator's abilities and preference" (1995: 270), then it is considered to be optimally relevant. This means that the addressee has the right to expect that the level of relevance will be high enough to warrant his attending to the stimulus, and that, given the goals of the communicator, this will be at the same time the highest level of relevance possible for him to achieve. The search for optimal relevance is perfectly captured in the principle of relevance, according to which "every act of ostensive communication communicates a presumption of its own optimal relevance" (ibid.:158). And in the level of optimal relevance the interests of the communicator as well as addressee are taken into account. The communicator's interest boils down to make the stimulus possibly easiest for the addressee to understand it whereas the interest of the addressee is connected with the communicator choosing the most relevant stimulus, meaning the one which calls for the least processing effort. In other words, Sperber and Wilson show that relevance can be characterised as a cost-benefit phenomenon: maximum benefit, being the maximum contextual effect, at the lowest price, that is the minimal effort on the part of the addressee who has to process the communicated assumption.

As for contextual effects, that is the result of the combination of stimulus and contextual assumptions, Gutt says that: "the more similar the two audiences are with regard to contextual assumptions needed for understanding the text (…), the fewer the problems will be" (qtd. by Szarkowska 2005b: 241). This means that the cognitive environments shared by members of the source and target cultures exert a certain influence on the easiness of information process – the closer they are, the less demanding the processing effort will be.

Gutt (1991) believes that Relevance Theory can be perceived as the most important theory for TS due to the fact that it gives theoretical foundations for "accounting for translation in terms of the communicative competence assumed to be part of our mind"

(Gutt 1991: 20). According to him, it is because, instead of texts and text production, Relevance Theory concentrates on the mental abilities.

The application of the Theory of Relevance seems to be quite reasonable in the case of AVT. It clearly constitutes a group of translations where the translator's freedom connected with various decisions concerning the target text cannot be defined as an absolute one. What is more, numerous constraints present in the discipline lead to inevitable reductions which have to be introduced in the target text in order for it to be functional. Thus, Relevance Theory seems to be helpful for the translator when it comes to the decision on what it is that undergoes the process of translation and what eventually gets to be omitted. In the case of AVT, only what is relevant can be put on the screen as "there is no extra time, no possibility of backtracking the information, no time to ponder the utterances spoken" (Szarkowska 2005b: 239). Which information should therefore be deemed relevant? It is "whatever feels right, whatever seems pertinent, apropos, welcome, appropriate, opportune, justified, well-suited or adjusted, coming right at the moment when you expect it" (Derrida 2001: 5). It has to be remembered that, as opposed to literary translations, the translator of audiovisual texts cannot provide the viewer with footnotes or commentaries in order to justify his/her decisions. The audience should therefore be able to understand and interpret the translator's intentions without investing any additional effort to process the information.

1.3. Norms in Translation

Gideon Toury (1995) introduced the notion of norms into TS, which, as he claims, govern the translation process. He sees norms as "a graded continuum along the scale" (ibid.: 54) with stronger norms functioning as rules and weaker ones being almost idiosyncratic. Toury discusses different kinds of norms that operate at particular stages of the process of translation. One of them is the initial norm, being the initial choice made by the translator and determining whether he is subjected to source norms or target norms. If he decides to follow the norms of the source text, then what he produces will be of adequate nature, whereas if he subscribes to the other stance, his translation will be defined as acceptable. However, as Bogucki rightly notices, "translation is not mathematics" (2004: 76), and therefore to describe actual translations as fully adequate or fully

acceptable will never be possible. In fact, the majority of translations occupy the position in between these two poles (ibidem).

Apart from the initial norm, Toury (1995) argues that translations are also conditioned by other kinds of norms, namely preliminary and operational norms. The former ones are connected with the translation policy, that is, factors governing the choice of text-types, and directness of translation. The latter ones, in turn, have to do with decisions that are made during the act of translating. They are further subdivided into matricial and textual-linguistic norms. The first ones "govern the very *existence* of target-language material intended as a substitute for the corresponding source-language material" (Toury 1995: 58-59), whereas the other ones relate to "the selection of material to formulate the target text in, or replace the original textual and linguistic material with" (ibidem).

Toury also underlines the socio-cultural specificity of norms and their instability (1995: 62). According to him, constraints are constantly the subject to processes of rising and falling and that is the reason why they ought to be studied synchronically. Although the field of AVT can be referred to as a relatively young discipline, even there a change of conventions can be observed.

Another scholar who contributed in a substantial way to the debate on norms in translation is Theo Hermans (1991). His approach was slightly different from the one proposed by Toury as it was less closely tied to the translation process. Hermans spoke of conventions rather than idiosyncrasies, and decrees instead of rules. The difference between his and Toury's approach does not lie solely in the change of terminology. According to Hermans, conventions are "open invitations to behave in a certain way" (1991: 161), and therefore they are actually weaker and less binding than norms. What is more, he says that conventions "grow out of repeated practice" (ibid.: 160), which means that what they indicate is preferred behaviour, not an obligatory one as in the case of norms.

Based on Toury's and Hermans' work, Andrew Chesterman (1997) proposes another model of norms. He differentiates between professional norms and expectancy norms. Professional norms are those norms which govern the accepted methods and strategies in the process of translation. They can be subdivided into the ethical norm of accountability, the social norm of communication and the linguistic norm of relation (ibid.: 68-70). Expectancy norms are, in turn, governed by the tradition of translation and conventions of discourse. They are target-oriented, meaning that they refer to the

expectations of a given target language community when it comes to the translation product.

Regardless of the type, the field of AVT is the subject to translational constraints (see Chapter two). Although norms "act as constraints on behaviour, foreclosing certain options while suggesting others" (Hermans 1991: 161), they can also provide guidelines and models for behaviour that is deemed correct. Related to the expectations about appropriateness of translations, norms can prove of assistance for the audiovisual translator in the highly difficult task connected with choosing the right equivalent. They can, in fact, serve as a type of specific signpost, directing translator's activity in a relevant setting.

The field of AVT has been experiencing a certain revolution in the past years. Due to constant developments in the area of technology and the rise in demand for audiovisual products, it will definitely expand in the nearest future. Although theoretical background of the discipline bears no comparison to that of general translations, already existing translation models seem to be of great help in providing adequate support when discussing AVT. The above catalogue of concepts presents a sufficiently flexible theoretical framework which could serve as a very valuable basis for research in AVT. Detailed characteristics of the field together with description of its major as well as emerging modes will be expanded on in the following chapter of the thesis.

II. Audiovisual Translation

2.1. Nature of AVT

Audiovisual translation (AVT) is nowadays one of the most dynamic and fastest developing fields within Translation Studies. Although this discipline used to be considered a minority specialization, in present days the pace and breadth of research in this area is experiencing a remarkable boom. The number of essays, publications, monographs, doctoral dissertations, academic books devoted solely to AVT has risen significantly. In the universities worldwide AVT is now emerging as a thriving academic discipline for teaching and research. Specialist translation courses to train translators in AVT are developing, both at postgraduate and at undergraduate level. Moreover, there were already numerous international specialized conferences and debates organized on topics concerning this discipline, namely *In so many words: language transfer on the screen* in 2004 in London, *International conference on audiovisual translation. Media for all* in 2005 in Barcelona, *Intermedia 2007. Lodz conference on interpreting and audiovisual translation* in 2007 in Łódź (Szarkowska 2008a: 8), to name only a few.

Living in the digital era, we can also observe now a significant rise in the demand for audiovisual products. As Díaz Cintas notes:

> This upward trend is due to factors such as the explosion in the number of international, national, regional, and local television channels; the diversification of televisual products, through digital packages and television on demand; diversification of transmission means (cable and satellite); a greater demand for distance learning' technological progress, such as the DVD (Digital Versatile Disc); and the presence of multimedia products in our daily lives (2003: 193).

Therefore, the translation in the field of AVT is definitely experiencing an unprecedented boom of interest. However, it has to be noticed that until very recently, it has been a relatively unknown discipline. In the opinion of Díaz Cintas, "the recurring question of whether we are faced with a case of translation or adaptation has led many people to avoid this field of study altogether, as they considered it outside the scope of translation" (2004: 51). But in recent times we can observe a spectacular development of technology, having an unavoidable impact on our lives. That is why it is necessary to view translation

from a more flexible perspective. It can be said for sure that until recently the field of AVT has not received the academic attention it deserves. But the situation is rapidly changing. More and more educational institutions around the world undertake the challenge to teach audiovisual translation. There is a growing number of academics involved in AVT at universities. Therefore, although this discipline has been absent from academic exchanges, its future looks quite promising and it will definitely continue to grow.

2.1.1. Name of the discipline

The world of audiovisual production is constantly changing. We can now observe the flourish of activities in the field of AVT. This resulted in a certain amount of indecision with respect to terminology. This vigorous field is referred to as *film translation, audiovisual translation, screen translation, multimedia translation, constrained translation, film and TV translation, media translation* (see Díaz Cintas 2003, 2009; O'Connell 2007; Pérez González 2008). As Szarkowska aptly noticed, the discipline of AVT is so young that in the first publication of the biggest book about translation studies and an encyclopedia of translation, *Routledge Encyclopedia of Translation Studies* from 1998, there were not even entries *audiovisual translation* or *screen translation*. The only ones connected with the field concerned *subtitling* and *dubbing* (2008a: 9).

In Poland, when referring to the discipline, the most common term used is *przekład audiowizualny* (see Tomaszkiewicz 2006). Other Polish translation scholars call it *przekład filmowy na potrzeby kinematografii* (see Pieńkos 1993), *tłumaczenie filmów* (see Dąmbska-Prokop 2000), *tłumaczenie filmowe* (see Belczyk 2007).

This terminological variation is a clear indication of changing times and it should not be considered as a hurdle or instability of the field of AVT. On the contrary, it should be rather viewed as a clear sign of a dynamic development of this discipline.

2.1.2. Communication channels in AVT

Szarkowska claims that "films can be a tremendously influential and extremely powerful vehicle for transferring values, ideas and information" (2005a). In films different

cultures are presented not only verbally, but also visually and aurally, that is through different channels, namely picture, dialogue and music (ibidem).

According to Gottlieb (1998: 245), in films there are four channels to be considered:

a) the verbal auditory channel, which includes the dialogue, background voices and lyrics;
b) the non-verbal auditory channel, which includes all non-verbal sounds, sound effects and music;
c) the verbal visual channel, consisting of the subtitles and any visible writing within the film (for example, written signs);
d) the non-verbal visual channel, which includes all other visual elements, including the composition and flow of the image.

As far as semiotic composition of translation is concerned, Gottlieb goes on to make a distinction between translations which use the same channel (*isosemiotic* translation) and those which switch to a different channel (*diasemiotic* translation). Therefore, within the field of AVT, since there is a shift from verbal auditory to verbal visual channel, subtitling can be classified as *diasemiotic* translation, while dubbing and voiceover – as *isosemiotic* (the same channel is used both in the original and in the translation). The relationship is perfectly shown in Figure 1 (Szarkowska 2005b: 235).

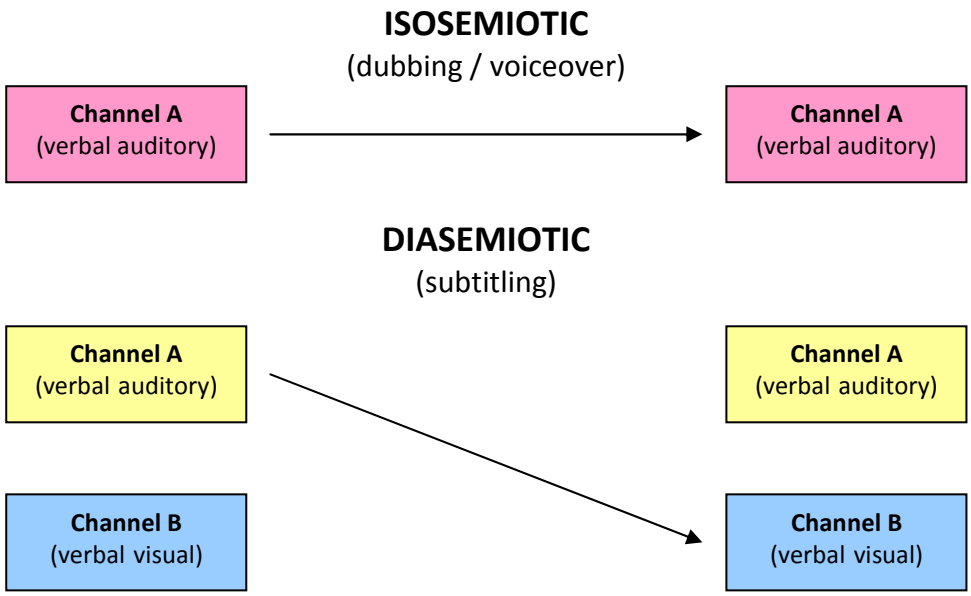

Fig.1. Isosemiotic vs. diasemiotic translation

When talking about AVT modes for people with visual or hearing disabilities, sign language interpreting, due to the fact that sign language interpreters usually work between a spoken (auditory-verbal) language and a sign language (visual-gestural), can be classified as *diasemiotic* translation. As to subtitling for the deaf and hard of hearing and audio description for the blind and partially sighted, they can be referred to as *hyposemiotic* translations because in their case "the 'bandwidth' of the translation is narrower than that of the original" (Gottlieb 2005: 4).

2.1.3. National preferences of AVT

As Szarkowska notices, "there is no universal and good-for-all mode of translating films" (2005a). The methods are dependent upon various factors, namely history, the type of film to be rendered, tradition of translating films in a given country, various audience-related factors, and also financial resources available. What is more, the mutual relationship between the source and target cultures, which to a certain extent influences the translation process is an important factor as well (ibidem). Some countries make use of just one method of translating films, while others employ a mixture of many (see Dries 1995: 6). Based on the mode the countries employ, the world is divided into four groups (see Gottlieb 1998: 243; cf. Gambier 1995; O'Connell 2007; Pérez González 2008):

a) source-language countries, which in present days means English-speaking countries, where hardly any films are imported and if there are, they tend to be subtitled rather than dubbed;
b) dubbing countries, mainly French-, Italian-, German- and Spanish-speaking countries, "sometimes referred to as the FIGS group" (Szarkowska 2005b: 235) in and outside Europe. In these countries practically all the films are dubbed;
c) voice-over countries, being mostly those that cannot afford dubbing, such as Russia or Poland;
d) subtitling countries, that is countries such as the Netherlands, Denmark, Sweden, Norway, Portugal, Greece, Croatia, Slovenia and some non-European countries (e.g. Israel).

Without a shade of doubt, the choice of a film translation mode has a great influence on the reception of a source language film in a target culture. However, the

division provided by Gottlieb appears to be a simplification as it does not differentiate between television and cinema translation. For instance, Poland and the Baltic countries use voice-over as the main method of language transfer in television but employ subtitles in the cinema (see Dries 1995: 6). Moreover, in Poland the productions for young children are usually dubbed. In countries like Denmark or Greece, on the other hand, due to high costs of dubbing, subtitling has developed into a traditional standard. Bearing that in mind, one would expect Eastern European countries like Czech Republic, Slovakia, Bulgaria and Hungary to choose subtitling as the main method of language transfer. This assumption does not, however, apply to these countries as the majority of programmes are dubbed there (ibidem). The change of language transfer can also be observed in Greece. Being a country traditionally inclined towards subtitling, Greece has moved towards dubbing, starting with American soap operas (Díaz Cintas 2003: 197). As it can be observed, the lines between all these divisions with respect to groups are becoming somewhat blurred nowadays. In numerous markets traditional forms of audiovisual language transfer now co-exist with other, even less widespread types.

2.2. AVT modes

There are many language transfer options available in the audiovisual translation industry. The typologies put forward by authors like Gambier (1995), Pérez González (2008) and Tomaszkiewicz (2006) distinguish even over ten different types of multilingual transfer in the field of audiovisual communication.

For the purpose of this thesis the types of AVT will be divided into traditional and emerging ones. First, the three most common translation modes of AVT, namely subtitling, dubbing and voice-over will be discussed in detail. Then, the challenging practices in the field of AVT such as sign language interpreting, subtitling for the deaf and hard of hearing, audio description for the blind and partially sighted and audio subtitling will be analysed.

2.2.1. Traditional modes

2.2.1.1. Subtitling

Next to dubbing and voice over, subtitling is one of the three major modes of AVT. It consists in presenting written text, generally at the bottom of the screen, giving the account of the original dialogue and other linguistic information which forms part of the visual image (letters, inscriptions, graffiti, captions and the like) or of the soundtrack (songs, off-screen voices) (Díaz Cintas 2003: 195).

When proposing a classification of the various types of subtitling, the majority of studies focus on their linguistic and technical aspects. Thus, Gottlieb (1998: 247; see also Díaz Cintas 2003; Gambier 2006; Pérez González 2008) characterizes subtitles from a linguistic and technical perspective. When taking into consideration the former one, the following subtitling types can be distinguished:

a. Intralingual subtitles, i.e. subtitles within the same language. This group includes both the subtitling of local programmes for the deaf and hard of hearing and subtitling of foreign-language programmes for language learners;
b. Interlingual subtitles, i.e. subtitles between two or more languages.

And from the technical perspective Gottlieb (1998: 247) singles out:

a. Open subtitles, that is the ones which include cinema subtitles as well as interlingual television subtitles (in subtitling countries); they are not optional and cannot be switched off. They are also known as hard subtitles.
b. Closed subtitles, that is the ones which can be voluntarily added (optional); television subtitles for the deaf and hard of hearing, subtitles added on DVDs and interlingual television subtitles transmitted by satellite belong to this group.

Furthermore, for Gottlieb (1998) subtitling can be diagonal or vertical. By diagonal he means interlingual subtitling which requires the subtitler to cross over from speech in the original language to writing in the target language, thus changing language and mode. By vertical subtitling, on the other hand, he means intralingual subtitling that involves taking oral discourse down in writing, changing mode but not language.

Since the speech of the actors must be delivered concurrently with its written rendition in the target language through the subtitle and given that reading speed is generally slower than talking speed, the process of subtitling involves certain constraining factors. Major difficulties encountered by the subtitler include temporal as well as spatial

and visual constraints. Subtitles usually consist of one or two lines of an average maximum length of up to 40 characters. As a rule, they should be kept on the screen long enough to allow reading time but not too long, to prevent re-reading. Therefore, they are to be displayed for 5-6 seconds, but should not be left for more than 2 seconds after the end of a dialogue or monologue. When it comes to the division of the lines, the text should be divided, as far as possible, according to sense blocks, leaving the upper line shorter than the lower one (Gambier 2006; Gottlieb 1998; Karamitroglou 1998).

Bearing the above in mind, quantitative reduction in the dialogue is necessary. In order to create good-quality subtitles, the translators have at their disposal various techniques. Gambier (2006: 260), for example, enumerates the following ones: reducing, condensing (or compressing), elimination, omitting, simplifying the syntax, simplifying the vocabulary, summarizing, expansion and adaptation. All the abovementioned techniques are interrelated and often combined. In all cases, "the subtitlers must select what to keep, what to change, and what is relevant and necessary in a given context" because "the general rule is always readability" (ibid.: 261).

So far there is no binding code of subtitling practices that would establish clear-cut standards for the production of high-quality subtitles. However, some scholars attempt to systematize the requirements that have to be met in order to complete the subtitle creation process successfully. General guidelines concerning this matter were proposed, for instance, by Ivarsson and Carroll (1998) who put forward the *Code of Good Subtitling Practice*, approved at the meeting of the European Association for Studies in Screen Translation (ESIST) in 1998 in Berlin. Karamitroglou (1998) has also worked in this direction, proposing a set of subtitling standards at the European level.

Apart from the fact that subtitling requires significant reductions of the original text, which is often viewed as its greatest disadvantage, it has many advantages that contribute to its increasing popularity. Advocates of subtitling highlight the fact that it "respects the aesthetic and artistic integrity of the original text" (Pérez González 2008: 16). It also allows the viewers to hear the original speech. Moreover, the viewers' exposure to a foreign language promotes their interest in other cultures. And finally, subtitling is said to be a favoured modality of AVT because it is not only "the quickest", but also "the most economical to implement" as it can be used to translate all audiovisual products: films, interviews, news, series, etc. (Díaz Cintas 2003: 199).

Although Poland is commonly perceived as a voice over country (Bogucki 2004: 103), subtitles are not absent from the Polish audiovisual market.

Subtitling is the AVT mode mostly used in Polish cinemas. Except for dubbed children's films, all foreign productions are screened with open interlingual subtitles. Apart from the cinema, subtitles are also present in Polish television but only in two forms, namely as closed subtitles for the deaf and hard of hearing (discussed in Section 2.2.2.2) on *TVP1* and *TVP2* and open subtitles in English on *TVP Polonia*. Besides open subtitling on the aforementioned public television channels, closed interlingual teletext subtitling is also available in Poland. For instance, certain films can be watched by the viewers of the digital broadcast of film channel *Ale Kino!*, Canal+ or HBO. All in all, it seems that thanks to digital TV, heated debates between the supporters of subtitling and those of voice over, which continue until the present day, may soon become obsolete. The decision as to the choice of AVT modality will be in the individual viewer's hands.

Apart from subtitles perceived as more traditional in nature, other options are also available. Among them, surtitling and live or real-time subtitling appear to be the ones worth distinguishing. Let us, therefore, gain a deeper insight into these modes.

Surtitles can be described as relative newcomers on the audiovisual stage. They are used in opera houses and theatres in order to provide the audience with the translation of the lyrics or dialogue during a live performance of an opera or other musical performance sung in a foreign language. Earlier, since they were displayed on a narrow screen above the stage, they were always open. These days, however, some leading opera houses present closed LCD titles on small screens placed on the back of each seat in the auditorium. They can be turned on or turned off at will and sometimes it is even possible to select the preferred language option. Although the word *surtitle* is now generally used to describe theatre and opera translation titles, it has to be noted that actually it is a trademark of the Canadian Opera Company (O'Connell 2007: 132).

Live or real-time subtitling is used in various types of news programmes, interviews, debates or special events. It was employed, for instance, in President Clinton's hearing in the U.S. Supreme Court for sexual harassment in 1998. Real time subtitles are "delivered using scrolling word-by-word intralingual transcription of language spoken on screen" (O'Connell 2007: 129). This kind of subtitling is a highly demanding and quite problematic task because the major difficulty involved here is the time constraint. The broadcasting is largely possible thanks to the innovative use of phonetic or chord keyboards as they allow the typist to press two or more keys simultaneously, i.e. to key syllables and even whole words instead of individual letters only (Gambier 2006: 258; O'Connell 2007: 129).

2.2.1.2. Dubbing

Dubbing is the AVT mode that involves "replacing the original soundtrack containing actors' dialogue with a target language recording that reproduces the original message" (Díaz Cintas 2003: 195). The most important factor in this type of translation is synchronization not only in terms of time, but also in terms of phonetics.

As every mode, this one also has its advantages and disadvantages. When talking about disadvantages, the first one is definitely connected with costs. Dubbing is said to be even "fifteen times more expensive than subtitling" (Baker and Hochel 1998: 75). The second one is the loss of authenticity. Since the original voices are replaced by those of the actors from a target language country, to some extent the viewer is exposed to the world of illusion. Another disadvantage of dubbing, being an exceptionally difficult task for the translator, is the necessity to maintain synchronization. According to Chaume-Varela, it consists of "matching the target language translation and the articulatory and body movements of the screen actors and actresses, as well as matching the utterances and pauses in the translation and those of the source text" (2006: 7). He claims that synchronization could be divided into three types, namely, (1) phonetic or lip synchrony, (2) kinetic synchrony or body movement synchrony, (3) isochrony or synchrony between utterances or pauses. Apart from that, he also mentions two further types of synchronization, that is character synchrony and content synchrony (ibidem; see also Fodor 1976; O'Connell 2007). Further disadvantages of dubbing include also the fact that it deprives viewers of the opportunity to listen to the foreign language and it does not give tourists the chance to watch films or TV programmes when travelling to another country if they do not have a good command of the language of the country they visit.

When it comes to advantages, there is less textual reduction in dubbing in comparison with subtitling, it is more professionalized and it does not require a high level of literacy from the viewers. Moreover, dubbing, as opposed to subtitling, offers a more homogenous type of discourse, and therefore it does not require from the viewer to divide his or her attention between the images and the written text (see Baker and Hochel 1998).

Although Poland is generally believed to be a voice over country, it has to be realized that dubbing is not a novelty on the local audiovisual market. Quite on the contrary, to the astonishment of many, Poland has a long-standing dubbing tradition, which dates back to the pre-war period. Released in 1938, Walt Disney's *Snow White* [*Królewna Śnieżka*] is considered to be the first film dubbed into Polish. After World War II, in 1949

the Dubbing Department was opened in Wytwórnia Filmów Fabularnych in Łódź. A few years later, in 1955 it was moved to Warsaw and transformed into Studio Opracowań Dialogowych. About ten years later, films started to be dubbed for television. The most famous Polish dubbing director was Zofia Dybowska-Aleksandrowicz, who directed, among others, such films as *The Flinstones* [*Między nami jaskiniowcami*], *Rich Man, Poor Man* [*Pogoda dla bogaczy*] or *East of Eden* [*Na wschód of Edenu*]. Thanks to her work and contribution we can talk about the Polish Dubbing School (Grochowska 2004; Miernik 2008).

The 1980s was the time when Polish dubbing had to face serious financial difficulties, but now we can observe its great revival. These days dubbing in Poland is mostly used for productions addressed to children and teenagers. There are already available Polish dubbing versions of such films as *Monsters, Inc.* [*Potwory i spółka*], *Finding Nemo* [*Gdzie jest Nemo?*] or *Shark Tale* [*Rybki z ferajny*], all of which were directed by Joanna Wizmur. However, the undoubted breakthrough in the history of Polish dubbing was the translation of *Shrek* by Bartosz Wierzbięta, who thanks to this production became one of the most popular authors of dialogues in Poland (Grochowska 2004; Miernik 2008; Szarkowska 2009).

2.2.1.3. Voice over

Díaz Cintas defines voice over as the mode which:

> involves reducing the volume of the original soundtrack to a minimal auditory level, in order to ensure that the translation, which is orally overlapped on to the original soundtrack, can be heard by the target audience. It is common practice to allow viewers to hear a few seconds of the original foreign speech before reducing the volume and superimposing the translation. The recording of the translation finishes a couple of seconds before the end of the original speech, allowing the audience to listen to the voice of the person on the screen at a normal volume once again (2009: 5).

Voice over, unlike dubbing, does not aim at recreating the illusion of lip synchronization. The constraints connected with this AVT mode refer mostly to the need of matching the visual image and also to the reduction and condensation of the target text. Like subtitling, voice over has considerable advantages in terms of costs. It is less complex and technically less demanding. Translation for voice over is done and recorded prior to

the broadcasting of a given programme. Apart from technicians, there are generally two professionals involved in the process of its preparation, namely the translator and the voice over narrator, which does not only simplify the oral performance dimension, but also reduces the labour expenses. Another advantage of this mode is that, in comparison with dubbing, it takes less time to be completed and does not require high literacy levels from the viewers (see Díaz Cintas and Orero 2006).

Voice over is mostly used to translate programmes belonging to non-fictional genres such as documentaries, interviews, current affairs, news or political debates. However, it is also employed when translating films or other programmes in Eastern Europe, i.e. in Belarus, Latvia, Lithuania, Estonia or Poland (Díaz Cintas and Orero 2006). For the viewers in these countries the major drawback of voice over seems to be the mismatch between the gender of the original actors and the voice over reader (Szarkowska 2009: 189). For instance, in Poland, the dialogues in fiction films are always read out by a man, whereas in documentaries, nature or cooking programmes, even when there is a male character on the screen, usually by a woman. Those who are not accustomed with this type of practices may become somewhat confused when watching Polish television. This is best illustrated by the following quote from *The New York Times*:

> As actors and actresses open their mouths to speak, their words are drowned out by the voice of a seemingly omniscient Polish male off screen. Joan Collins's acrid put-downs on *Dynasty* are thus heard by Poles as a local baritone. Marilyn Monroe's breathy come-ons in *Some Like It Hot* are heard as a deep monotone, and Jane Fonda's seductive voice in *Barbarella* emerges as flat drone (Glaser 1991).

Some perceive voice over as a kind of exotic curiosity, others, as Glaser suggests further in her article, look upon it with a bit of disdain. However, many viewers got used to this mode of audiovisual translation and for them watching voice over films is natural and enjoyable.

In spite of the fact that the rest of the world treats voice over as an inferior AVT mode, regarding it as "the worst possible method" of translating fictional genres (see Dries 1995: 6), it has to be noticed that it still enjoys great popularity in Poland. According to the market research carried out in 2002 by the institute SMG KRC, 50.2% of Poles prefer voice over in comparison with dubbing and subtitling, which are supported by 43.4% and 8.1% of respondents respectively (see Bogucki 2004: 12). The results of another survey, conducted by the BBC before it decided to withdraw from Poland its cable

channel BBC Prime broadcasting programmes with Polish subtitles, demonstrated that 52% of viewers opt for voice over and only 4.5% would rather watch programmes with subtitles (Subbotko 2008). As can be observed, the audience habits seem to have a great influence on the selection of the AVT mode employed. Therefore, maybe it is worth leaving the prejudices aside for a moment and take a deeper insight into the voice over modality because "the change of voice over narrator into dubbing or subtitling is not going to come soon. It is not even to come at all"[2] (Krzyżaniak 2008).

2.2.2. Emerging modes

When discussing different AVT modalities, the concept of *accessibility* has to be considered as well. According to Díaz Cintas, the term *accessibility* means "making an audiovisual programme available to people that otherwise could not have access to it" (2005: 4). Therefore, following this understanding, the notion includes such AVT modes as sign language interpreting (SLI), subtitling for the deaf and hard of hearing (SDH) and audio description (AD). However, when talking about ways of making TV programmes accessible, audio subtitling (AST), although being quite a new service, should also be taken into account.

It has to be noted that accessibility-friendly initiatives are now receiving increasing attention in the audiovisual marketplace. Through legislation some countries like the UK or the USA have made accessibility compulsory not only on television, but also in cultural and artistic life. Other countries are following suit. The European Year of People with Disabilities in 2003 helped in a significant manner to boost the visibility of accessibility to audiovisual media especially in those countries that were lagging behind (Díaz Cintas 2005: 5). Furthermore, the European Union is encouraging broadcasters to provide services for people with visual or hearing disabilities. In this light, the Audiovisual Media Services (AVMS) Directive[3] was recently passed. It amends and renames the Television without Frontiers (TVWF) Directive and which covers all EU audiovisual media services

[2] All translations – A.W.

[3] Directive 2007/65/EC of the European Parliament and of the Council of 11 December 2007 amending Council Directive 89/552/EEC on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the pursuit of television broadcasting activities.

(including on-demand services) in the digital age. Recital 64 and Article 3c of the AVMS Directive state:

> (64) The right of persons with a disability and of the elderly to participate and be integrated in the social and cultural life of the Community is inextricably linked to the provision of accessible audiovisual media services. The means to achieve accessibility should include, but need not be limited to, sign language, subtitling, audio description and easily understandable menu navigation.

> Article 3c
> Member States shall encourage media service providers under their jurisdiction to ensure that their services are gradually made accessible to people with a visual or hearing disability.

In Poland audiovisual translation for people with visual and hearing disabilities is generally provided in the form of sign language interpreting, subtitling for the deaf and hard of hearing and audio description for the blind and the partially sighted.

2.2.2.1. Sign language interpreting

Sign language interpreting involves the same basic process as spoken language interpreting, however, one key difference between them is modality. While spoken language interpreters work in the auditory-verbal modality, sign language interpreters usually work between a spoken (auditory-verbal) language and a sign language that is visual-gestural. Sign language interpreting can be therefore classified as *diasemiotic* (Szarkowska 2008a: 18).

At this point, it has to be noted that there is no single language called *sign language*. There are as many sign languages as there are distinct d/Deaf[4] communities in the world. For instance, there is American Sign Language (ASL), used in the United States and Canada, or British Sign Language (BSL), used in the United Kingdom. As with the members of all communities, a great deal of diversity can be observed also here. Many individuals with a hearing loss usually call themselves hearing-impaired. Such people typically lost their hearing after they had learned a spoken language, i.e. they have lost the

[4] Usage note for *deaf* vs. *Deaf*: *deaf* (with a lowercase "d") is connected with the condition of partially or completely lacking in the sense of hearing, whereas *Deaf* (with a capital "D") refers to embracing the values and cultural norms of the Deaf Community, i.e. expresses cultural deafness.

ability to hear their first language directly. Others, however, could have been born without hearing, could have lost their hearing in infancy or can have parents who are also d/Deaf. For such persons life without the auditory sense is normal, they treat their deafness as part of their cultural identity rather than a type of disability. Therefore, they do not consider themselves disabled, but refer to themselves with pride as *Deaf* (written with a capital "D") and can be seen as a cultural minority (Isham 1998: 232). Prof. Marek Świdziński, a linguist from the University of Warsaw, also shares this view and emphasizes that "Deaf person is not a disabled person but a foreigner" (Uczyńska 2007).

In Poland the major broadcaster which offers programmes for the d/Deaf is Telewizja Polska S.A. The viewers have at their choice news, films and series as well as numerous Catholic programmes. However, the signers on Polish television do not use natural Polish Sign Language (*Polski Język Migowy – PJM*), but an artificial Polish language-based system of signing called Sign Supported Polish (*System Językowo-Migowy – SJM*), or Signed Polish. Sadly, this system is not understood by many deaf viewers. As it turns out, both of these linguistic systems are highly dissimilar. The PJM is a natural language developed by the Polish d/Deaf community, whereas the SJM is an artificial sign system of manual communication created in the 1960s by a hard of hearing mathematician, prof. Bogdan Szczepankowski (at present a professor at the Cardinal Stefan Wyszyński University in Warsaw), aiming to facilitate communication between d/Deaf and hearing people. Unlike SJM, artificial language created by the hearing majority on the grammatical basis of a language of this majority, PJM is a language in its own right, with all its qualities. Moreover, PJM is a natural form of communication for d/Deaf people, it facilitates strong integration within their community and it is the only language fully accessible to them. For d/Deaf persons PJM is a part of their cultural and social identity (Szarkowska 2008a: 18; 2009:197; Woźniak 2008).

Numerous members of the community of the Deaf and Hard of Hearing are very critical of the use of SJM on Polish television, saying that they do not even watch TV programmes in SJM because they simply do not understand them. Therefore, unfortunately, about 10% of air time with programmes which are broadcast with signers to a certain extent goes to waste (Pasternak 2007).

Not only gestures, but also mimics is highly important in a sign language. According to Woźniak (2008), "mimics often fulfils a grammatical function. In PJM there are no such words as *which* (*który*) or *because* (*ponieważ*), and therefore the end of the subordinate clause can only be shown by means of mimics". This poses another problem

for TV broadcasters because the figure of the translator placed at the bottom right-hand corner of the screen is too small in order for the viewer to see and, more importantly, understand his facial expression.

2.2.2.2. Subtitling for the deaf and hard of hearing

Subtitling for the deaf and hard of hearing (SDH), also known as (closed) captioning in American English, is the mode of audiovisual translation that "involves turning the oral content of actors' dialogues into written speech" (Díaz Cintas 2003: 199). It also incorporates descriptions of sound features which are important for the plot and which the deaf and hard of hearing audience is unable to access from the soundtrack, such as door knocking or telephone ringing.

First of all, it has to be clarified that the group of deaf and hard of hearing viewers is a rather diverse group of audience as it includes: the *deaf*, that is people who cannot hear and use the oral language as their mother tongue; the *Deaf*, that is a linguistic/cultural minority that uses sign language as its first language and reads the national language as a second language; and the *hard of hearing*, constituting a group with residual hearing, being able to share the experience of sound to different degrees (Neves 2008: 129).

It also has to be realized that this non-homogenous group of receivers often vary in the nature of their hearing loss. In terms of degree or, precisely speaking, severity of the hearing loss, it may be characterised as mild, moderate, moderate-to-severe, severe or profound. Table 1 aptly visualizes this classification (Clark 1981).

Degree of hearing loss	**Hearing loss range (in dB)**
mild	between 26 and 40 dB
moderate	between 41 and 55 dB
moderate-to-severe	between 56 and 70 dB
severe	between 71 and 90 dB
profound	over 90 dB

Table 1. Degree of hearing loss

A person who has a hearing loss between 26 and 70 dB is often called *hard of hearing* or *hearing-impaired*. For such a persons soft sounds such as tap dripping or birds chirping may not be heard. Even louder sounds like a clock ticking or a vacuum cleaner may be missed. A person with a severe or profound hearing loss, that is with a hearing loss between 71 dB up to over 90 dB, may be called *deaf*. For such people most speech sounds will not be understood and loud sounds like a lawnmower or an airplane flying overhead may not be detected. These persons will rely on vision rather than hearing for their primary communication (Tye-Murray 2008: 12).

In terms of onset, a hearing loss may be referred to as prelingual, perilingual or postlingual. A person with a prelingual hearing loss incurred the loss before acquiring an oral language, usually before 2 or 3 years of age. A person who lost his or her hearing after acquiring some oral language but before the acquisition was complete has a perilingual hearing loss (between 3 to 5 years of age). A postlingual hearing loss is the one that occurs after the process of acquiring oral language has been completed (around the age of 5 years) (Tye-Murray 2008: 12).

As Neves (2008: 132) rightly points out, it has to be remembered that the present-day SDH is not exclusively directed towards people with hearing impairments. There are hearers who use subtitles while working out at the gym or enjoying a drink in a noisy pub. What is more, subtitles are useful to foreigners, immigrants or other groups of persons learning a language. They can also help children to improve their reading skills.

Subtitling for hearing impaired audiences differs from subtitling for hearing viewers. SDH complies with specific rules in terms of timing, text positioning and use of colours. Not many viewers with hearing impairment are able to read subtitles with high reading rates (Ofcom 2008). That is why it is suggested that a 6-second rule, accepted as a rule of thumb for *readable* subtitles, "should be replaced by a 9-second rule" (d'Ydewalle qtd. by Neves 2008: 136). Subtitles should normally occupy the bottom of the screen, but in order to facilitate the denotation of different speakers for the SDH audience, they may be also justified to the left or to the right depending on the location of characters on the screen. Subtitles generally comprise a single sentence occupying no more than two lines, but in news programmes that are broadcast with live or semi-live subtitles, they are left-aligned and comprise three text lines (Ofcom 2008; Szarkowska 2009: 196). The use of colours is also important in the subtitles for the hearing-impaired viewers as it helps

them to distinguish between the speakers on the screen. While subtitles for the cinema are white, subtitles for television can be of different colours, for example, green, yellow and blue. Sometimes they can be presented against a grey or black strip (Gambier 2006: 261). Unlike subtitles for hearing audiences, subtitles for people with hearing impairments describe, apart from the speech, relevant non-speech information, such as "the mood of any music playing and the words of songs if possible (using the # or ♪ sign to precede and conclude music), louder speech (using capital letters), inaudible mutterings or incoherent shouts" and the like (Ofcom 2008). Subtitles for the deaf and hard of hearing are closed subtitles, meaning that they can be switched on or switched off at will. In most European countries, they can be activated on television by accessing page 888 or 777 of teletext. In North America, they are transmitted on what is known as line 21 (Díaz Cintas and Anderman 2009: 7).

In the set of fallacies discussed by Neves (2008), she touches upon a problem of special training needed in order to work as an SDH subtitler. To the astonishment of many, SDH does not only require from the subtitler to transcribe what he or she hears and write it in the form of subtitles. Quite on the contrary, in order to produce SDH, highly developed technical, linguistic and translational skills are necessary. SDH subtitlers need to learn to read a film, to observe technical constraints, to manipulate language, that is rephrase, summarise and expand the text. If readability techniques are added to this list, then it turns out that being an expert SDH subtitler is not an easy task.

Even though deaf and hard of hearing audiences demand more SDH and SLI, they also happen to be critical of the quality of what they are offered. There is an ongoing debate between the SDH stakeholders concerning the issue whether the subtitles should be delivered in the edited or verbatim form. Whereas academics and researchers often support editing, deaf associations, surprisingly, tend to demand verbatim subtitles because, according to them, this is the guarantee of a full access to audiovisual programmes. They regard editing as a form of censorship and claim that only word-for-word subtitles will give them an equal stand with hearers. Verbatim subtitles are also supported by broadcasters and service providers as they require less effort on the part of the SDH subtitler and are more economical than edited ones (Romero-Fresco 2009: 111; see also Neves 2008).

Although editing may, indeed, include certain omissions, it may also include adding some elements for the sake of clarification of the text. And by offering additional information concerning sound effects or music, it helps to get the meaning across as fully

as possible. Furthermore, the data obtained from the analysis of ten programmes subtitled by respeaking and broadcast by the BBC between August and October 2008 (Romero-Fresco 2009) suggests that the editing process, as carried out by respeakers, loses a minimal amount of information, especially as compared to the potential loss of information for audience reading respoken subtitles at the speeds accepted by existing guidelines, i.e. at the speed of 180 words per minute (see Ofcom 2008).

In Poland, the major broadcaster of subtitles for the deaf and hard of hearing is *Telewizja Polska S.A.* They are provided on two major channels, namely *TVP 1* and *TVP 2*, altogether constituting "about 8%-10% of the whole broadcasting time" (Künstler 2008:116). They are accessible via analogue teletext on page 777. SDH are also available on DVDs released, for instance, by TVP. The centre responsible for producing subtitles for the hearing-impaired viewers is Redakcja Napisów dla Niesłyszących TVP, which started its activity in 1994 with broadcasting John Ford's *Rio Grande* with closed teletext subtitles. The SDH programme offer includes feature films, quiz shows, soaps and TV series as well as current affairs programmes and documentaries. Most programmes are subtitled intralingually, but some foreign productions are available with interlingual SDH. On Polish television, the majority of subtitles for audiences with hearing impairments is pre-recorded. However, since 2003, news programmes, for instance *Teleexpress* or *Wiadomości*, have been broadcast with semi-live subtitles (Szarkowska 2008a: 17; 2009: 196). Among films belonging to the classics of the Polish cinema, SDH viewers already had the opportunity to see the screen version of *Trylogia* [*The Trilogy*], *Zemsta* [*The Revenge*] or *Pan Tadeusz* [*Mister Thaddeus*] (Künstler 2008: 116). In 2008, hearing impaired viewers could watch Andrzej Wajda's film *Katyń*, the first film in Poland to have both SDH and AD tracks.

Bearing in mind the complexity of the task as well as the diversity of the groups of SDH viewers, it has to be realized that subtitles which suit the needs of all receivers are impossible to be produced. Each of the groups has different language competences and different expectations concerning SDH. The best solution would probably be providing various versions of subtitles for viewers to choose from. Presently, this option is unfortunately not feasible. Thus, when preparing SDH it has to be remembered that, first of all, subtitle users need to be able both to watch the action on the screen and to read the subtitles in an enjoyable way. Since public broadcasters may soon be legally obliged to have all their programmes subtitled, the service of SDH will definitely continue to grow in the nearest future.

2.2.2.3. Audio description for the blind and the partially sighted

Audio description for the blind and the partially sighted (AD) is another mode of audiovisual translation aimed at widening accessibility to the media for the audience with sensory disabilities. It can be defined as "an additional narration that fits in the silences between dialogues and describes action, body language, facial expressions and anything that will help people with visual impairment follow what is happening on screen or stage" (Díaz Cintas and Anderman 2009: 8). This service is rapidly gaining increasing attention and visibility as the needs of the persons with visual disabilities are recently beginning to receive more concern both at the European and international level.

In the field of AD, as well as in SDH, English-speaking countries such as the UK, the USA, Canada and Australia "seem to be leading the rest of the world" (Díaz Cintas and Anderman 2009: 8). However, the European Union as well as individual European countries have already taken various actions aimed at raising awareness and fostering changes in order to improve the lives of persons with sensory disabilities.

The subject of audio description will be elaborated on in Chapter Three of this thesis, which will provide detailed characteristics of this mode, discuss its history and legal status as well as the challenges to be met in the nearest future.

2.2.2.4. Audio subtitling

Audio subtitling (AST) is a semiotic transfer mode of reading aloud, or voicing, subtitles. It has emerged as a solution for the visually impaired community excluded from access to foreign-language audiovisual products with subtitles. AST is "positioned at the interface between subtitling, audio description and voice over" (Braun and Orero 2009). As a consequence, typical features and drawbacks of these modes, including condensation characteristic for subtitling, succinctness distinctive for audio description or delivery technique specific for voice over, have implications for the AST. Therefore, in order to be successfully achieved, it requires the implementation of various strategies and solutions, for instance, different methods of assigning voices to ASTs or integration of ASTs with the AD narrative. As Braun and Orero (2009) showed in their study, different modes of delivery like *dubbing* or *voice over* may also be of use. The former one is achieved when the ASTs and the source language dialogue are delivered simultaneously without the

source language voices being heard, while the latter is achieved when the source language dialogue can be heard with the ASTs superimposed.

Audio subtitling is already present in some countries. The Netherlands could serve as a good example here. In this country 30% of television programmes are foreign-language programmes (Theunisz 2002). They were provided with Dutch subtitles and as a result, they were not accessible to visually impaired people. In other countries, foreign-language television programmes are broadcast with dubbing or voice over, however, these modes have proved to be not only quite expensive, but also unpopular with end-users in the Netherlands. For these reasons, the subtitles were chosen. However, as it turned out, this translation technique also posed several problems. According to the research carried out by the University of Eindhoven in 1995, 40-60% of elderly people said that for them there was not enough time to read the subtitles. In addition, 16-24% of visually impaired people had difficulties with the size of the subtitle letters and the contrast between the subtitle letters and the background (ibidem). That is why there was born an initiative for the implementation of the "Spoken Subtitles" project. Its primary objective was to make foreign television programmes more accessible for visually impaired people, and also for those with language impairment such as dyslexia or aphasia, or cognitive impairment such as decreased concentration or mental retardation (ibidem).

The technology required to bring audio subtitles to the homes of these groups of people was a decoding system. The broadcaster used a speech-synthesis computer fitted with speech-synthesis software. This software converted the text into speech and this output was then converted into a signal and broadcast without disturbing the programme in any way. Users could receive the signal thanks to a special decoder.

The project was positively evaluated and on 14 December 2001 the audio subtitling service was officially opened by the Dutch Secretary of State and the president of the NOS (Nederlandse Omroep Stichting), one of the public broadcasting companies in the Netherlands. Now audio subtitling is a permanent service on Dutch TV (Orero 2007a; Theunisz 2002).

The Dutch "Spoken Subtitles" project was an inspiration for another initiative, namely audio subtitling for the opera (Orero 2007a). In 2005, in the Gran Teatre del Liceu in Barcelona, a research group from the Universitat Autònoma de Barcelona has monitored and tested the adequacy and comprehension of audio subtitling in an opera context. The opera chosen for this experiment was the concert version of Donizetti's opera *Roberto Devereux.*

The main focus of the experiment was to test the reception by the visually impaired community of a voice-talent reading the subtitles. This could be assessed thanks to the fact that no dramatic action took place in a concert version opera, leading singers and choir were in a still position during the performance, stage production and costumes were minimal, and therefore little AD was needed, allowing the audience to focus on the realisation of the AST (Braun and Orero 2009; Orero 2007a).

After the performance, a specially prepared questionnaire was read to the attendants. Although at the beginning the idea of audio subtitling was greeted with much scepticism, it was eventually evaluated with a high degree of acceptance. This experience in Liceu did not only open a new avenue of research, but it also showed that there exists another AVT mode which could be implemented in order to facilitate the life of the visually impaired audience (Orero 2007a).

Apart from the experiments conducted with television programmes and operas in mind, there was also another study carried out by Braun and Orero (2009) who focused on AST with AD for feature films. In this context, in comparison with other settings, the combination of AST and AD seems to be far more complex as not only the subtitles have to be read out, but also a great amount of AD has to be incorporated in the silent intervals of the film so that the viewers could follow the action. The corpus of films on which the study relied upon included partially or fully audio subtitled and audio described foreign films available on DVD at the time of the analysis. The study showed that in these films the combination of AST with AD took many forms and required various different strategies to be employed, including creativity, adaptation of the AD narrative, integration of AD and AST or acting out of the subtitles. It proved that current practice is still largely based on individual intuition and that an explicit guidance would be of great help for audio describers/audio subtitlers. Braun and Orero (2009) emphasised that, given the growing trend towards access services in many countries, its quality should not be of secondary focus. Although there are certain budget constraints, appropriate allocation of financial means, good planning or creativity can be applied regardless of available resources.

As can be observed, audio subtitling has proved to be a great step forward in making audiovisual products accessible for the visually impaired audience. The AST service in the Netherlands is working well and many countries which subtitle their foreign-language programmes can make good use of this project experience. The combination of AD and AST is also becoming an important AVT mode and should therefore receive more attention in research. Another challenging modality which is recently rapidly growing in

popularity is audio description. The next chapter explores and characterises this mode, highlights the problems connected with its employment and discusses the challenges standing before it in the nearest future.

III. Audio description

3.1. Nature of AD

3.1.1. Characteristics

Defined by some as “a type of poetry” (Snyder 2008: 192) or “the art to speak in images” (Navarette qtd. by López Vera 2006: 1), audio description is a spoken account of those visual aspects of a film which play a role in conveying its plot, including the action, the characters, their movements, the scenery and the costumes, to name just a few. The voice of an audio describer delivers the additional narrative between stretches of dialogue. It should not interfere with important mood-setting music and sound effects, although sometimes AD will have to be given priority over the musical score. At times, for the sake of clarity, minor conversational features could also require to be sacrificed (Pérez González 2008: 16; López Vera 2006: 2).

The golden rule when preparing audio description is “what you see is what you say” (López Vera 2006: 2). Only the most significant and essential features of the action should be described, no personal version of what is on the screen should be conveyed and the dialogues or commentaries should not be talked over (ITC 2000: 9). Audio description should rather suggest than explain so that the audience would be able to form their own opinions and draw their own conclusions. The standards or guidelines for writing audio description will be elaborated on in Chapter Four, Section 4.2. of this thesis.

The service of audio description can be provided for television programmes, feature films or websites. But apart from that, there are an enormous number of other events that can also be described, including theatre, opera, ballet, museum exhibitions, meetings, dance, tours, parades, circuses, sports events, even funerals. Therefore, AD is presumed to signify a cultural revolution for blind and visually impaired audiences (Hernández-Bartolomé and Mendiluce Cabrera 2004: 267).

3.1.2. Users of AD

The major beneficiaries of audio description are blind and partially sighted people. It is believed that in modern societies as much as 20% of the population has sight

problems. According to data provided by the European Union of the Blind (Jankowska 2009: 229), about 30 m Europeans belong to this group. But this number refers to all the persons who have problems with their vision. There are fewer people with no useful sight at all or with such sight problems that unable them to function normally in everyday life. It is estimated that about 7.5 m Europeans are a part of this group. This number is, however, likely to rise as due to the ageing of society, the sight problems might affect more and more people in the nearest future.

It is beyond any doubt that visually impaired people are the users of television and other video sources. In fact, they watch as much or even more TV as do sighted viewers. The above written statement is perfectly confirmed by the results of research carried out in 2009 by Roberta Pearson and Elisabeth Evans (2009) from the University of Nottingham, UK. Their research was aimed at exploring the uses and value of both television and the service of audio description for visually impaired viewers. The study group included 185 participants, out of whom 90% were blind and 10% were partially sighted. The research findings show that 73% of those questioned spend at least 5 hours a week watching television, claiming that it establishes a space to be shared with friends, families and colleagues. What is more, the group of visually impaired audience engages with television in exactly the same way as sighted viewers, enjoying it for entertainment (90%), information (77%) and relaxation (82%). Visually impaired audiences also stated that, just like sighted viewers, they use TV to explore, understand and learn more about the world around them.

To the astonishment of many, and, as proved by the study of television viewing habits conducted in the 1990s by the Audetel consortium, the largest audience to benefit from audio description is sighted viewers. The study revealed that 39% of viewers often do not direct their visual attention at the television screen and "watch" it while busy with chores or other things. What is more, AD tracks are used in the same way as audio books while driving a car or travelling on a train (ITC 2000: 7; Jankowska 2009: 230).

All in all, some people will rely heavily on AD whereas others will use it only as a guide. Therefore, a certain balance between the needs and wishes of various AD receivers has to be established. Some visually impaired viewers claim that for them AD is "the best thing since sliced bread" (Pearson and Evans 2009: 380); thus, the benefits AD presents to this group definitely go without saying.

3.1.2.1. AD for adults

The adult receivers of audio description are the audience varied in needs, expectations and experiences. This means that some of these viewers are, for instance, sighted elderly people whose vision is declining or sick people whose visual abilities are deteriorating. But the largest group that benefits from AD is formed by the blind and partially sighted people. The visual impairment of these persons can range from loss of central vision due to macular degeneration, to tunnel vision in cases such as severe glaucoma, or patchiness and blurredness from cataracts, retinal detachment or diabetic retinopathy (ITC 2000: 6). Whatever the exact nature of the disability, adult AD receivers cannot be called homogenous. Some of these persons will have visual memory, others will not. Some will be able to distinguish shadows, while for others it will be an impossible task. Those who have been blind from birth will have little interest in the concept of beauty, colours or clothes characteristics whereas for partially sighted viewers these will be exactly the information they would like with a description. Since individuals seek different levels of detail and content from audio described programmes, it has, therefore, to be realized that an AD adapted to all these various needs is practically impossible to be created. Nevertheless, audio describers should take account of the wide variety of backgrounds among the audience and try to develop a material which draws attention to the key visual elements of television scenes and which would be understood by the majority of the receivers.

3.1.2.2. AD for children

As in the case of adults, the challenge in writing audio description for children lies in making it suitable for different ages and abilities. The young visually impaired audience is a non-homogenous group of viewers and their blindness is often accompanied by cognitive and other additional disabilities, such as physical, hearing or learning problems.

According to the Royal National Institute of Blind People (RNIB) (2006; see also ITC 2000: 28), some of the children with vision impairments are more likely to have delayed language than other children. They learn the meanings of many words through seeing and doing. When they are small, they often use *echolalia*, repeating things back without understanding them, as a precursor to meaningful speech. And such echolalic

speech can be developed thanks to the songs and rhymes included in audio described films. The process of listening to such films over and over again can also prove to be of great help.

Apart from problems with acquiring language, visually impaired children can suffer from a cortical visual impairment, which is often caused by brain damage around the time of birth. Although the apparatus of the eyes or optic nerves are working well in the case of these children, their brain is unable to interpret visual information. Another group of visually impaired children include those with cognitive or hearing problems, or those who have difficulty holding themselves up in order to look at television. It has to be remembered, though, that in the case of children who have their speech centres damaged there may be no difficulties with processing the music. Therefore, avoiding descriptions over songs where possible means that such children can enjoy verse, melody and rhythm.

The viewing habits of young audiences do not seem to differ greatly from those of adult viewers. For instance, soap operas, although not specifically aimed at children, are very popular with many of them. This is due to the fact that the characters become quickly familiar and their voices are easily recognizable (ITC 2000: 29). In the case of very young viewers, the films are initially appreciated rather for the songs or sound effects than for the plot. Children tend to watch the same film many times over and at this stage the role of audio description would be to signpost events, objects and characters (RNIB 2006).

Due to a vast range of needs of visually impaired children, it may not be possible to produce descriptions that would be suitable for all of them. However, by understanding some of these needs, it is possible to create such descriptions that would make the final product more enjoyable and accessible to the youngest audience.

3.1.3. Programmes suitable for AD

Most visually impaired people like to watch the same sort of programmes as the sighted viewers (ITC 2000: 8). Unfortunately, not all programmes are suitable for audio description. Some, like news, are too fast-moving for the audio description to be inserted. Others, such as quiz programmes or game shows, have too tightly-worded almost continuous scripts, and thus may not be significantly enhanced by the provision of audio description. In the case of films with more action than dialogues, when an almost continuous description is required, the audience may become tired after listening to it. And

if the gaps between commentary or dialogue are not long enough, the audio description is more an obstacle than an aid. When it comes to programmes for children, language and pace of delivery need particular care, sometimes, as opposed to programmes aimed at adults, even a more intimate style may be required to employ (Ofcom 2008: 31).

Surveys conducted by the Audetel consortium (ITC 2000: 6) showed that drama and films benefit most from the provision of audio description. Lower on the list are nature programmes, particularly popular with middle-aged and elderly audiences, and then documentaries. Sport commentaries, on the other hand, were the ones regarded to be totally unhelpful by the visually impaired people. Also some of the comedies, especially the ones relying entirely on the visual, do not seem to be programmes suitable for audio description.

3.1.4. Audio describer profile

A certain set of skills is said to be needed in order to become a professional audio describer. According to Hyks (qtd. by Orero 2007b: 119),

> a competent describer can summarise effectively, describe colourfully and accurately and convey the verbal pictures in a vivid yet objective manner. This applies to both the writing and the delivery. An effective audio describer delivers the text in a tone that matches the programme material, at a measured pace, distinctly but never stealing the scene.

In their promotional leaflet, the Audio Description Association in conjunction with the Open College Network West and North Yorkshire in the UK states that the future audio describer should be equipped with the following competences: (1) the ability to summarize information accurately and objectively, (2) a good command of the language, (3) a clear and pleasant speaking voice, (4) good sight and hearing (aided or unaided), (5) the ability to work as a part of a team, (6) the commitment to access for disabled people (López Vera 2006: 6). However, the abovementioned skills are specified in the UK, a country which does not import many media products in languages other than English. In other countries where the import rates of audiovisual programmes are higher, as in Spain, much of the work may be done by the translators or people with foreign language transfer skills. Therefore, a possible profile for an audio describer in Spain could be a person who both describes and translates the AD script (López Vera 2006: 6).

If it was possible to find a person possessing all the skills mentioned above, the final audiovisual product would definitely be of high quality and consistency between its different versions. Various courses and training programmes could be of significant help to future describers as they would not only provide them with valuable experience, but they would also give them certain tips of how to facilitate their work.

3.1.5. Training in AD

Since audio description has begun to be recognized as a skill, the need for training future describers is constantly on the rise. The available AD courses are provided by universities as well as by companies offering the service in the form of in-house training.

Some of the universities in the UK, for example, the University of Surrey or University of Nottignham, or in Spain, such as the Universidade de Vigo, Universidad de Salamanca or Universidad de Màlaga, have in their offer doctorate studies in the field of audiovisual translation which does not only provide theoretical framework for acquiring the audio describing skills, but also promotes AD in academic circles. In the UK there are also available courses organized by the Audio Description Association (ADA), a registered charity founded in 1999, initially in order to train theatre describers. Both in the UK and Spain, AD training is offered by in-house service providers as well. In other countries, on the other hand, trainings in AD for future describers are organized in the form of seminars and workshops within particular translation courses. This applies in the case of Italy (Università di Bologna), Belgium (University College Antwerpen), France (Université de Nice Sophia Antipolis) and Portugal (Universidad Autónoma de Lisboa, Universidade Nova de Lisboa) (Orero 2007b: 118; Jankowska 2009: 241). Poland also belongs to this group with courses organized at the Institute of Applied Linguistics of the University of Warsaw.

Having the above in mind, it can be said that the situation with AD trainings looks quite promising. While in 2006 such courses were organized by only four countries (UK, Germany, Sweden and Italy), they are now present in many more (Jankowska 2009: 241). A greater number of countries is becoming aware of the necessity of having the trainings carried out, which, in turn, shows that the development of this service is an ongoing process, but it is already here, and it is here to stay.

3.2. Development of AD

3.2.1. Beginnings of AD

Audio description is believed to be as old as sighted people telling blind people about the images surrounding them (Ofcom 2008). However, from a technical point of view, this phenomenon is much more recent. Developments in audio description in Europe and worldwide have not taken place simultaneously and while some of the countries have a longstanding tradition of describing audiovisual programmes, others have unfortunately not even started yet.

Audio description had its start in the United States. As far back as 1964, advocates for accessibility, such as Chet Avery, a blind official of the US Department of Education, and, in the 1970s, Gregory Frazier, a professor and founder of AudioVision Institute at San Francisco State University, envisioned the type of equal access to the media that description could provide to people who are blind or visually impaired. The ones to develop the world's first ongoing audio description service were Margaret and Cody Pfanstiehl of the Metropolitan Washington Ear (Audio Description Coalition 2006; Snyder 2008: 191). In 1981, in the Arena Stage Theatre in Washington, DC, they employed audio description for live theatre performance. In 1986, the Metropolitan Washington Ear created the first audio description cassette tours of museums or exhibits and in 1987 it started to cooperate with the WGBH Educational Foundation, Public Television Playhouse Inc., and the Public Broadcasting Service. The result of this cooperation was synchronized, pre-recorded audio description broadcast via satellite on the Second Audio Programme (SAP channel) for the season's 26 *American Playhouse* productions. Next, in 1990, WGBH Educational Foundation launched Descriptive Video Services (DVS), a subsidiary to provide audio description for television viewers (Audio Description Coalition 2006). Another important date in the AD history is the year 1989, that is the year of founding by James Stovall the Narrative Television Network (NTN) to offer description for movies on cable television. The efforts of AD pioneers did not go unnoticed. In 1990, the National Academy of Television Arts and Sciences awarded special Emmys to AudioVision Institute (Gregory Frazier), Metropolitan Washington Ear (Margaret Pfanstiehl), Narrative Television Network (James Stovall), and PBS/WGBH (Barry Cronin and Laurie Everett) (Audio Description Coalition 2006; Snyder 2008).

The mid-1980s marked the first performances with audio description in Europe (ITC 2000: 4). The starting point is considered to be the Robin Hood Theatre at Averham, Nottinghamshire (United Kingdom). One of its playwrights, Norman King, was so impressed by the description service that he later encouraged the Royal Theatre in Windsor to develop it on a larger scale. Britain was also the first to employ audio description in the cinema. It was introduced in the Chapter Arts Centre in Cardiff, where AD was delivered live.

Pioneer initiatives aimed at introducing audio description on European television were undertaken in Spain in the late 1980s by Televisión de Cataluña (ITC 2000: 5). But the actual beginning of interest in the regular broadcasts of described programmes in Europe is connected with the establishing of EU-funded Audetel consortium in 1991 by the British Independent Television Commission ITC (now Ofcom). In 1994 the consortium conducted a trial of AD service delivery to visually impaired television receivers throughout the UK. Although it turned out to be an overwhelming success, the regular AD service was introduced in Britain only in 2000.

3.2.2. AD at present

Today, the access to audio description for the blind and partially sighted viewers is to a higher or lower extent provided by several European countries, such as Great Britain, Germany, Portugal, France, Italy, Spain, Belgium, Czech Republic, Lithuania, Finland, Sweden, Austria and, last but not least, Poland (Jankowska 2009: 236).

Nowadays, Europe has many theatres equipped with AD, with the UK and France being the leaders in performances (ITC 2000: 4). Not too far behind them are Germany, Belgium, Italy, Sweden, Finland, Lithuania and Poland. In the case of television, audio description is present in Germany with 489 audio films described until 2004; in Austria with films imported from Germany; in Italy, having 6 hours of audio described programmes per week; in Portugal where one film with description appears per week; and in France with one audio described film per month (Jankowska 2009: 236). Spain is a country which has played an important role in the development of AD, but curiously enough, although the service of AD has been promoted there since the 1990s by ONCE (Spanish National Organisation for the Blind), except for Catalonia, there is practically no AD on television. Today, audio described films are only on special videotapes available at

the departments of ONCE (Hernández-Bartolomé and Mendiluce Cabrera 2004: 269). Last, but not least, Poland has a certain amount of its films available on a special public television website (Szarkowska 2009: 199).

Among the European countries, the UK seems to be an indisputable leader when it comes to the provision of AD services. It is available in over 100 theatres, 200 cinemas and on digital television. Additionally, the films may be borrowed or bought at the Royal National Institute of Blind People (RNIB), an organization actively supporting blind and visually impaired people (Jankowska 2009: 237).

There is a wide range of opportunities for people with vision impairments in the United States AD market as well. A great number of companies and organizations provide local cinemas and theatres with audio description tracks. Furthermore, there are over 250 audio described DVDs available for people with sight problems (Jankowska 2009: 237). The service of AD is also present on television. There is a special audio channel called SAP available on stereo televisions to receive the described narrations. Blind and partially sighted viewers can have access to the media also thanks to the Descriptive Video Service (DVS). Now, the Described Media division of the National Captioning Institute, a leader in media access for over 20 years, produces description for a broad range of American broadcast television, including *Sesame Street*, feature films, and a variety of programmes on cable and network channels. Another US provider of description for the media is Tulsa, Oklahoma's Narrative Television Network (Snyder 2004).

3.2.3. AD in Poland

Known in the US for over 30 years, in the UK for over 15, audio description became popular in Poland in 2006. The first films with additional Polish AD track were already made in the late 1990s in Cracow with the financial support of the Ministry of Culture and the Polish Association of the Blind [*Polski Związek Niewidomych – PZN*], but technical quality of the audio description employed in these productions left a lot to be desired. These films are now available in the library of PZN and are known there as *typhlo-films*, from Greek *typhlos* meaning *blind* (Szarkowska 2009: 198). The date of 27 November 2006 can be treated as the day of reactivation or rather actual beginning of audio description in Poland. On that day the first screening of an audio described film took place in the cinema *Pokój* in Białystok. It was a Polish production *Statyści* [*Extras*]. The

originator of this initiative was Tomasz Strzymiński and the role of an audio describer was performed by Krzysztof Szubzda.

Soon afterwards other cinemas across the country organized screenings with audio description for blind and partially sighted viewers. In the cities like Białystok, Poznań, Elbląg and Łódź vision impaired viewers were shown *Epoka lodowcowa* [*Ice Age*], *Testosteron* [*Testosterone*], *Wesele* [*The Wedding*], *U Pana Boga w ogródku* [*In God's Little Garden*]. A number of screenings also took place in Warsaw and were organized by the charity *Zdążyć z Pomocą* as part of its new action called *Kino poza ciszą i ciemnością* [*The Cinema beyond Silence and Darkness*]. The unquestionable success of the Polish AD pioneers was the screening of Jarosław Sypniewski's *Świadek koronny* [*Key witness*] at the Feature Film Festival in Gdynia in 2007. As a part of the festival, for the first time in Poland, there was also a special showing with audio description for youngest audiences. It was a Dutch production *Konik świętego Mikołaja* [*Santa Claus' Horsey*], directed by Mischa Kamp with the special version of the dialogue list prepared by Anna Jurkowska, a typhlopedagogue from PZN (Jankowska 2009: 242). It has to be noted that both screenings were presented in line with international standards, that is with audio description available through the headphones only to the viewers interested in it. Apart from Polish films, audio description is also available with foreign productions. The screenings of such films as *Życie na podsłuchu* [*The Lives of Others*], *Noc w muzeum* [*Night at the Museum*] *or Butelki zwrotne* [*Empties*] were organized in the cinema *Adria* in Bydgoszcz, the AD script was read by Joanna Dłuska and Jacek Knychała (Szarkowska 2009: 198; Jankowska 2009: 242).

The next significant date in the rather short history of Polish audio description is 21 February 2008. From that day on, not only visually impaired, but also hearing impaired viewers can purchase on DVD Andrzej Wajda's film *Katyń*, the first film in Poland with both SDH and AD tracks. The AD script to this production was prepared by Dariusz Jakubaszek and the role of the reader was performed by both Andrzej Leszczyński and Maciej Orłowski (Szarkowska 2008c: 127). What is also important in the case of *Katyń* is that the DVD navigation menu was adapted to the needs of visually impaired audiences.

From 14 June 2007 audio description is also created by Polish public television *Telewizja Polska S.A.* Vision impaired audiences are offered a number of Polish TV series, such as *Ranczo* [*The Ranch*], *Tajemnica twierdzy szyfrów* [*Secret of the Cipher Tower*] or *Magiczne drzewo* [*The Magic Tree*], which are available online on the TVP website www.itvp.pl. They are free of charge for persons who have obtained a password from PZN

or to anyone for a fee (Jankowska 2009: 243). Some of these productions were also released on DVD.

One of the newest projects concerning audio description in Poland is its implementation in theatres. This is the initiative of Tomasz Strzymiński and Dariusz Jakubaszek. The first theatre performance with audio description was *Jest królik na księżycu* [*Rabbit on the Moon*] staged in the Puppet Theatre in Białystok (Jankowska 2009: 244). Nowadays, the performances for persons with vision impairments are also present in the National Theatre in Warsaw thanks to the action *Teatr poza ciszą i ciemnością* [*The Theatre beyond Silence and Darkness*].

It should be also considered a great success that the question of audio description raises more and more interest among Polish scholars. The proof for that could be, for instance, the conference *Przekład audiowizualny bez barier* organised in 2008 by the Institute of Applied Linguistics, University of Warsaw.

To date, there are no regulations of audio description at institutional levels in Poland. A solution to the gap in this area could be the inclusion of an entry concerning the introduction of audio description in the project of the Resolution on Non-Discrimination. This undertaking, however, is still in progress.

Audio description is no longer an abstract issue in Poland. It is consistently introduced in cinema, on television and recently even in theatre. It is thanks to the group of people committed to their goals that this initiative starts to be present in the Polish media. Audio description opens the door which has been closed for a long time and although it will take a few years for it to become a standard in Poland, it is definitely worth its cost.

3.3. Types of AD

3.3.1. Traditional AD

Conventional audio description practices are nowadays adopted as a strategy enabling access to theatre, television and film for blind and visually impaired viewers. In order to make an audiovisual product available for these audiences, a certain preparation process has to be completed.

The general procedures for creating traditional audio description can be divided into several steps (ITC 2000: 8). Step 1 consists in choosing programmes suitable for audio

description. It has to be remembered that the popularity of a given programme does not determine the possibility of its being audio described (for the characteristics of programmes appropriate for descriptions see Section 3.1.3. of this Chapter). Step 2 is connected with viewing the already chosen programme. At this stage, audio describer's task is to become acquainted with the programme before starting to prepare its audio described version. Certain extra research concerning specialist vocabulary may also be required here. In UK, a useful way of becoming fully aware of the challenges of the work is *blind watching*, i.e. viewing the programme without the picture for the first time or viewing the programme using glasses with lenses stimulating visual impairment. Step 3, the audio describer prepares a draft script. Once the draft is completed, it has to be reviewed by an editor or senior describer, which can be classified as step 4. At this stage, it is advisable to rehearse the script as live several times in order to be well prepared and save valuable time of the recording. Step 5 is aimed at adjusting the sound level of the programme. In order for the description to be clearly heard, the background audio levels have to be reduced. The next step involves recording the script. Since viewers with vision impairments will be relying on the clarity of every word, the recording of description should not be hurried, but audible and carefully timed. It also requires certain level of concentration as well as attention to delivery and intonation. In general, male and female voices can be used interchangeably, but at times one may seem to be more appropriate than the other, depending on the character of a programme. Good audio description should be unobtrusive but not monotonous, neutral but not lifeless because if visually impaired people do not like the voice, they will simply not listen to it (ITC 2000: 9). After the recording is completed, it is important to listen back to it in order to eliminate possible imperfections in the delivery. This can be considered as the last and final step in the process of preparation of audio description.

As can be seen, the process of creating an audio described programme is an absorbing and lengthy task. Obviously, it becomes quicker and less complex with time and many describers most probably develop their own manner of working within the seven-step framework discussed above. Some describers, however, claim that conventional audio description does not provide the blind and partially sighted viewers with the experience equal to that of sighted persons because it concentrates solely on the description of what is seen rather than on what is meant to be seen, that is the director's vision (see Udo and Fels 2009a). For that reason they opt for description which is less conventional in its nature.

3.3.2. Experimental AD

Next to traditional audio description strategies, alternative ones are also being explored and developed. They are employed in a wide variety of media genres, beginning from various films and programmes, through theatre plays to fashion shows. Despite the wide spectrum of audio description applications, there has been relatively little research concerning its effectiveness and impact on the audience.

Early research demonstrated the value of audio description to people with vision impairments. Peli and Fine (1996) examined the performance on multiple-choice questions of people with low vision and those with normal sight after watching segments of two documentaries. They found that low vision observers and persons who were exposed to the audio portion of the programmes containing audio description answered more questions correctly than those who listened to the audio portion only. Although only two programme genres were tested, namely a nature documentary and a mystery, these findings suggest that the information carried by audio description narration may provide wide benefits to visually impaired and blind viewers. In their study, Peli and Fine focused on assessing whether people were able to remember facts about each show, but did not concentrate on the entertainment value of the audio description.

In their study, Schmeidler and Kirchner (2001) compared the audience enjoyment for content with description to content without it. The study was based on two science series, namely *Orphans of Time* from the *New Explorers* series and *Wild Dogs of Africa* from the *Nature* series. Their findings showed that the viewers preferred to watch television containing descriptions because then it was not only more informative, but also more enjoyable to them. What is more, they said that audio description enhanced their viewing experience and made them more comfortable talking about the programmes they have already watched with sighted people.

The impact of the audio description style on engagement as well as entertainment factors was examined by Fels, Udo, Ting et al. (2006). They compared the reactions of sighted and blind viewers to conventional third-person description style and unconventional first-person narrative style in an animated situation comedy *Odd Job Jack*, produced by Smiley Guy Studios in Canada. Their findings showed that the participants enjoyed the first-person version of the programme. They said that it was entertaining and made their experience with the show more engaging but, on the other hand, less

trustworthy. Nevertheless, the approach employed here shows promise and the results indicate that alternative forms of audio description are worth considering.

In another study, Udo and Fels (2009b) discussed the implementation of an alternative audio description strategy in a fashion show. Organized each year by Ryerson University's School of Fashion, *Mass Exodus* show is the time when graduating students can display their collections for the public and members of the fashion industry. Since, apart from the opening speeches, the show contained only music and no dialogue, in order for it to be accessible to visually impaired people, the presence of the describer was necessary. A mature upper year student from the fashion school with additional theatre training was selected to complete the task. The description style used by her during the live show blended colour commentary techniques with conventional audio description. Having interviewed the audience members immediately after the event, Udo and Fels found that most visually impaired participants enjoyed the style of description. They also reported that the describer's personal commentary and emotional delivery added to the entertainment value of the show.

Another alternative audio description strategy using subjective, emotional style was prepared for a live production of *Hamlet* (Udo and Fels 2009a). The author of the description script was Paul Leisham and the director of the play was Andrea Wasserman. In comparison with traditional audio description which aims at providing solely visual information to the audience, the alternative audio description employed here focused on recreating the feel of the scene. In order to communicate visual representation, sensory-based images that did not depend on sight were applied. Theatrical conventions as well as non-traditional theatrical mediums were used to deliver the complex vision of the director. Even descriptions were performed in traditional Shakespearian form, that is in iambic pentameter. Thanks to all these actions, the audience had an opportunity to participate in a unique and at the same time enjoyable entertainment experience.

It is also worth mentioning that the question whether audio description can be translated into other languages is presently the subject of ongoing research (see Bourne and Jiménez Hurtado 2007; López Vera 2006; Georgakopoulou 2009). Many projects aimed at examining the hypothesis of translating or adapting audio description scripts as both faster and more economical way to produce audio described films are already under way. Nevertheless, the idea of adapting a script in a given foreign language instead of creating it from scratch seems to be a viable alternative and a considerable step forward on the way to provide wider accessibility to the media to visually impaired audiences.

The research study on AD for children, constituting a part of this thesis, also presents an alternative approach to conventional audio description. In the study conducted, text-to-speech audio description was used instead of traditionally produced pre-recorded human audio description. The effects of using such method in educational animation series aimed at young viewers is reported in the following chapters of this thesis.

IV. Research methodology

4.1. Action Research

Along with the rise in the number of audiovisual products available on the market and the need for their translation, the development of AVT as an academic discipline can also be observed. It goes hand in hand with the ongoing discussions concerning the accessibility of AVT for particular social groups, which leads to the situation where the field of AVT starts to be more involved with people being the end-product consumers rather than with potential addressees. That is the reason why, among common theories and practices, new approaches towards research in translation are beginning to appear. One of them is called Action Research (AR).

Although referred to differently by different theorists (see Cravo and Neves 2007), AR can be seen as an inquiry process concerned with taking action and creating theory about this action. Unlike traditional research approaches where the knowledge is the only outcome, AR aims at creating both the action and the knowledge. As Reason and Bradbury argue, "it seeks to bring together action and reflection, theory and practice, (…), in the pursuit of practical solutions to issues of pressing concern to people (2001: 1 qtd. by Cravo and Neves 2007: 93). As it is clearly seen, AR is not interested in problems of abstract nature. Its main objective is concerned with solving concrete issues that affect real people. The main aim of action researchers is to be involved with those people who, in the end, will benefit from their research, "the 'consumers' of the end product" (Cravo and Neves 2007: 96).

Action Research can play an important role in TS. Its application to this particular field seems to have many assets. By collaborative work with stakeholders, researchers may gain insights into problems that they could have been unaware of, which, in turn, may lead to reflexive thinking development. The interaction between scholars and practitioners might be helpful in creating empirically proven theoretical knowledge thanks to which the gap between theory and practice could be bridged. And last but not least, the use of AR in education programmes for future translators can contribute to the process of shaping their professional maturity and commitment.

Although using AR in TS is quite new in the field, its dual nature serves to prove that it can be a successful means for researching translation. Issues that have not been

described or covered may be dealt with thanks to AR. The benefits of using AR seem obvious not only in the case of theorists and practitioners, but also for translators-to-be. Since the major interest of AR are "real people in real words" (Cravo and Neves 2007: 96), it was decided to use it as a research approach also for the purposes of this thesis as it could prove helpful in addressing the specific problems encountered herein.

4.2. Guidelines for AD

The practice of AD is fairly well-established in numerous European countries, such as United Kingdom, Germany or Spain. In Poland, the AD tradition cannot be viewed as being in its infancy, but there is still a lot to be done. One of such issues is, for instance, connected with creating a set of guidelines that could be applicable typically to the Polish cinematic world. Existing guidelines for AD production can, without any doubt, be determined as valuable tools for audio describers from all around the world. However, due to cultural specificity and different culturally-bound perspectives towards audiovisual programmes, they are, unfortunately, not suited for each country's needs. Moreover, they do not provide answers to all questions, especially to those concerning what should be included in AD in such situations where it is not possible to describe everything that is on the screen. Therefore, they are perceived not as binding rules which should be obeyed, but rather as clues or pieces of advice that might turn out to be of valuable help to audio describers. What follows is an overview of existing guidelines together with the topics they tackle.

Vercauteren (2007: 142) argues that, when comparing the existing guidelines, it can be noticed that to a certain extent all of them discuss the following questions:

(1) What should be described?

(2) When should it be described?

(3) How should it be described?

(4) How much should be described?

When it comes to the first question, Vercauteren (ibidem) claims that such types of information as images, sounds or on-screen text cannot be neglected. With regard to images, it is the information related to the place of the action, time of the action, action itself, characters performing the action and the way they do it. As to the sounds, the description should include sound effects (those difficult to identify), lyrics of the songs or

languages used (those that differ for the programme source language). It has to be remembered that silences can also constitute an important part of the programme, and therefore they should not be forgotten. As far as on-screen text is concerned, logos, opening and closing credits, texts on signs (subtitled) or opening titles should be described. It has to be pointed out, though, that in some scenes the time gap between the dialogues will not allow for the description of all of the above mentioned elements, and therefore a certain selection might be needed. But this issue will be expanded on further in this section.

According to Vercauteren (2007: 143), the second question regarding when the descriptions should be inserted, refers to the moment of hearing them by the viewers. As a rule, they appear in the gaps or silences between the dialogues. They should not be inserted over sounds, music and, more importantly, over dialogues, but practice shows that, for the sake of the programme clarity, this rule is not always obeyed. Another element that should be mentioned here relates to the problem of announcing the scenes beforehand. Such operation is admitted only under the condition that the information does not give away the plot and when synchrony is not an issue. In the case of comic scenes, it is highly important to include descriptions at the same time as action occurs because the viewers, both sighted and visually impaired ones, should be able to laugh simultaneously (Ofcom 2008: 30).

As far as the way of describing visual and aural information is concerned, there are several issues to be addressed. First, when it comes to the language of the description, the precision and clarity is of paramount importance. It has to sound natural, be appropriate but at the same time diverse. Variety is important, especially when it comes to verbs. Descriptions in the present tense are preferable because what they provide is a real-time commentary (ADI 2002; Ofcom 2008: 31). The sentences should be kept simple as the complexity in terms of sentence structure makes the description difficult for the visually impaired viewer to understand (Vercauteren 2007: 144). Unusual vocabulary and formal style should be avoided. The wording of the description has to go in line with the style of the audiovisual programme that is being described as well as with its audience. Bearing in mind all these instructions, it also has to be remembered that no personal opinions should be expressed in the description, meaning that it should be kept as objective as possible (ibidem). When it comes to specific terminology used in cinematic productions, such as camera angles, it should not be included in the descriptions (Ofcom 2008: 30).

As to the use of specific word classes, one category definitely has to be addressed, strictly speaking the adjectives referring to colours. One could ask if it has any sense to describe colours to people with vision impairments. The truth is that "only 14% of the blind population is 100% blind and the rest are partially blind" (Vercauteren 2007: 145), which means that they are able to see or have already seen colours. What is more, people who are blind from their birth may preserve a visual memory, and therefore know what colours stand for. It is also highly probable that even those people who were born blind understand what colours are. This serves to prove that, if the colours are relevant, they should not be omitted in descriptions (ibidem).

When talking about descriptions, there is one more issue that deserves special attention – when to provide the viewers with the characters' names. There is no agreement on this, hence the difficulty. The name should definitely not be given away if the character's identity is to be revealed later in the programme (Ofcom 2008: 30). For the sake of practical reasons, that is, for instance, in order to avoid long descriptions, the character may be introduced before his/her name appears in the dialogue. It is also quite important for the characters to be named when the scene involves several different persons as it helps to identify them "in the listener's mind's eye" (ibidem). What has to be noticed is that, in descriptions, characters' names are generally used more often than personal pronouns as it is less misleading for the audience.

The last question to be discussed deals with the problem of how much should be described. As Vercauteren (2007: 147) aptly notices, none of the existing guidelines provide the audio describer with the advice on how much information should be given or how much information is actually too much. They only mention that, for instance, "too much description can be exhausting or irritating" (ITC 2000: 14) or that "the programme should be allowed to 'breathe'" (Ofcom 2008: 31). What has to be remembered is that balance of information is always desirable. The audience should not be overburdened with detail and not distracted from enjoying the programme. Filling every available slot with audio description is definitely not advisable because "the atmosphere and background noise have to come through" (ADI 2002). As practice shows, audio describers sometimes insert as much information as possible in the exposition phase of audiovisual programmes, which comes at the very beginning, before the actual programme starts, in order to avoid later confusion and give the audience a chance to experience the programme as fully as they can.

What, therefore, is successful audio description like? There are many definitions concerning this issue, not only because describing styles differ, but because the audiences have various expectations, needs and experiences (ITC 2000: 4). When asked about what it takes to create good audio description, Krzysztof Szubzda, the first Polish audio describer, said that for him "every film is like opening the next Pandora's box" (Szarkowska 2008b: 134). One production differs from another, creates its distinct world. For instance, the Polish film *Statyści* [*Extras*] required from the audio describer to find the way to do both: read the translations of Chinese texts and describe the course of events. In *Wesele* [*The Wedding*], on the other hand, the greatest problem was the dynamic plot full of vulgarity and odiousness which had to be followed. As can be seen, every production seems to be a challenge for the audio describer. His/her task is not as easy as it may initially seem. All the time s/he has to decide on what information to prioritize and how to direct the audience's attention to the actual presentation, not to the description itself. Although existing guidelines seem to be vague on some issues, they are certainly valuable tools that could serve as a starting point in the creation of a given audio description.

4.2.1. Programmes for children

As far as guidelines for children's programmes are concerned, it has to be remembered that blindness in children may be accompanied by cognitive problems making audio described programmes inaccessible for some of them. However, it has to be pointed out that there are also many blind and partially sighted children who constitute a group of keen programme viewers. Some of them declare to be more independent and do not want to be treated differently from the remaining audience (ITC 2000: 7).

In descriptions written specifically for children, what needs particular attention is the language and pace of delivery. Like in the case of programmes for adults, sentences used here should not be complex, but short and simple. Due to short attention spans, young children find it difficult to absorb a lot of information at the same time. Therefore, descriptions prepared for them should not be wordy, but succinct and up to the point (RNIB 2006). The emphasis should be placed on conveying the plot rather than providing the children with all the information they might miss. Vocabulary has to be suited to the needs of the target group. Difficult words are acceptable only when they are used occasionally because long passages containing expressions a child does not know will

make the programme difficult for him/her to follow. However, sophisticated vocabulary may sometimes add interest, and thus it should not always be avoided. Rhymes, alliterations, interesting sounding words are advisable as they help to keep the attention of a child (ibidem).

Bearing in mind the differences in the age as well as background of the youngest viewers (see Chapter Three, Section 3.1.2.2), sometimes a more intimate style may be more appropriate in comparison with programmes aimed at adults (Ofcom 2008: 31). Generally speaking, the tone of descriptions should reflect the tone of the programme. Therefore, some productions may require a great deal of sensitivity on the part of the audio describer and other, especially in the case of Disney's films, will oblige him/her to reflect in descriptions "the 'cute' aspect of the animations" (ITC 2000: 29).

As to the sound effects constituting an inseparable part of the audiovisual programme, it has to be pointed out that they do not only perform an entertaining function, but they also convey action. Young children enjoy listening to them and imitating them (RNIB 2006). The same occurs with regard to songs and music. Some children, particularly those with complex needs, might have difficulty with understanding the story, but nevertheless, might enjoy listening to a song (ibidem). For these reasons, it is very important not to describe over them and keep them intact whenever possible. Last but not least, it has to be stated that one of the main functions of audio description, both for young and adult viewers, is that it should not be off-putting, but associated with enjoyment and pleasure.

4.3. Text-to-speech AD

Despite the growing number of audio described products over the last two decades, the availability of AD service is, unfortunately, still not sufficient. There are not enough audiovisual products for viewers with vision impairment on DVDs/Blu-ray. There are not many screenings with live AD either, and if there are, they are not within the reach of significant number of spectators (Szarkowska: forthcoming). Bearing in mind the fact that one of the greatest hurdles to overcome on the track to increase the availability of audio described programmes is the lengthy preparation process as well as high production costs, a new method of creating AD seems to be needed. The answer to these problems that could

greatly contribute to the increase in the AD output is text-to-speech audio description (TTS AD).

The idea behind TTS AD is that it consists in reading out the AD script by speech synthesis software instead of recording it when read out by a voice talent. TTS systems use a special algorithm that represents rules for combining acoustic properties with pronunciation rules (Papadopoulos *et al.* 2009) thanks to which the text input is converted into a speech waverform. Nowadays, recent technological progress has significantly expanded the possibilities of producing an effect being far more natural than that of synthesisers from a few years ago (Szarkowska: forthcoming).

The process on how TTS AD is prepared is aptly explained by Szarkowska (forthcoming). First and foremost, the AD script needs to be created. If possible, it is advisable to consult the script with a visually impaired viewer after its preparation. Then, with the use of a subtitling software, the script is inserted into a film between the dialogues. In order to do it, it has to be cut into chunks with allocated time codes. Having the time codes synchronized, the resulting text file is ready to be read by a speech synthesis system. While reading, the audiovisual material is simultaneously played by a film player. The Figure presented below aptly depicts the above described process (ibidem).

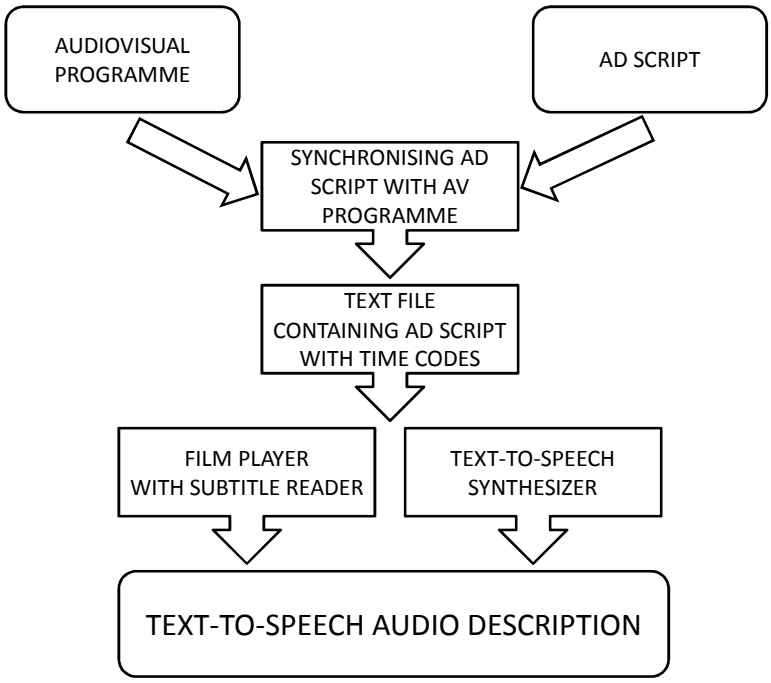

Fig. 3 Preparation process of text-to-speech audio description (Szarkowska: forthcoming)

In order to watch a film with TTS AD, a film player with a subtitle reader is required. Read out by the speech synthesizer, the film player menu allows the viewers to adjust the settings to their needs, so that it is possible for them to set the volume parameters or the synthesiser's reading speed. It has to be noted that thanks to recent technological improvements, the viewers using a TTS software are exposed to the offer of a variety of different voices which can be tailored to their needs. Although there is no single voice that would satisfy all users, it is important for them to have a choice and an option to select the one they consider to be most appropriate. Such a variety of voices could also contribute to enhancing the viewers' acceptance of the TTS system in a more rapid manner.

4.3.1. Benefits and downsides of text-to-speech AD

As anything, TTS AD has its advantages and disadvantages. Its undoubted advantage is quicker access to information for blind and partially sighted persons instead of their waiting for it to be printed in a modified way or brailled. Another advantage is connected with confidentiality, meaning that persons with vision impairments do not have to ask other persons to read the information for them (Cryer and Home 2008). Furthermore, the costs of production of TTS AD bear no comparison to those connected with creating conventional AD as they do not involve previously arranged recording or reading out of the AD script (Szarkowska: forthcoming), and what is connected with that, employing additional artist or voice talent responsible for realisation of the above. When it comes to the costs which are to be incurred by TTS AD users, they do not seem to be elevated. In the case of those users who already have access to speech synthesis software at home, work or school, the costs amount to nothing – all they need is a text file with AD script (ibidem). Moreover, TTS AD can provide visually impaired spectators with the opportunity to watch audiovisual programmes without any help on the part of their sighted friends or family. No additional comments or explanations are needed – TTS AD means bigger independence.

When talking about the disadvantages of TTS AD, two main points can be made. First, it has to be noted that TTS AD requires media literacy, and therefore it excludes those persons with visual impairments who live "outside modern high-tech information

society" (Szarkowska: forthcoming), especially the elderly. Secondly, bearing in mind that in most cases viewing the audiovisual programmes with TTS AD takes place at home, it may be perceived as experience which does not promote inclusion or integration. In response to this argument, it has to be pointed out that the service of TTS AD is to complement, not replace the practice of conventional AD. Its main goal is to supplement current practices and make AD more available for blind and partially sighted people.

4.3.2. Studies on synthetic speech

These days, there are many areas in which blind and partially sighted persons may benefit from synthetic speech technology. The applications of text-to-speech synthesis include educational tools, mobility aids, screen reading software and entertainment (Freitas and Kouroupetroglou 2008). Research on how synthetic speech can benefit people with vision impairments showed that synthetic speech can even improve their ability to work competitively with sighted persons (Llisteri *et al.* 1993).

There were also studies concerned with the acceptance of synthetic speech by visually impaired population. Their focus was, for instance, on reading daily newspapers by speech synthesis software (Hjelmquist *et al.* 1990), ways of receiving financial information by visually impaired people (Thompson *et al.* 1999) or listening to a GPS system by blind users (Loomis *et al.* 2005, all in Cryer and Home 2008). The results of the above mentioned studies indicated that, although at the beginning many users found the synthesised speech rather difficult to understand, all reported that with more exposure and experience it is possible for the understanding to improve. Moreover, while most respondents preferred a natural voice to synthesised speech, they said that there may be instances in which they would find synthetic speech acceptable. Similar findings were reported by Cryer and Home (2009) in the study on the attitudes of persons with vision impairments towards the application of synthetic speech for the RNIB's (Royal National Institute of Blind People) Talking Books service. The majority of users were keen on human narrators for reading books, but they also felt that synthetic speech could be acceptable in the case of non-fiction, instructional or reference books (ibidem). Furthermore, research evidence shows that the experience of synthetic speech affects people's acceptance of it. Some respondents said listening to a synthetic voice may not be as difficult as it initially seems and that it is a matter of getting used to it. These findings

suggest that previous experience plays an important role in the perception of synthetic speech and that over successive trails the comprehension may be improved.

Having considered the issues relating to the research approach, guidelines for AD with special attention to children's programmes, the use of synthetic speech and TTS AD service among blind and partially sighted persons, the following chapter will investigate the feasibility of employing TTS AD in educational animation programmes for visually impaired children.

V. Research study

5.1. About *Once upon time… life* series

This chapter deals with the analysis of the research study on text-to-speech audio description for children. The audiovisual material employed for the purpose of this work is one of the episodes called *Blood* from the educational animation series *Once Upon a Time... Life*. Directed by Albert Barillé, this programme was originally produced in France in 1987 and then aired in many different countries all over the world. The series *Once Upon a Time... Life* is the third within six seasons of *Once Upon a Time* animation series. The winner of the 1986 Eurovision contest, Sandra Kim was the one to perform the opening song *La vie* in the original version of each episode of the series. In Poland, the series was accompanied by a song performed by Małgorzata Szymańska and a choir consisting of Katarzyna Łaska, Magdalena Tul and Aleksandra Bieńkowska.

A definite advantage of the material is the combination of an entertaining storyline with a significant amount of factual information. Every episode of this series tells the story of a different organ or system within the human body. There are, for instance, episodes devoted to the functions of heart, brain, liver or kidneys and the ones dealing with lymphatic or nervous systems. The depiction of human body is made thanks to numerous animation characters introduced into the series. They are divided into two groups, namely the group of good characters represented by defense mechanism of the body and the group of bad characters consisting of viruses and bacteria being a threat to the human body. The characters in the episode chosen for the purpose of this study include the following:

- red blood cells represented by red humanoids that carry bubbles with oxygen or carbon dioxide in a back pouch;
- platelets depicted as red disks with two legs and four arms;
- white blood cells, which are the police force of the human body. They are divided into three groups, namely granulocytes, lymphocytes and macrophages. Granulocytes are foot-patrol policemen completely white in colour with a yellow star badge on their uniforms. Lymphocytes are represented by marshals travelling in their white round flying crafts which can drop antibodies from an underbelly bomb-bay. Macrophages constitute a group of big yellow ground vehicles that are

shaped like frog heads; they have three wheels and are equipped with a big front scoop grab. Their task is to remove the waste and clean the body.

Apart from the above mentioned characters belonging to the group of human body's friends, there is also a group that threatens to attack it. Among them, there are such characters as bacteria and viruses. The former are depicted as blue bullies with red noses and spots on the skin, whereas the latter ones are yellow worms with hands and orange or green hair and noses. In addition to that, young viewers have a chance to see various other characters in the episode, including the manager of the brain, enzymes, antibodies and biomolecules such as fats, proteins or sugars.

5.2. *Once Upon a Time… Life* series and AD

Overall, the film rendered itself quite well for AD, albeit certain problems were encountered in the process. Some of them were typical of any audio description, whereas others stemmed from the specificity of the medium used to deliver the message to the audience, namely the speech synthesiser. The major difficulties were associated with such matters as the use of terminology, the structure of AD, phonetic, pronunciation and grammar issues, the question of intonation and punctuation or the selection of appropriate voice to read the AD script.

Bearing in mind the existing guidelines concerning the preparation of AD for children's programmes (see Chapter Four, Section 4.2.1.), it was decided that no complex vocabulary will be used in the TTS AD script. Another reason for that was the abundance of specific terms and expressions already present in the film itself (see Section 5.1. of this Chapter). The consultation with one of the teachers from the school for blind children in Laski served as a confirmation to the above mentioned arguments as she suggested sticking to the most basic terminology because to some children, especially those with visual impairments accompanied by additional disabilities, the film would be difficult to understand.

The problems connected with the structure of AD were mainly caused by the little time available in the pauses between the film dialogues for the descriptions to be inserted. In order to convey all the information which was deemed essential to understanding the plot, a certain strategy was needed. One of the approaches under consideration assumed the use of the characters' names together with activities they are currently completing, whereas

the other focused on announcing the characters' function, e.g. granulocytes, lymphocytes or macrophages, and describing the activities they are involved in. Finally, bearing in mind the educational function of the film, a decision was made to name the characters according to their functions together with providing the viewers with the description of what is going on the screen. However, due to relatively high specificity of terminology and the multitude of various characters, it was thought that before the screening of the film, it would be of great assistance for children to hear an introduction explaining the details connected with the characters' looks and functions they perform (see Appendix No. 1).

The idea behind the introduction was to keep it as informative as possible, but at the same time humorous, light and breezy in style. The descriptions concerning the functions of particular elements of the human body were constructed on the basis of comparisons with commonly known professions. The function of red blood cells was, for instance, compared to the work of deliverers or suppliers, white blood cells were called the human body's guards and platelets were said to fulfil the same duties as plumbers. Since the vocabulary connected with diseases is rather military-like in character, its tone was preserved also here, the end result being the use of such words as: 'przyjaciele' ['friends'] vs. 'wrogowie' ['foes'], 'nieprzyjaciele' ['enemies'] or 'intruzi' ['intruders'], 'patrol' ['patrol'], 'dowódca' ['commander-in-chief'] and the verbs like 'walczyć' ['fight'], 'bronić' ['defend'], 'atakować' ['attack'] or 'pokonać' ['defeat']. The text was constructed in such a way that every difficult or supposedly new term appeared there at least twice. All the said operations were intended to make the film easily comprehensible and unambiguous for children because the issues it covered were deemed relatively complex.

Since Polish was the language of text-to-speech software, the whole AD script was to be read out in compliance with Polish pronunciation rules. However, the speech synthesis system was not always adjusted to all of them. For instance, in such words as 'krwinka' ['blood cell'], 'krwi' (['blood'] in genitive case) and 'krwionośnych' (['blood-'] relating to blood vessels), the consonant 'w' should become voiceless when pronounced. Unfortunately, it did not. In order for the speech synthesiser to read the above mentioned words correctly, in the TTS AD script they had to be changed into 'krfinki', 'krfi' and 'krfionośnych' respectively. The same happened in the case of words where consonants in the final position had to be voiceless. Therefore, such words as 'oraz' ['and'] or 'wirusów' (['viruses'] in genitive case) were included in the script in the forms of 'oras' and 'wirusóf'.

There were also instances when it was necessary to transcribe the words in order for the speech synthesiser to read them in possibly natural Polish. This strategy was adopted when dealing with abbreviations, such as HLA (term defining a type of antigens) or PSI (name of one of the characters), which had to be rendered as 'ha-el-a' and 'pe-es-i' respectively. The same operation was employed when it comes to foreign-sounding terms like 'aparat Golgiego' (['Golgi apparatus']; an organelle found in most eukaryotic cells). In this case it had to be rewritten in the TTS AD script as 'aparat Goldrzjego'.

Among the problems connected with grammar, one particular issue deserves highlighting here. According to the rules of Polish grammar, the noun 'organizm' ['human body'] declines in singular as follows: 'organizm' (nominative case), 'organizmu' (genitive case), 'organizmowi' (dative case), 'organizm' (accusative case), 'organizmem' (instrumental case), 'organizmie' (locative case), 'organizmie' (vocative case). Although, the ending '-izm' in both locative and vocative cases is spelled '-izmie', it can be pronounced alternatively as /'-iźmie'/ or as /'-izmie'/. Both forms are correct in speaking, but in writing the only acceptable version is the one with the ending '-izmie'. In *Słownik poprawnej polszczyzny PWN* [*PWN Dictionary of Correct Polish Language*] under the entry 'organizm' it is said: "pronounce /organiźmie/, rarely /organizmie/" (2006: 720). Therefore, it was decided that the form /organiźmie/ would be the one to be used in the TTS AD script. However, as it turned out, the spelling had to be changed in the script into 'organiźmie' instead of 'organizmie' in order for the synthesiser to read it in a desirable way.

Another problem in TTS AD was connected with unnatural stress and intonation, which resulted in faulty pronunciation of some clusters. This was the case with sentences ending in the reflexive particle 'się' like 'otwiera się' ['it is opening'], 'kopiują się' ['they are duplicating themselves'], 'uśmiecha się' ['he is smiling'] or 'broni się' ['he is defending himself'] to name just a few. In all the above mentioned examples, the stress fell on the particle instead of the verb, producing an odd and unusual effect. Consequently, the order of the verb and particle in the TTS AD script had to be changed into 'się otwiera', 'się kopiują', 'się uśmiecha' or 'się broni'. A similar strategy had to be adopted when it comes to sentences ending with a personal pronoun, such as 'przesuwa go' ['it is moving it'], 'zjada go' ['he is eating it'] or 'obsiadają je' ['they are sitting all over them']. Also in this case, it was necessary to change the order of the personal pronoun and the word preceding it in the TTS AD script.

The question of punctuation appeared to be slightly problematic as well. In the film under analysis, when short pauses were needed, a comma had to be inserted. Long pauses, on the other hand, required to be marked with a full stop. However, in some instances, the gaps between the film dialogues did not allow for all the punctuation marks to be introduced as this resulted with the speech synthesiser reading descriptions over the characters' lines. Therefore, it was decided for some punctuation marks to be occasionally omitted in the TTS AD script in order for the action to be conveyed as fully as possible.

As to the selection of the appropriate voice used in order to deliver the AD text, it was decided to employ a female voice. This choice was made due to two major reasons. The first was motivated by the fact that the majority of characters which appear in the film chosen for the purpose of this study are male. Moreover, at the beginning of the film, a voice over commentary informing the viewers about the functions of the blood is employed. It is provided by a male voice as well. It was thought that the employment of a male AD voice on the top of a number of other male voices already present in the film could be highly problematic for the audience to follow. Therefore, it was decided that a female voice would not only be easier to comprehend, but would also be less misleading to the viewers.

The second reason related to the fact that Poland is a country where male voice talents are in the overwhelming majority when it comes to narrating films (Szarkowska: forthcoming). However, there are no official rules as to which voice, male of female, should be chosen for cinematic productions. In Poland, it is only the question of habit. In other European and non-European countries, both men and women read AD scripts. Since the film was aimed at Polish viewers, in order not to promote the use of a male voice again and emphasise the possibility of choice the audience have when using speech synthesis software, it was decided to select a female voice for reading synthetic AD.

Having completed the preparation process of TTS AD, it was time for it to be consulted with other viewers. Four sighted persons having qualifications in AD creation expressed their opinions concerning both the script and the introduction. The text also underwent medical consultation. All the remarks were considered and suggested changes were introduced into the final version of the script as well as the introduction.

5.3. The Study

The chief objective of the present study was to examine text-to-speech AD in educational animation series for children with vision impairments. What follows is a detailed description of the way the study was conducted, a presentation of participants who took place in it and a brief account of the materials used. Then, the results of the study are discussed.

5.3.1. Procedure

The questionnaire was administered after three screenings of the film which took place on different days in three schools for blind and partially sighted children in the following locations: Laski, Bydgoszcz and Kraków. Before the screening began, the participants were informed about the procedure that would follow. They were told that they were going to watch the episode titled *Blood* from the educational animation series *Once Upon a Time… Life* accompanied by TTS AD and that after the projection they would be asked to provide answers to the questionnaire concerning the content of the film as well as the synthetic voice employed to read this AD (see Appendix No. 3). For the present study the freeware programme BESTplayer (version 2.0) together with the subtitle reader Expressivo and a female Polish synthetic voice named Ewa from the text-to-speech application Ivona Player (manufactured by Ivo Software) were used.

The responses of the participants were collected in three ways. Some preferred to have the questions read out to them by the author of this thesis, several other sighted volunteers or their teachers. Others chose to write their answers on their Braille writing machines (machines comparable to a typewriter). There were also those who decided to fill in their questionnaires unaided, using large print questionnaire forms.

The first part of the questionnaire aimed to establish participants' personal characteristics, such as gender, age, type (congenital or acquired) and degree (blind or partially sighted) of sight loss. Then they were asked about their previous experience with audio described films as well as their familiarity with speech synthesis software. The second part of the questionnaire was meant to verify whether the respondents could answer any questions concerning the film's content after taking part in the screening. The last part of the questionnaire focused on determining whether the text of TTS AD was clear and

intelligible to them, on gathering opinions on the use of synthetic voice for reading AD and on the participants' eagerness to watch other episodes of *Once Upon a Time… Life* series with TTS AD.

If possible, a specially prepared questionnaire was distributed also among teachers in order to collect their views and opinions concerning TTS AD and its use in educational films aimed at visually impaired children. The questionnaire was also designed to show whether it is possible for such programmes to be applied as additional didactic tools during the biology/environment classes in the future (see Appendix No. 4).

5.3.2. Participants

A total of seventy six children (35 girls and 41 boys) participated in the study. Of these:

- 22 (8 girls and 14 boys) were the pupils from Róża Czacka Educational Centre for Blind Children in Laski (Ośrodek Szkolno-Wychowawczy dla Dzieci Niewidomych im. Róży Czackiej);
- 27 (11 girls and 16 boys) were from the Louis Braille Special Educational Centre for Blind and Partially Sighted Children in Bydgoszcz (Specjalny Ośrodek Szkolno- Wychowawczy dla Dzieci i Młodzieży Niewidomej i Słabowidzącej im. L.Braille'a);
- 27 (16 girls and 11 boys) were learning in the Special Educational Centre for Blind and Partially Sighted Children in Kraków (Specjalny Ośrodek Szkolno-Wychowawczy dla Dzieci Niewidomych i Słabowidzących).

Some participants had cognitive disabilities apart from these connected with vision impairments. They were aged between 8 and 17 years of age. Three respondents (4%) were not able to state how old they were. Figure 4 shows the number of participants according to their age (see below).

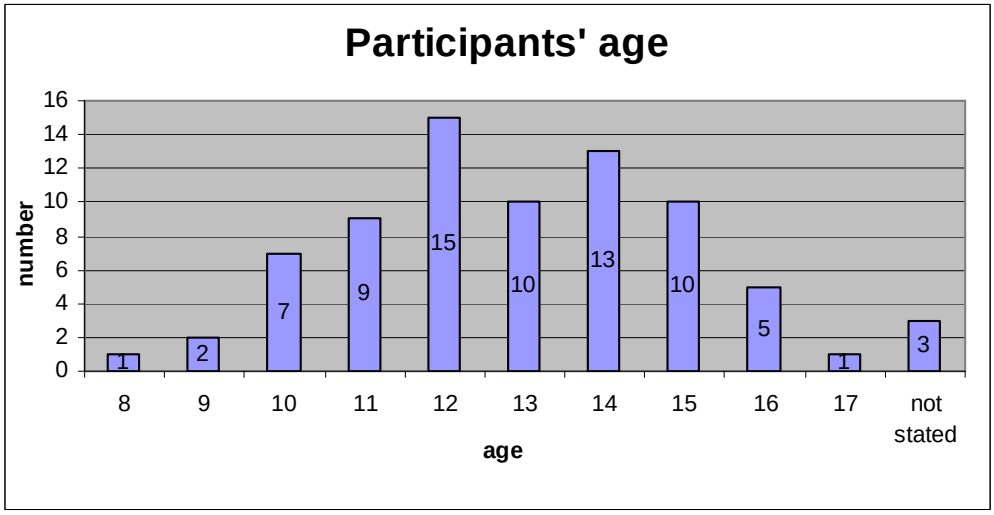

Fig. 4 Participants by age

When it comes to the type of sight loss, out of the total number of participants (n = 76), forty three (57%) were congenitally blind, nineteen (25%) had an acquired sight loss and fourteen (18%) were not able to determine it. With respect to the respondents' visual status, thirty two (42%) were blind and forty four (58%) were partially sighted (see Figure 5 below). It is worth mentioning that in modern societies there are, in general, many more partially sighted persons in comparison with people with no useful sight at all. Therefore, it was considered positive that in the study under analysis these numbers were not equal.

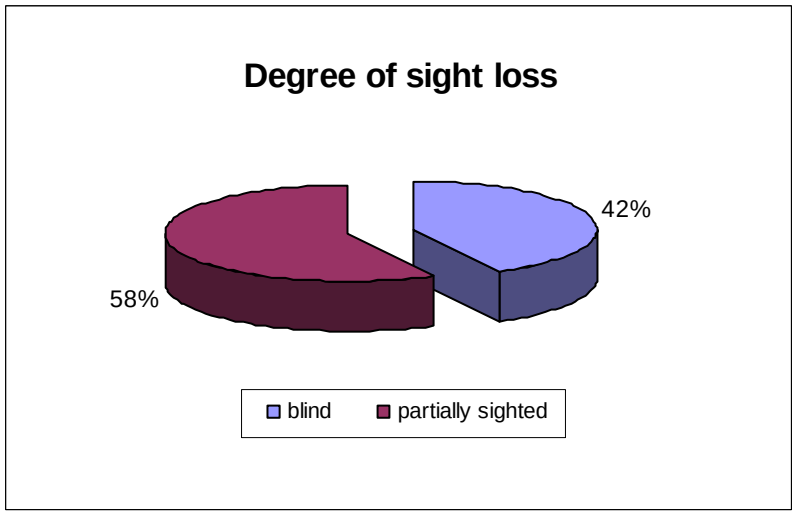

Fig. 5 Degree of sight loss of study participants

5.3.3. Materials

The introduction to the film played in synthetic speech to respondents before the screening of the film can be found in Appendix No. 1. The text of audio description employed in the film constitutes Appendix No. 2. The questionnaires distributed to learners and their teachers after the screening of the film were enclosed as Appendix No. 3 and Appendix No. 4 respectively.

5.4. Results

Both the screening and the questionnaire were greeted with much enthusiasm by children and they arouse much interest and curiosity also among teachers. As it was hoped to find out how the text-to-speech delivery technique is perceived by young visually impaired viewers and whether audio describing this kind of films could prove helpful in their school education process, the questionnaire that was administered after the screening of the film had to be structured accordingly. The analysis of the participants' responses led to the results presented below.

To the question: "What new information did you learn from the film?" the responses varied greatly. Some participants reported that for them there was no information which could be deemed new, others mentioned that they learned about the properties of the blood and the functions it has, with the exemplary answers being:

"I didn't know that blood changes its colour." Girl, 12 years old

"I learned how blood circulates all over the body." Boy, 11 years old

"The blood is needed to live. That was new for me." Boy, 12 years old

As many as 18 participants did not answer the question and 9 declared that they did not learn anything from the programme.

The next two questions were aimed to elicit detailed information concerning the content of the film. First, participants were asked to state what the role of red blood cells is in the human body. The anticipated answers were that red blood cells carry oxygen, carbon dioxide or a combination of both in their back pouches. The significant majority of respondents (almost 60%) answered the question correctly. Out of the total number of participants (n = 76), twenty three replied “oxygen”, eight were for “carbon dioxide” and fourteen enumerated both. Eleven persons (14%) stated that they do not know or cannot remember and nine (12%) left the question unanswered.

The next question was “What is the role of white blood cells?”. Almost half of participants (42%) provided the correct answer. Fourteen stated that white blood cells defend the human body against infection, bacteria or viruses, whilst twelve said that white blood cells kill, destroy or fight with bacteria and viruses. Some children replied with such answers as:

> “White blood cells tell red blood cells where to go.”
>
> Girl, 10 years old

> “White blood cells swallow worms.”
>
> Boy, 11 years old

> “White blood cells are responsible for keeping order in our body.”
>
> Boy, 14 years old

The answers above were true according to the content of the film, and therefore deemed correct as well. There were two participants who said that white blood cells perform the role of policemen or guardians in our body. Three participants were able not only to

describe the role white blood cells have, but also to enumerate all their kinds (lymphocytes, granulocytes and macrophages).

Fourteen persons (18%) did not know or remember what the role of white blood cells was, whereas twenty one (28%) left a question mark or a gap in the space provided for the answer. A group of 9 participants (12%) gave an erroneous answer to the question, but in most cases it resulted from the fact that they confused white blood cells for red blood cells, reporting that the former ones were responsible for transporting oxygen in the human body.

Such a wide range of answers came as a slight surprise since when asked about whether there was anything unclear in the AD script, the overwhelming majority of respondents (ca. 70%) said they had understood everything. Some participants commented on the synthesiser's reading speed, which they perceived as too fast and blurred. Others stated that the volume of AD sound was too low, especially when music was loud and thus was difficult to comprehend.

As for previous exposure to AD, as many as thirty four (45%) respondents declared to have watched films with audio description before. Thirty nine participants (51%) reported that it was the first time they had the opportunity to watch audio described films and the remaining three (4%) were not sure whether they have experienced it or not.

The findings of the study also show that many respondents had some exposure to synthetic speech. As seen in Figure 6, forty three (56%) participants use speech synthesis software at home or at school, thirty one (41%) do not and only two (3%) are not sure about this issue.

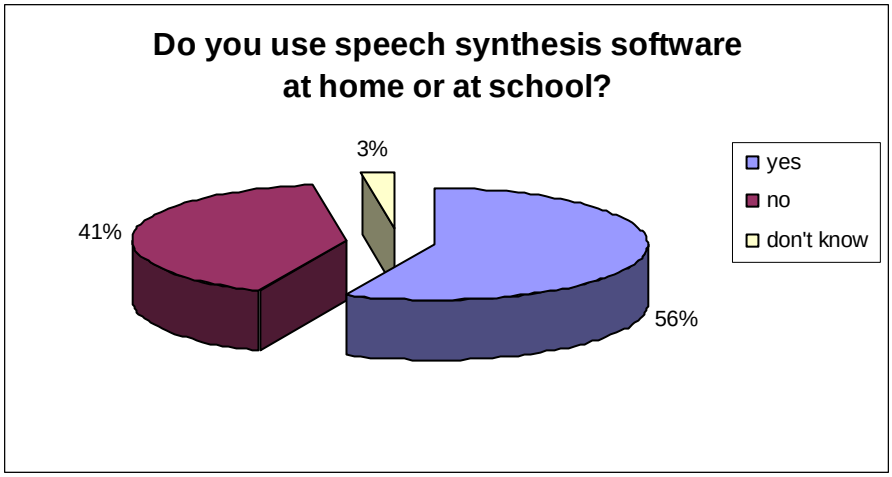

Fig. 6 Respondents experience of synthetic speech

Question thirteen asked whether participants liked the voice used for delivering TTS AD in the film under analysis and among answer choices like: “Yes”, “No” or “Don’t know”, a large majority (73%) replied to be in favour of the voice. Fifteen persons (20%) did not enjoy it and five (7%) were undecided on the issue (see Figure 7 below). The negative attitude towards the voice was then examined by different variables, such as the voice intelligibility, synthesiser’s reading speed or participant’s degree of sight loss. As it turned out, eleven out of fifteen persons who did not like the voice reported that they had problems with understanding what the synthesiser said as, according to them, the reading rate was too high and the text was blurred. Moreover, twelve declared to use the speech synthesis software neither at home nor at school, out of which six stated to have no experience with both audio described films and synthetic speech. Thirteen participants belonging to this group were partially sighted persons.

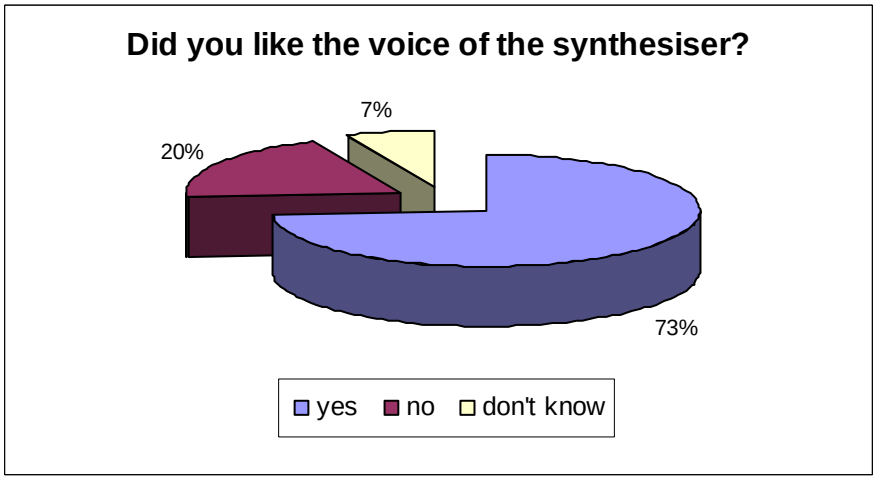

Fig. 7 Participants’ opinions on the synthetic voice used

Finally, respondents were asked whether they would like to watch other episodes of the series. As seen in Figure 8, the vast majority answered: “yes”. Eleven participants were negative about the idea and eight were not sure. Lack of support for the idea of producing AD to the next episodes was mainly expressed by partially sighted persons (almost 73%) and by those who do use a speech synthesiser neither at home nor at school (almost 73% as well).

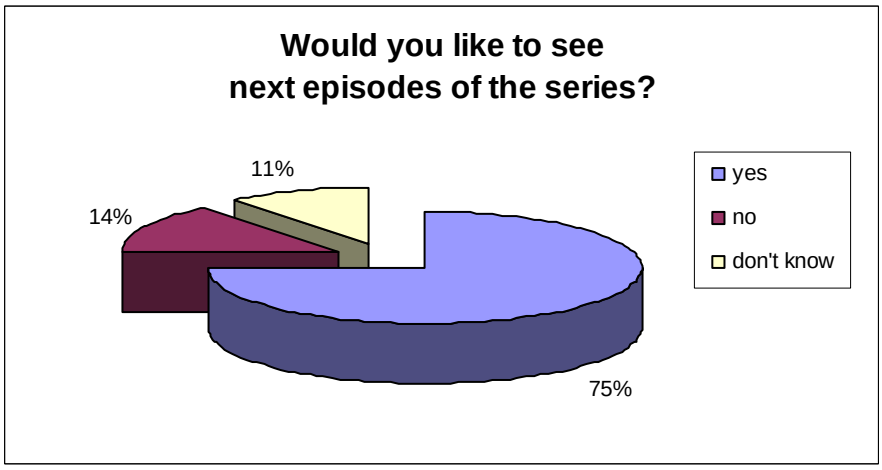

Fig. 8 Participants' eagerness towards watching next episodes of the series

5.5. Discussion

The study aimed to determine how acceptable TTS AD in educational films would be to blind and partially sighted children. The overall findings showed a wide range of opinions among respondents. Some were enthusiastic about the idea, whereas others felt no potential benefits are there to be explored.

It was found that thirty four children (around 45%) had some experience with AD. A large majority of them did not only enjoy the voice (76%), but also wished for the other episodes to be produced (71%). As to the correctness of the answers concerning the content of the film, it amounted to 59% to the question number nine (red blood cells' role) and 41% to the tenth question (white blood cells' function) respectively. In comparison with children for whom this was the first audio described film they have ever seen (51%), the results differed a bit. Although most of them enjoyed the AD voice (around 72%) and provided almost the same answers in terms of correctness as the previous group (59% and 44% regarding questions number nine and ten respectively), only five children (13%) wanted to watch the other episodes of the series.

The acceptability of synthetic speech was one of the major concerns of the research as well. A significant finding of the study was that more than half of the participants (around 57%) have already had some experience in the matter. Those who declared to use the speech synthesiser at home or at school almost unanimously declared that they would like to watch the next episodes of the series (93%). Their views on the synthetic voice employed were also positive – 88% enjoyed it. There were also many who, even unasked,

reported which voices they are using and which are most preferred by them. The majority of children (almost 52%) who earlier stated not to use a speech synthesis software neither at home nor at school were not in favour of the voice reading the AD script. Only seventeen (55%) stated that the next episodes of the series would be of interest to them. As far as the answer correctness is concerned, the responses varied. In the case of text-to-speech system users, proper responses amounted to 60% and 47% to questions nine and ten respectively. The answers of non-text-to-speech users were slightly worse, with 58% and 35% of good answers accordingly to the question about red blood cells and white blood cells.

In view of the above it can be assumed that the respondents' previous experience with synthetic speech could affect its acceptability. Those who have already watched films with AD or used a speech synthesis software had a wider perspective on the issue and were able to make comparisons. They might be more aware of what their expectations were and could be more critical. Those, on the other hand, who have not experienced any audio described audiovisual products mostly enjoyed the film, but their answers concerning the question of AD employed in the material under analysis or the synthetic voice used, might be connected with those issues in a rather general manner as they had no basis to compare them with.

When comparing the group of blind participants (42%) with those who were partially sighted (58%), the answers do not vary much in terms of correctness. In the case of the question on the red blood cells' role, partially sighted viewers performed slightly better than blind children – 59% and 56% of correct responses respectively. When it comes to the question what the function of white blood cells is, the proportion of good answers was opposite – 47% of right responses provided by blind children and 36% by partially sighted children. The results differ here widely in terms of voice acceptance and eagerness to watch the other episodes of the series. The group of blind participants almost unanimously stated that they both liked the voice and were eager to experience the next episodes in the future (91% in both cases). Sighted viewers, on the other hand, were not so keen to watch the series in the future (64%). They did not express so many positive comments on the synthetic voice in comparison with blind respondents. Only twenty seven persons out of forty four (61%) said that enjoyed it. This may be due to the fact that only 39% among these viewers reported to have some experience with text-to-speech system in the past and not many more, because merely 43% of them have watched audio described films before.

As far as teachers' opinions on films with text-to-speech audio description are concerned, the majority stated that it is a good idea, particularly taking into consideration the simplicity of its use. Some teachers commented on such elements as the quality and speed of the reading voice, but this is considered to be a technical issue that could be overcome easily. When asked about the AD script, the feedback was mostly positive. It was perceived as easily comprehensible and helpful in understanding the content of the film. As to the advantages of the audio described films, some teachers emphasized that they are a far more interesting and clear way of providing essential information to visually impaired children, while others said that they could have a motivating function when it comes to learning. Most teachers declared that they have not used films with AD on their lessons, but almost all stated that if such films were available, they would definitely include them into their biology/environment courses.

It is also worth mentioning that the author's intention was for the episodes of the series under analysis to become additional didactic tools to be used in the biology/environment class in schools for blind and partially sighted children. It was meant for them to complement lessons and make them more enjoyable. However, it was not possible for this aim to be fully achieved when conducting the study as the structure of the school education programme is not flexible and it could not be adjusted with the time of the study. Nevertheless, in the case of those participants who have already covered the topic of blood properties and functions during their classes, the film turned out to be an enjoyable and entertaining form of revising and consolidating the issues already known.

It has to be noted that it was quite a challenging task to conduct a study among visually impaired children. First, much attention had to be paid to the proper questionnaire construction. Then, the questionnaire had to be properly distributed as not all of the children were able to answer the questions unaided. It required additional help from teachers or volunteers who agreed to assist the author of the thesis in this part of the study. Another difficulty was the stress factor. Some children might have felt slightly uncomfortable when asked questions by persons they did not actually know. The last matter to be considered is the extent to which the presence of the teacher could affect the children's answers. Since it is highly difficult to measure, it can be only assumed to have a certain influence in this case.

The generally positive results of the study suggest that the service of TTS AD in educational animation films should be developed in the future. Although there is still room for improvement, participants' feedback seems to be the best motivation to undertake such

actions. Among the commentaries elicited when conducting the questionnaire after the screening of the film, the following ones are definitely worth citing here:

> "I'd really like to watch more episodes. Up till now I have watched films without AD. My parents described me the action of the film. But I prefer films with AD."
>
> Boy, 13 years old

> "I liked the voice and the series is really interesting. If there were more episodes, I would definitely like to watch them."
>
> Girl, 14 years old

> "I want to watch the next episodes, because thanks to them I can better understand what is going on in my body and that is very interesting to me."
>
> Girl, 15 years old

Some of the commentaries related to the technical aspects of the film, while others touched upon the question of descriptions. All of them are worth remembering and should be definitely taken into consideration when preparing AD for the other episodes in the future.

> "I liked the film very much. There wasn't a single thing I didn't like. The quality could be worked on in the future. But technology progresses so it won't be a problem."
>
> Boy, 16 years old

> "I'm very happy that there are films with AD. I think this one was faultless. If I didn't know this was a synthesiser, I would think a real person was reading the text. In general, good and clear AD."
>
> Girl, 13 years old

> "Descriptions at the beginning were great!"
>
> Girl, 14 years old

> “I liked the film. Descriptions were very interesting.”
>
> Girl, 15 years old

Although the study was conducted in different locations on a relatively big research sample (76 respondents), its results may not be representative of an overall population of blind and partially sighted children. Undoubtedly, the findings of the study show an immense potential for text-to-speech audio description, but the need for further research still remains.

Conclusions

The chief focus of the thesis was to examine text-to-speech audio description in educational animation series aimed at visually impaired children. The subject was introduced successively, starting with theoretical issues which might be of assistance for the audio describers in the process of producing AD script. It was followed by detailed characteristics of the phenomenon of audiovisual translations. Then, the question of audio description was brought up, the research study methodology was presented, and finally the analysis of the audiovisual material employed for the sake of the study was discussed.

Overall, the task can be deemed as rather demanding in nature. As far as audio description for children is concerned, it required a lot of sensitivity and creativity on the part of the audio describer. Bearing in mind the differences in the age as well as background of the youngest viewers, particular care was needed, especially when it comes to the language features, text structure as well as pace of reading the script. There were also certain difficulties to be faced due to the specificity of the medium employed in order to deliver the descriptions. Some of them related to technical aspects of the synthesiser, whilst other stemmed from the issues regarding the use of terminology or grammar and pronunciation rules. At a certain point, it turned out that a medical consultation is indispensable in order to complete the task properly as sometimes the abundance of complex processes touched upon by the film was quite a challenge to describe.

In general, the results of the study appear to be quite promising. The overall findings confirm the assumption that animation series under analysis have the potential of becoming an educational tool for blind and partially sighted children. Since the majority of participants reported to gain new information after the screening of the film, which was the intention involved herein, it is suggested that the series could complement the courses of biology/environment classes, thus making the lessons more enjoyable. Although the responses on the use of speech synthesis software to read the AD script were varied, with some negative commentaries on the speed rate and voice intelligibility, a large majority of participants enjoyed the voice employed and expressed their wish to watch other episodes of the series. Furthermore, not only learners, but also teachers were enthusiastic about this initiative and its innovativeness.

This experience is thought to open up not only a new accessibility avenue of university research, but also a possible accessibility mode that has a potential to be

implemented on a wider scale. It may result to be a much cheaper and time effective alternative to traditional audio description provided by human voices. If TTS AD service is to be used at schools for children with vision impairments, such issues as the adjustment of the sound volume, intonation and pace of delivery are to be worked on in the future. Although the study sample was quite substantial, further research on the issue is still needed. For instance, it would be interesting to conduct the study aimed at examining the reactions towards TTS AD in educational programmes of both sighted and visually impaired users and check whether similar patterns can be observed.

Taking everything into consideration, it can be stated that the area of AVT is definitely one of the branches of Translation Studies which has received the greatest impetus in the last two decades. The move from analogue to digital technology exerted a certain influence on the way we consume audiovisual programmes nowadays. New modes of translation are emerging and recent developments show that the needs of not only sighted users, but also of the minority social groups, such as the deaf and the blind are increasingly being catered for. Within the framework of accessibility, one of the fastest growing areas is audio description. This service has been present in our lives for many years now but it was in the last decade that it has undergone a significant progress.

Nowadays, blind and partially sighted persons can access information in many different ways. Some of them use modified print materials, others use Braille. There is also a possibility of using audio information being usually recorded or delivered by another person who reads it out loud (Cryer and Home 2008: 5). But technological progress has led to an alternative – synthetic speech. A wide range of its applications, being it "leisure devices" or "devices which support independent leaving" (ibidem), highlights the benefits of synthetic speech for the population with vision impairments. Luckily, with the technological changes on the horizon, there is a high possibility that the quality of synthetic voices will improve and become almost natural sounding. It is hoped that the findings of this thesis will contribute to future research concerning the use of audio description in combination with synthetic speech by blind and partially sighted people, and particularly by visually impaired children.

Streszczenie

Niniejsza praca poświęcona jest zagadnieniu tworzenia audiodeskrypcji (AD) dla dzieci z użyciem systemu syntezy mowy. Celem pracy było przybliżenie problematyki opracowywania audiodeskrypcji do animowanego filmu edukacyjnego pt. *Było sobie życie*, zbadanie jej przydatności w odniesieniu do najmłodszych widzów oraz sprawdzenie, czy zastosowanie syntezatora mowy ma w tym przypadku szansę powodzenia. Analiza wyników przeprowadzonego badania miała odpowiedzieć na pytanie, w jakim stopniu nowoczesna metoda czytania skryptu AD jest akceptowana przez dzieci i czy tego typu programy mogłyby w przyszłości być wykorzystywane jako narzędzie wspomagające proces edukacji w szkołach dla niewidomych i słabowidzących uczniów.

Tłumaczenie audiowizualne jest stosunkowo nową dziedziną przekładu, jednak z roku na rok cieszy się coraz większym zainteresowaniem zarówno w świecie akademickim, jak i w gronie praktyków. Liczba monografii poświęconych tej gałęzi przekładu rośnie wręcz lawinowo. Pojawiają się czasopisma i podręczniki w całości dedykowane tej tematyce. Nie tylko za granicą, ale również w Polsce organizowane są konferencje dotyczące rozmaitych aspektów tłumaczenia audiowizualnego, powstają liczne ośrodki kształcące tłumaczy o specjalizacji medialnej. Stosunkowo dynamiczne zmiany zachodzą również w kwestii dostępności produktów audiowizualnych. Szybki rozwój technologii postawił w tym względzie nowe wyzwania, ale otworzył również nowe możliwości. Dzięki licznym inicjatywom i stopniowo wprowadzanym przepisom, zakres usług audiowizualnych dla osób niewidomych i niesłyszących znacznie się poszerzył. Jednak jedynie nieliczne spośród prowadzonych dotąd badań koncentrowały się na potrzebach osób należących do tych właśnie grup społecznych. W przypadku najmłodszych użytkowników produktów audiowizualnych liczba takich badań, szczególnie na gruncie rodzimym, jest w zasadzie znikoma. Mając powyższe na uwadze, tym bardziej aktualny staje się problem podjęcia określonych działań w tym kierunku, co zostało zaznaczone we wstępie niniejszej pracy.

Praca składa się z części teoretycznej i praktycznej. Rozdział pierwszy stanowi ujęcie koncepcji z zakresu teorii przekładu, które mogłyby stanowić punkt odniesienia dla autorów audiodeskrypcji przy tworzeniu skryptu AD. Wcześniej jednak autorka stara się wyjaśnić prawdopodobne przyczyny braku wcześniejszego zainteresowania przekładem audiowizualnym, zwracając uwagę na jego złożony charakter oraz kwestię dylematu co do

tego, czy może on być uznany za tłumaczenie samo w sobie. Wychodząc z założenia, że potrzebne jest spojrzenie na przekład z nieco szerszej perspektywy, pozwalającej objąć nowe zjawiska, autorka sugeruje uznanie przekładu audiowizualnego za odmianą przekładu jako takiego, a nie za dziedzinę odrębną. Jako możliwe uzasadnienie przytoczona jest klasyfikacja tłumaczenia według Romana Jakobsona. Kolejne podrozdziały zawierają krótkie omówienie wybranych koncepcji z zakresu translatoryki. Na początku autorka koncentruje się na pojęciu ekwiwalencji, nad którym pracowali m.in. Eugene Nida, John C. Catford i Mona Baker, potem omawia Teorię Relewancji Dana Sperbera i Dierdre Wilson oraz jej zastosowanie do przekładu proponowane przez Ernsta-Augusta Gutta, a następnie przechodzi do dyskusji nad normami w tłumaczeniu opisywanymi przez Gideona Toury'ego, Theo Hermansa oraz Andrew Chestermana. Obok każdej koncepcji zaznaczone jest jej możliwe zastosowanie w kontekście tłumaczenia audiowizualnego.

W rozdziale drugim przedstawiona została specyfika przekładu audiowizualnego. Zaczynając od ogólnej charakterystyki, poprzez dylematy związane z ustaleniem jednolitej nazwy tej energicznie rozwijającej się dyscypliny, krótkie omówienie jej wymiaru semiotycznego i typowych dla niej kanałów komunikacji, autorka przechodzi do podziału krajów ze względu na dominujący w każdym z nich rodzaj tłumaczenia audiowizualnego. W dalszej części rozdziału zaprezentowane zostały najważniejsze rodzaje przekładu audiowizualnego z podziałem na dwie grupy. Pierwsza obejmuje napisy, dubbing i wersję lektorską. Do drugiej zaliczone zostało tłumaczenie w języku migowym, napisy dla niesłyszących, audiodeskrypcja dla niewidomych i słabowidzących oraz nowatorska technika polegająca na głośnym odczytywaniu napisów (ang. *audio subtitling*).

Rozdział trzeci został w całości poświęcony zagadnieniu audiodeskrypcji. Na początku przedstawiono ogólną charakterystykę tego rodzaju tłumaczenia z uwzględnieniem jego potencjalnych użytkowników. Szczególną uwagę zwrócono na najmłodszych widzów. Następnie opisane zostały programy, w których przypadku możliwe jest tworzenie audiodeskrypcji. W rozdziale omówiono również kompetencje twórców audiodeskrypcji. Na zakończenie zaprezentowano krótki zarys historyczny zagadnienia oraz jego obecny status w Polsce i na świecie. Niniejszy rozdział zamyka przegląd tradycyjnych i eksperymentalnych technik tworzenia audiodeskrypcji.

Kolejny, czwarty rozdział dotyczy metodologii. Autorka zauważa, że obecnie trwa dyskusja na temat dostępności przekładu audiowizualnego dla osób z dysfunkcjami słuchu i wzroku. Z uwagi na fakt, że przekład ten jest coraz bardziej zaangażowany społecznie,

pojawiło się nowe podejście do badań zwane *Action Research*, którego celem jest zjednoczenie teorii i praktyki na drodze w poszukiwaniu praktycznych rozwiązań w sprawach dotyczących społeczeństwa. Owe podejście było punktem wyjścia w przypadku przeprowadzanego na potrzeby niniejszej pracy badania. Następnie przedstawiony został katalog zaleceń i porad dotyczących zasad tworzenia tekstu audiodeskrypcji, ze szczególnym uwzględnieniem programów przeznaczonych dla dzieci. Na zakończenie szczegółowo omówiono cechy audiodeskrypcji z syntezą mowy, zilustrowano sposób jej tworzenia, a także opisano zalety i wady wynikające z jej stosowania.

W rozdziale piątym zawarta została analiza zastosowania audiodeskrypcji z syntezą mowy w animowanym filmie edukacyjnym dla dzieci pt. *Było sobie życie*. Na początku omówiono specyfikę programu poddawanego analizie. Następnie wymienione zostały trudności napotkane przy pisaniu skryptu AD. Przedstawiono szereg przykładów stanowiących ilustrację rozważań mających miejsce przy tworzeniu audiodeskrypcji na potrzeby wyżej wymienionego programu. Dalsza część rozdziału obejmuje opis badania, jego uczestników oraz materiałów użytych do jego przeprowadzenia. Po nim następuje prezentacja wyników oraz dyskusja.

We wnioskach końcowych wysnutych na podstawie dokonanej analizy materiału audiowizualnego stwierdzono, że istnieje szansa na to, aby tego typu programy stanowiły dodatkowe narzędzie wykorzystywane w procesie edukacji dzieci z dysfunkcją wzroku. Reakcje i wypowiedzi uczestników badania odnośnie do przeprowadzonego pokazu zdają się potwierdzać to zamierzenie. Użycie systemu syntezy mowy jako potencjalnej metody czytania skryptu AD spotkało się z akceptacją ze strony większości dzieci. Wyniki badania sugerują, że wcześniejsze doświadczenia z głosami syntetycznymi, a także programami zaopatrzonymi w audiodeskrypcję, mogły mieć wpływ na poziom akceptacji analizowanego filmu przez widzów. Mimo komentarzy odnośnie do jakości dźwięku i głosu użytego w audiodeskrypcji, większość uczestników badania wyraziła chęć udziału w pokazach kolejnych odcinków z serii *Było sobie życie*.

Summary

The thesis is concerned with the question of audio description (AD) for blind and partially sighted children. The chief objective of the thesis is to examine text-to-speech audio description (TTS AD) in educational animation series *Once Upon a Time… Life* aimed at young viewers with vision impairments. The author concentrates on the issues concerning AD preparation to this type of programmes, its applicability on biology/environment classes at schools for visually impaired learners as well as its acceptance among young users when read by speech synthesis software.

The thesis consists of six Chapters, Introduction and Conclusions. The Introduction contains a brief account of recent developments in the area of audiovisual translations (AVT) with special emphasis on the question of accessibility. Subsequently, it indicates which issues within this framework still remain to be addressed. It points out that the research concerning the reception of AD service by the group of blind and visually impaired children, especially when it comes to educational programmes, is particularly lacking, and underlines the need for studies to be conducted in this direction.

Chapter 1 pertains to theoretical issues which could serve as a very valuable basis when researching the field of AVT. Firstly, the notion of equivalence studied by Eugene Nida, John C. Catford and Mona Baker is discussed. Secondly, the concept of Relevance Theory developed by Dan Sperber and Deirdre Wilson and applied to Translation Studies by Ernst-August Gutt is presented. Then the notion of norms in translation discussed by Gideon Toury, Theo Hermans or Andrew Chesterman is described. Each of the concepts is briefly overviewed and their possible applications for research in AVT are indicated.

Chapter 2 expands on the characteristics of audiovisual translation. First, the nature of AVT is discussed, with special attention towards the name of the discipline, communication channels present therein as well as national preferences according to AVT type. Then, the catalogue of existing AVT modes is presented. They are subdivided into major and emerging modes. Subtitling, dubbing and voice over belong to the former group, whilst the latter includes such modes as sign language interpreting, subtitling for the deaf and hard of hearing, audio description for the blind and partially sighted and audio subtitling. The author provides essential information in the case of every mode together with its advantages and disadvantages.

Chapter 3 takes a closer look on the question of audio description. It sets out from the nature of AD, discussing in detail its qualities and characterizing its potential users, namely adult and young viewers. Subsequently, programmes suitable for AD are overviewed. Then, the qualities of audio describers along with their trainings accessibility are presented and developments in the field of AD are summarized. Finally, the situation of AD in Poland is described. Discussion concerning the types of AD, both traditional and experimental ones, closes the Chapter.

Chapter 4 presents the methodology to the undertaken research study. It begins with the information on Action Research (AR) being a new approach towards researching translations and the one to be used for the purposes of the thesis. Then, guidelines for AD creation are examined. Emphasis is laid on those guidelines which could be of use when preparing children's programmes. Lastly, the author looks at the question of TTS AD, describing the process of its production as well as its benefits and downsides. The Chapter ends with a brief account of previous studies concerning synthetic speech.

Chapter 5 is the analysis of TTS AD in educational animation series for visually impaired children. Specific features of the programme were firstly presented. Next, the difficulties encountered in the process of TTS AD creation were illustrated. Among them such matters as the use of terminology, AD structure, pronunciation and grammar issues, the question of intonation and punctuation or the selection of appropriate synthetic voice to read the AD script were enumerated. What followed was the presentation of the research study, namely its objectives, procedure, participants and materials. Finally, the results and discussion were provided.

In-depth examination of the study results led the author to the conclusion that the animation series under analysis have the potential of becoming an educational tool for visually impaired children. The feedback provided by the study participants showed that more than half of them reported on the educational value of the film and expressed positive opinions on the use of text-to-speech software. It was found that previous exposure both to audio described films as well as synthetic speech could affect the acceptability of the programme under analysis. Despite some comments on the poor sound quality of the voice which sometimes lead to comprehension difficulties, the majority of participants opted for future screenings of this kind of films.

Резюме

Настоящая работа посвящена проблеме тифлоперевода (англ. *audio description*) для детей с использованием синтезатора речи. Основная цель работы состояла в том, чтобы подробно описать методику и способ подготовки тифлоперевода на примере обучающего мультипликационного фильма *Жила-была жизнь* (англ. *Once Upon a Time… Life*), исследовать, в какой степени может он пригодиться незрячим и слабовидящим детям, и проверить, возможно ли примениение системы синтеза речи для чтения текста тифлоперевода в случае такого типа программ.

Работа состоит из введения, пяти глав и заключения. Во введении автор отмечает, что в последние годы интерес к аудиовизуальному переводу значительно возрос. Пишутся монографии на эту тему, организуются конференции. Курсы для переводчиков аудиовизуальных текстов теперь более доступны не только во всей Европе, но и в Польше. В настоящее время довольно динамичные изменения проходят также в сфере доступности (анг. *accessibility*) аудиовизуальных продуктов для людей с дефектами зрения и слуха. Модернизация и быстрый прогресс в области технологий привели к появлению новых вызовов, но и многих возможностей. Благодаря многочисленным инициативам спектр аудиовизуальных услуг, предназначенных для людей с нарушениями слуха и зрения, постоянно растет. К сожалению, только некоторые из проведенных до сих пор исследований посвящены интересам людей, принадлежащим именно к этим группам. Еще меньше внимания уделяют исследователи вопросу незрячих и слабовидящих детей, которые также должны иметь возможность увидеть фильмы в полной мере такими, какими их задумали создатели. Ввиду вышесказанного, тема этой работы становится все более актуальной, что и подчеркивается во введении.

Первая глава работы представляет собой просмотр разных теоретических концепций, которые могли бы использоваться как точка отсчета для тифлокомментаторов при подготовке тифлокомментариев. Сначала автор излагает понятие эквивалентности, которым занимались, среди других, Ю. Найда, Д. Кэтфорд и М. Бейкер. Затем рассматривается теория релевантности Д. Спербера и Д. Вильсон. Особое внимание уделяется также основанной на этой теории

концепции Э.-А. Гутта. Кроме того, затрагивается вопрос норм в переводе, обсуждаемых Г. Тури, Т. Хермансом и Э. Честерманом.

Вторая глава работы посвящена особенностям аудиовизуального перевода. В начале главы представлена общая характеристика этой дисциплины. Автор обращает внимание на различие в ее названиях, отмечает важность присутствующих в ней разных коммуникационных каналов, а затем дает обзор аудиопереводческих предпочтений в разных европейских странах. В дальнейшем автор кратко описывает разные виды аудиовизуального перевода, разделяя их на две группы. Первая группа включает в себя субтитры, дублирование и закадровый перевод. Ко второй группе принадлежат сурдоперевод (англ. *sign language interpreting*), субтитры для глухих и слабослышащих (англ. *subtitles for the deaf and hard of hearing*), тифлоперевод для незрячих и слабовидящих (англ. *audio description for the blind and partially sighted*) и аудиосубтитры (англ. *audio subtitling*).

В центре внимания третьей главы находится вопрос тифлоперевода. Сначала дается его характеристика вместе с описанием его потенциальных потребителей. Особое внимание уделяется молодым незрячим и слабовидящим зрителям. Затем автор останавливается на проблеме подготовки тифлокомментариев для отдельных аудиовизуальных программ, описывает качества тифлокомментаторов и центры, в которых они могут получить требуемое обучение. Наряду с этим в главе представлены краткая история тифлоперевода и его статус в Польше и за рубежом. В заключение данной главы автор освещает вопрос о традиционном и экспериментальном типах тифлоперевода.

Четвертая глава касается методологии. В начале главы автор кратко характеризует новый подход к проведению исследований, называемый *Action Research*. Затем следует обзор советов и рекомендаций, которые могут применяться при подготовке тифлокомментариев. Автор останавливается особенно на проблеме подготовки программ, предназначенных для детей с ограничением зрения. Наконец перечисляются отличительные черты тифлоперевода с синтезом речи, описывается способ его разработки, а также его возможности и ограничения.

Пятая глава представляет собой анализ тифлоперевода с синтезом речи на примере обучающего мультипликационного фильма *Жила-была жизнь*. Сначала дается краткая характеристика фильма вместе с перечислением проблем, касающихся подготовки его текстового описания. Затем представлено исследование, далее его участники и материалы, а, наконец, результаты и обсуждение.

На основе проведенного исследования автор сделал выводы, согласно которым существует возможность успешного применения программ такого типа в качестве дополнительных инструментов, которые могут быть использованы в процессе обучения детей с дефектами зрения. Реакции и высказывания участников исследования подтверждают познавательный и развивающий характер проанализированного фильма. Большинство из них одобрило примененный для чтения тифлоперевода движок синтеза речи. Кроме того, результаты исследования показывают, что ранний опыт с использованием синтезаторов речи или программ, сопровождаемых тифлопереводом, мог оказать влияние на уровень одобрения анализированного фильма детьми. Хотя после просмотра появились некоторые комментарии относительно произношения, интонации или тембра голоса синтезатора, большинство детей сказали, что в будущем они хотели бы познакомиться со следующими сериями фильма *Жила-была жизнь*.

References

Audio Description Coalition (2006) *A Brief History of Audio Description in the U.S.* Available at: http://www.audiodescriptioncoalition.org/briefhistory.htm [Retrieved on 1 February 2010]

Audio Description International (ADI) (2002) *Guidelines for audio description*. Available at: http://www.acb.org/adp/guidelines.html [Retrieved on 1 February 2010]

Baker, M. (1992) *In Other Words: A Coursebook on Translation*. London and New York: Routledge.

Baker, M. and B. Hochel (1998) "Dubbing". In: M. Baker (ed.) *Routledge Encyclopedia of Translation Studies.* London and New York: Routledge, pp. 74-76.

Belczyk, A. (2007) *Tłumaczenie filmów*. Wilkowice: Wydawnictwo dla Szkoły.

Bogucki, Ł. (2004) *A Relevance Framework for Constraints on Cinema Subtitling*. Łódź: Wydawnictwo Uniwersytetu Łódzkiego.

Braun, S. and P. Orero (2009) "Audio description with Audiosubtitling: an emergent modality of audiovisual localisation". Advanced Research Seminar on Audio Description, Barcelona, June 2009.

Catford, J. C. (1965) *A Linguistic Theory of Translation.* London: Oxford University Press.

Chaume-Varela, F. (2006) "Dubbing". In: K. Brown (ed.) *Encyclopedia of Language and Linguistics*, 2nd edition. Oxford: Elsevier, pp. 6-8.

Chesterman, A. (1997) *Memes of Translation: The Spread of Ideas in Translation Theory*. Amsterdam/Philadelphia: John Benjamins.

Clark, J. G. (1981) "Uses and abuses of hearing loss classification". *ASHA*, 23, 493-500.

Cravo, A. and J. Neves (2007) "Action Research in Translation Studies". *Journal of Specialised Translation* 7, 92-107.

Cryer, H. and S. Home (2008) “Exploring the use of synthetic speech by blind and partially sighted people”. RNIB Centre for Accessible Information, Birmingham: Literature review #2.

Cryer, H. and S. Home (2009) “User attitudes towards synthetic speech for Talking Books”. RNIB Centre for Accessible Information, Birmingham: Research report #7.

Dąmbska-Prokop, U. (2000) *Mała encyklopedia przekładoznawstwa*. Częstochowa: Educator.

Derrida, J. (2001) “What Is a ‘Relevant’ Translation?”. *Critical Inquiry,* Vol. 27, No. 2 (Winter, 2001), 174-200.

Díaz Cintas, J. (2003) “Audiovisual translation in the third millennium”. In: G. Anderman and M. Rogers (eds) *Translation Today: Trends and Perspectives.* Clevedon: Mutlilingual Matters Ltd, pp. 192-204.

Díaz Cintas, J. (2004) “Subtitling: the long journey to academic acknowledgement”. *The Journal of Specialised Translation.* Vol. 1, 50-68.

Díaz Cintas, J. (2005) “Audiovisual Translation Today. A Question of Accessibility for All”. *Translating Today Magazine*, Issue 4, July 2005, 3-5.

Díaz Cintas, J. (2009) “Introduction – Audiovisual Translation: An overview of its potential”. In: J. Díaz Cintas (ed.) *New Trends in Audiovisual Translation.* Bristol: Multilingual Matters, pp. 1-18.

Díaz Cintas, J. and P. Orero (2006) “Voice-Over”. In: K. Brown (ed.) *Encyclopedia of Language and Linguistics*, 2nd edition. Oxford: Elsevier, pp. 477-479.

Díaz Cintas, J. and G. Anderman (2009) “The Wealth and Scope of Audiovisual Translation”. In: J. Díaz Cintas and G. Anderman (eds) *Audiovisual Translation: Language Transfer on Screen*. Basingstoke: Palgrave Macmillan, pp. 1-17.

Dries, J. (1995) “Breaking Eastern European Barriers”. *Sequentia*, Vol. II, No. 4, June/July/August 95, 6.

Fodor, I. (1976) *Film dubbing: phonetic, semiotic, esthetic and psychological aspects*. Hamburg: Helmut Buske.

Freitas, D. and G. Kouroupetroglou (2008) “Speech technologies for blind and low vision persons”. *Technology and Disability* 20, 135-156.

Gambier, Y. (1995) “Forms of Linguistic Transfer”. *Sequentia*, Vol. II, No. 4, June/July/August 95, 5.

Gambier, Y. (2003) “Screen Transadaptation: Perception and Reception”. *The Translator*, Vol. 9, No. 2, 171-189.

Gambier, Y. (2006) “Subtitling”. In: K. Brown (ed.) *Encyclopedia of Language and Linguistics*, 2nd edition. Oxford: Elsevier, pp. 258-263.

Georgakopoulou, Y. (2009) “Developing audio description in Greece”. *MutliLingual*, December 2009, 38-42.

Glaser, G. (1991) “Why Marilyn Monroe Is a Polish Baritone”. *New York Times* dated 24 February 1991. Available at: http://www.nytimes.com/1991/02/24/movies/film-why-marilyn-monroe-is-a-polish-baritone.html?pagewanted=1 [Retrieved on 18 January 2010]

Gottlieb, H. (1998) “Subtitling”. In: M. Baker (ed.) *Routledge Encyclopedia of Translation Studies.* London and New York: Routledge, pp. 244-248.

Gottlieb, H. (2005) *Multidimensional Translation: Semantics turned Semiotics*. MuTra 2005 *Challenges of Multidimensional Translation: Conference Proceedings*. Copenhagen, pp. 1-29.

Grochowska, M. (2004) “Po co nam dubbing”. *Kino*, September 2004 No. 9/448. Available at: http://film.onet.pl/0,0,1188762,1,600,artykul.html [Retrieved on 18 January 2010]

Gutt, E.-A. (1991) *Translation and Relevance: Cognition and Context.* London: Basil Blackwell.

Hermans, T. (1991) “Translational norms and correct translations”. In: K. M. van Leuven-Zwart and T. Naaijkens (eds) *Translation Studies: The State of the Art*. Amsterdam: Rodopi, pp. 155–169.

Hernández-Bartolomé, A. I. and G. Mendiluce Cabrera (2004) "Audesc: Translating Images into Words for Spanish Visually Impaired People". *Meta*, Vol. 49, No. 2, 264-277.

Hjelmquist, E., Jansson, B., and G. Torell (1990) "Computer-oriented technology for blind readers". *Journal of Visual Impairment and Blindness* 17, 210-215.

Isham, W. P. (1998) "Signed Language Interpreting". In: M. Baker (ed.) *Routledge Encyclopedia of Translation Studies*. London and New York: Routledge, pp. 231-235.

ITC (2000) *Guidance On Standards for Audio Description.* Available at: http://www.itc.org.uk/ [Retrieved on 1 February 2010]

Ivarsson, J. and M. Carroll (1998) "Code of Good Subtitling Practice". *ESIST*. Available at: http://www.esist.org/Code.pdf [Retrieved on 18 January 2010]

Jakobson, R. (2000 [1959]) "On linguistic aspects of translation". In: L. Venuti (ed.) *The Translation Studies Reader*. London and New York: Routledge, pp. 113-118.

Jankowska, A. (2009) "Audiodeskrypcja – wzniosły cel w tłumaczeniu". *Między Oryginałem a Przekładem*. Kraków: Księgarnia Akademicka, 225-246.

Karamitroglou, F. (1998) "A Proposed Set of Subtitling Standards in Europe". *Translation Journa*l, Vol. 2, No. 2. Available at: http://accurapid.com/Journal/04stndrd.htm [Retrieved on 18 January 2010]

Krzyżaniak, W. (2008) "Głosy z ekranu". *Gazeta Telewizyjna. Dodatek do Gazety Wyborczej* dated 11 January 2008. Available at: http://www.dubbing.fora.pl/artykuly,23/glosy-z-ekranu,320.html [Retrieved on 18 January 2010]

Künstler, I. (2008) "Napisy dla niesłyszących – problemy i wyzwania". *Przekładaniec*, Vol. 20, 115-124.

Llisteri, J., Fernàndez, N., Gudayol, F., Poyatos, J., and J. Martí (1993) "Testing users' acceptance of Ciber232, a test to speech system used by blind people". In: B. Granström, S. Hunnicutt and K. E. Spense (eds) *Speech and Language Technology for Disabled Persons. Proceeding of an ESCA Workshop, Stockholm, Sweden*, pp. 203-206.

Loomis, J. M., Martson, J. R., Golledge, R. G. and R. L. Klatzy (2005) "Personal guidance system for people with visual impairment: a comparison of spatial displays for route guidance". *Journal of Visual Impairment and Blindness* 99 (4), 219-232.

López Vera, J. F. (2006) *Translating Audio description Scripts: The Way Forward? – Tentative First Stage Project Results.* MuTra 2006 *Audio Visual Translation Scenarios: Conference Proceedings*. Copenhagen, pp. 1-10.

Miernik, P. (2008) "I kto to mówi po polsku?". Portal Polskiego Radia. Available at: http://www.polskieradio.pl/kultura/zblizenia/artykul38542.html [Retrieved on 18 January 2010]

Neves, J. (2008) "10 fallacies about Subtitling for the d/Deaf and the hard of hearing". *Journal of Specialised Translation*, Issue 10, July 2008, 128-143.

Nida, E. A. (1964) *Toward a Science of Translating.* Leiden: E. J.Brill.

O'Connell, E. (2007) "Screen translation". In: P. Kuhiwczak and K. Littau (eds) *A Companion to Translation Studies*. Clevedon: Multilingual Matters, pp. 120-133.

Ofcom (2008) *Code on Television Access Services*. Available at: http://www.ofcom.org.uk/tv /ifi/codes/ctas/ctas.pdf [Retrieved on 10 February 2010]

Orero, P. (2004) "Introduction: Audiovisual translation: A new dynamic umbrella". In: Pilar Orero (ed.) *Topics in Audiovisual Translation,* Amsterdam/Philadelphia: Benjamins, pp. 7-13.

Orero, P. (2007a) "Audiosubtitling: A Possible Solution for Opera Accessibility in Catalonia". In: E. P. C. Franco and V. Santiago Araújo (eds) *TradTerm (Revista do Centro Interdepartamental de Tradução e Terminologia),* Vol. 13. São Paulo: Humanitas (FFLCH-USP), 135-149.

Orero, P. (2007b) "Sampling audio description in Europe". In: J. Díaz Cintas, P. Orero and A. Remael (eds) *Media for All. Subtitling for the Deaf, Audio Description, and Sign Language.* Amsterdam/New York: NY, pp. 111-125.

Papadopoulos, K., Koutsoklenis, A., Katemidou, E. and A. Okalidou (2009) "Perception of Synthetic and Natural Speech by Adults with Visual Impairments". *Journal of Visual Impairment and Blindness* 103 (7), 403-414.

Pasternak, K. (2007) “Mówienie o kolorach”. *Przekrój* 48/3258, dated 29 November 2007. Available at: http://polki.pl/kultura_filmy_artykul,10007014.html [Retrieved on 1 February 2010]

Pearson, R. and E. J. Evans (2009) “Boxed Out: Visually Impaired Audiences, Audio Description and the Cultural Value of the Television Image”. *Perceptions: Journal of Audience and Reception Studies*, Vol. 6, Issue 2, 373-402.

Pérez González, L. (2008) “Audiovisual translation”. In: M. Baker and G. Saldanha (eds) *Routledge Encyclopedia of Translation Studies*, 2nd edition. London and New York: Routledge, pp. 13-20.

Pieńkos, J. (1993) *Przekład i tłumacz we współczesnym świecie*. Warszawa: PWN.

Reason, P. and H. Bradbury (2001) *Handbook of Action Research – participative inquiry and practice*. London: Sage.

Romero-Fresco, P. (2009) “More Haste Less Speed: Edited versus Verbatim Respoken Subtitles”. *Vigo International Journal of Applied Linguistics (VIAL).* No. 6/2009, 109-133.

Royal National Institute for the Blind (RNIB) (2006) *Audio description for children*. Available at: www.rnib.org.uk [Retrieved on 1 February 2010]

Słownik poprawnej polszczyzny PWN (2006), A. Markowski (ed.), Warszawa: Wydawnictwo Naukowe PWN, p. 720.

Snyder, J. (2004) “Audio Description: Access for All”. *A bimonthly web-zine of international disability news and views*, Issue No. 25, September-November. Available at: http://www.disabilityworld.org/09-11_04/access/audio.shtml [Retrieved on 1 February 2010]

Snyder, J. (2008) “Audio description: The visual made verbal”. In: J. Díaz Cintas (ed.) *The Didactics of Audiovisual Translation*. Amsterdam/Philadelphia: John Benjamins, pp. 191–198.

Sperber, D. and D. Wilson (1995) *Relevance: Communication and Cognition*, 2nd edition. Oxford: Blackwell.

Subbotko, D. (2008) “Kapitulacja BBC Prime”. *Gazeta Wyborcza* dated 11 January 2008. Available at: http://wiadomosci.nieslyszacy.pl/info,1450.html [Retrieved on 18 January 2010]

Szarkowska, A. (2005a) “The Power of Film Translation”. *Translation Journal*, Vol. 9, No. 2. Available at: http://accurapid.com/journal/32film.htm [Retrieved on 18 January 2010]

Szarkowska, A. (2005b) “What is relevant in audiovisual translation?”. In: A. Korzeniowska and M. Grzegorzewska (eds) *Relevance Studies in Poland*, Vol. 2. Instytut Anglistyki UW, pp. 233-245.

Szarkowska, A. (2008a) “Przekład audiowizualny w Polsce – perspektywy i wyzwania”. *Przekładaniec*, Vol. 20, 8-25.

Szarkowska, A. (2008b) “Audiodeskryberem być – wywiad z Krzysztofem Szubzdą”. *Przekładaniec*, Vol. 20, 131-135.

Szarkowska, A. (2008c) “Audiodeskrypcja oczami niewidomych”. *Przekładaniec*, Vol. 20, 125-130.

Szarkowska, A. (2009) “The Audiovisual Landscape in Poland at the Dawn of the 21st Century”. In: A. Goldstein, B. Golubowić (eds) *Foreign Language Movies - Dubbing vs. Subtitling.* Hamburg: Kovač, pp. 186-201.

Szarkowska, A. (forthcoming) “Text-to-speech audio description. Towards wider availability of AD”. Accepted for publication in *Journal of Specialised Translation*.

Theunisz, M. (2002) “Audio subtitling: a new service in the Netherlands making subtitled programmes accessible”. Available at: http://www.sb-belang.nl [Retrieved on 18 January 2010]

Thompson, L., Reeves, C., and K. Masters (1999) “In the balance: making financial information accessible”. *British Journal of Visual Impairment* 17 (2), 65-70.

Tomaszkiewicz, T. (2006) *Przekład audiowizualny*. Warszawa: PWN.

Toury, G. (1995) *Descriptive Translation Studies and Beyond*. Amsterdam-Philadelphia: John Benjamins.

Tye-Murray, N. (2008) *Foundations of Aural Rehabilitation: Children, Adults, and Their Family Members*, 3rd edition. Delmar Cengage Learning.

Uczyńska, A. (2007) "Języki ciszy. Czego nie wiemy o głuchych?". Internet portal *Nauka w Polsce*, PAP. Available at: http://www.dzieci.org.pl/sdsinew/news/news.php?subaction=showfull&id=1166512062&archive=1231362113&start_from=&ucat=5&do=archives&alone [Retrieved on 1 February 2010]

Vercauteren, G. (2007) "Towards a European guideline for audio description". In: J. Díaz Cintas, P. Orero and A. Remael (eds) *Media for All. Subtitling for the Deaf, Audio Description, and Sign Language.* Amsterdam/New York: NY, pp. 139-149.

Woźniak, O. (2008) "Głusi swój język mają". *Gazeta Wyborcza* dated 5 April 2008. Available at: http://www.logopedia.net.pl/artykuly/166/glusi-swoj-jezyk-maja.html [Retrieved on 18 January 2010]

Appendices

Appendix No. 1: Introduction to the film

Za chwilę obejrzysz film pod tytułem „Krew", z serii „Było sobie życie".

Bohaterowie tego filmu zabiorą Cię w ciekawą i pełną przygód podróż po wnętrzu Twojego organizmu. W filmie pojawią się najważniejsze składniki krfi, czyli czerwone krfinki, białe krfinki i płytki krfi, a także ich przyjaciele oraz wrogowie. Zanim obejrzysz film, posłuchaj opowieści o tym, jak wyglądają i czym się zajmują.

Czerwone krfinki to czerwone pękate ludki w różnym wieku. W kieszonkach umieszczonych na plecach noszą kuleczki tlenu albo dwutlenku węgla. Kiedy krfinki są bogate w tlen, mają kolor jasnoczerwony, a kiedy w dwutlenek węgla – kolor ciemnoczerwony. Te krfinki pracują jak dostawcy. Roznoszą tlen z płuc do wszystkich komórek organizmu, a zabierają od nich dwutlenek węgla.

Oprócz czerwonych krfinek, w filmie spotkasz też białe krfinki, które są ochroniarzami Twojego organizmu. Chronią Cię przed wrogami, czyli bakteriami i wirusami, które mogą wywoływać choroby. Tak jak w wojsku krfinki białe tworzą różne oddziały do zadań specjalnych. Każdy oddział ma swoją nazwę. Wśród nich wyróżniamy: oddział limfocytów, oddział granulocytów oras oddział makrofagów. Limfocyty to patrol latających białych kulistych pojazdów. Walczą one z nieprzyjacielem używając przeciw ciał. Jest to grupa malutkich spadochroniarzy, którzy tak jak rój pszczół podlatują do wirusóf i je obsiadają. W ten sposób bronią organizm przed chorobą. Granulocyty to białe ludziki z dużymi brzuchami. Noszą mundury z żółtą gwiazdą na piersi. Na głowach mają białe czapki z daszkiem, a w rękach białe pałki. Zadaniem granulocytów jest bezpośrednia walka z wrogiem, czyli jego zjadanie. Makrofagi to żółte jajowate pojazdy z dużymi oczami i otwieranymi szeroko paszczami. Ten oddział pozwala utrzymać porządek w organiźmie. Dzięki makrofagom znikają cząstki kurzu, brud, niepotrzebne resztki i zanieczyszczenia.

By skutecznie walczyć w obronie Twojego organizmu, białe krfinki muszą wiedzieć, kto jest ich przyjacielem, a kto intruzem. Dlatego kontrolują wszystkich, którzy chcą się dostać do środka. Przed wejściem do Twojego organizmu, tak jak przy kontroli paszportowej, każdy musi pokazać białym krfinkom swoje dokumenty, czyli specjalne karty identyfikacyjne zwane antygenami HA EL A. Jeśli ktoś ma takie same antygeny, nie stanowi zagrożenia dla Twojego organizmu, a jeśli ktoś ma inne antygeny, to oznacza, że jest intruzem, którego trzeba się pozbyć.

Oprócz czerwonych i białych krfinek w filmie wystąpią też płytki krfi. Są to uśmiechnięte małe czerwone krążki z czterema rączkami. Pracują one jak hydraulik. Naprawiają dziury w naczyniach krfionośnych, żeby krew nie mogła przez nie uciekać. Pomagają także usuwać przeszkody, dzięki czemu krew może swobodnie krążyć po organiźmie.

W filmie pojawi się też dowódca organizmu, czyli starszy pan z czułkami na głowie i długą białą brodą sięgającą mu aż do kostek. Będą też jego pomocnicy – interferony – czyli maleńkie kolorowe ludziki, które na głowie mają sterczący jak antenka ogonek.

Interferony są superszybkimi przekaźnikami, które przybiegają do dowódcy i informują go, że dana komórka została zaatakowana przez nieprzyjaciela. Dzięki interferonom komórki mają czas na przygotowanie obrony.

W filmie wystąpią także cząstki kurzu i brudu oraz bakterie i wirusy. Cząstki kurzu i brudu to małe włochate brązowe stworki. Mają opuszczone i ściągnięte brwi, przymrużone oczy oraz zaciśnięte zęby. Bakterie to sine stwory z czerwonymi nosami i plamami na ciele. Wirusy dzielą się na dwie grupy. Jedna grupa to podłużne zielone robaki z żółtymi nosami, ostrymi zębami i kolcami na grzbiecie. Druga to pełzające żółte robaki z dwoma rękami. Mają wykrzywione twarze i ostre zęby. Część z nich ma pomarańczowe nosy i włosy, a część zielone nosy i rogi na głowie.

Teraz wiesz już wszystko! Możemy zaczynać!

Appendix No. 2: AD script

{3732}{3907}	Szerokimi czerwonymi tunelami idą miliony czerwonych krwinek oraz małe cząstki kurzu i brudu, które natrafiają na granulocyty.
{4017}{4088}	Granulocyt podbiega do kurzu i brudu, otwiera buzię i wsysa ich do środka.
{4101}{4258}	Patrol dwóch limfocytów podlatuje do dowódcy granulocytów.
{4300}{4380}	Granulocyt podnosi rękę z kciukiem skierowanym ku górze, potem macha do odlatujących limfocytów.
{4415}{4551}	Tunelem idą czerwone krwinki w różnym wieku, na plecach niosą kulki dwutlenku węgla.
{5521}{5605}	Czerwone krwinki stają przed wielką bramą z wypukłych prostokątów. Po chwili brama się otwiera.
{5665}{5800}	Czerwone krwinki wchodzą do środka. Kierunek pokazuje im granulocyt w białym mundurze.
{5821}{6021}	O małą czerwoną krwinkę ociera się zielony robak z kolcami na grzbiecie, potem owija się krwince wokół szyi. To wirus.
{6435}{6771}	Robak ucieka czerwonym tunelem. Goni go granulocyt w mundurze. Robak atakuje granulocyt ostrym kolcem wystającym z jego ogona. Granulocyt się broni, otwiera buzię i wsysa robaka.
{6878}{7006}	Granulocyt upada na ziemię. Podbiegają do niego inne granulocyty, kładą go na noszach i odbiegają.
{7450}{7512}	Czerwone krwinki maszerują dalej.
{7689}{7879}	Czerwona krwinka z dużym brzuchem i pakunkiem kulek dwutlenku węgla na plecach próbuje przecisnąć się przez szczelinę w ścianie. Inna krwinka pcha ją z tyłu.
{8083}{8248}	Czerwone krwinki dostają się do niebieskiej komory pełnej okrągłych tuneli, to płuca. Kulki dwutlenku węgla odczepiają się od pleców krwinek i lecą do góry, krwinki stają się jasnoczerwone.
{8614}{8999}	Czerwone krwinki z kulkami tlenu umieszczonymi w kieszonkach na plecach wychodzą z tuneli w ścianach. Rozchodzą się falami po czerwonych korytarzach. Granulocyty z pałkami w rękach kierują ruchem i wskazują czerwonym krwinkom drogę na skrzyżowaniach korytarzy. Ruch jest też nadzorowany przez granulocyty z ekranów komputerów wiszących na ścianach.
{9385}{9475}	Czerwone krwinki rozmawiają między sobą.
{10072}{10126}	Krwinka łapie cząstkę cukru.
{10332}{10374}	Z głośników na ścianie.
{11111}{11281}	Z pełnego komputerów centrum dowodzenia starszy pan z białą brodą łączy się z magazynem, czyli wątrobą.
{11307}{11735}	W wątrobie z aparatu Goldrzjego, czyli kilku pofałdowanych chmur położonych jedna na drugiej, odczepiają się małe bąbelki. To zmagazynowany cukier. Bąbelki cukru lecą tunelikami i przedostają się przez okrągłe otworki w ścianach zbudowanych z komórek. Z bąbelków powstają kropelki z rączkami, które dołączają do wędrujących tunelami czerwonych krwinek.

{11865}{12073} W jednym z tuneli dziadek-krwinka wyjmuje kulki tlenu z kieszonki na plecach i kładzie je na ziemi. Podchodzą do niego młode krwinki.
{13364}{13453} Dziadkowie-krwinki kładą się na małych górkach i są wchłaniani przez śledzionę.
{13502}{13971} Czerwone krwinki dochodzą do dwóch mostków, które łączą się z otworami w ścianach zbudowanych z komórek. Pod mostkami płynie woda. Czerwone krwinki oddają kulki tlenu ludzikom w niebieskich kombinezonach, ludziki wkładają do ich kieszonek kulki dwutlenku węgla, krwinki stają się ciemnoczerwone.
{13986}{14091} Brakuje czerwonych krwinek, ludziki w niebieskich kombinezonach wrzucają kulki dwutlenku węgla do wody.
{14132}{14178} Z głośnika.
{14372}{14478} Tłumy krwinek podbiegają do mostków dostają kulki dwutlenku węgla i robią się ciemnoczerwone.
{14696}{14834} W płucach granulocyty nadzorują idące krwinki, pojawia się mały stworek, dowódca granulocytów.
{14920}{14979} Granulocyt dogania stworka i go zjada.
{15100}{15164} Nadlatuje patrol limfocytów.
{15250}{15400} Granulocyt podnosi rękę z kciukiem skierowanym ku górze, potem macha do odlatujących limfocytów.
{15414}{15488} Czerwone krwinki maszerują i rozmawiają między sobą.
{15837}{15966} Granulocyt każe czerwonym krwinkom włożyć kulki do kieszonek na plecach.
{16302}{16371} Granulocyt wzywa dowódcę.
{16632}{16765} Przyjeżdżają makrofagi, czyli żółte jajowate pojazdy, otwierają paszcze i zjadają kamyki leżące na ich drodze.
{16826}{16995} Dowódca granulocytów.
{17028}{17104} Czerwone krwinki ruszają, granulocyt.
{17330}{17422} Okrągłym niebieskim tunelem leci patrol limfocytów.
{17605}{17782} Na drodze czerwonych krwinek stają bakterie: sine stwory z czerwonymi nosami i plamami na ciele, podbiegają do nich granulocyty.
{18052}{18140} Bakterie mnożą się i atakują granulocyty.
{18334}{18479} Niebieskimi korytarzami biegną dziesiątki granulocytów z pałkami w rękach. Ruszają na pomoc kolegom.
{18538}{18612} Nadlatuje patrol limfocytów.
{18650}{18750} Kapitan limfocytów.
{18825}{18894} Walka trwa. Bakterie się mnożą.
{19061}{19154} Nadjeżdżają makrofagi. Bakterie rzucają się do ucieczki.
{19375}{19475} Do dowódcy granulocytów podlatuje patrol limfocytów.
{19799}{19893} Przyjeżdżają makrofagi i zjadają pokonane rozpłaszczone bakterie leżące na ziemi.
{19952}{20024} Granulocyt mówi do czerwonych krwinek.
{20286}{20398} Jest słoneczny dzień. Na trawniku przed domem dwaj chłopcy mocują się ze sobą dla zabawy.
{20770}{20887} Jeden przewraca drugiego, przygniata go do ziemi, ciężko oddycha, spocony wstaje.
{21139}{21350} W środku organizmu chłopca granulocyty śpią na siedząco oparte o ściany, czerwone krwinki maszerują niebieskim korytarzem.
{21380}{21415} Nagle pojawiają się żółte pełzające robaki, czyli wirusy.

{21819}{21989} Ze wszystkich stron nadlatują dziesiątki małych białych skrzydlatych stworzonek, czyli przeciwciał, i obsiadają wirusy.
{22289}{22454} W centrum dowodzenia śpi starszy pan z białą brodą, jeden z ekranów komputera zapala się na czerwono.
{22836}{22870} Przybiegają maleńkie ludki.
{23775}{23831} Płytki krwi.
{23958}{24181} Płytki krwi oblepiają duży kamień torujący wejście do tunelu, podlatuje limfocyt, uderza w kamień i go przesuwa, czerwone krwinki wchodzą do tunelu.
{24328}{24412} Przyjeżdżają makrofagi i zjadają kamyki.
{24431}{24520} Limfocyt podlatuje do płytek krwi.
{25023}{25055} Centrum dowodzenia.
{25581}{25752} Setki granulocytów biegną jasnoniebieskimi tunelami z pałkami w rękach. Na miejsce przylatuje też patrol limfocytów, czyli Piotr i Pe eS I.
{25950}{26000} Kapitan Piotr.
{26044}{26170} Chmara żółtych pełzających robaków, czyli wirusów, wspina się po ścianach zbudowanych z komórek.
{26229}{26483} W łóżku pod kołdrą leży chłopiec, ma termometr w ustach i wypieki na policzkach, z jego czoła spływają kropelki potu, przy łóżku stoi mama chłopca i lekarz, termometr pokazuje prawie 40 stopni.
{26591}{26811} Chmara wirusów siłą odrywa kolejne komórki ze ścian, przez otwory po komórkach wpadają zgraje kolejnych wirusów, jest ich coraz więcej.
{27109}{27201} Kapitan Piotr dzwoni do centrum dowodzenia.
{27776}{27882} Tłumy granulocytów biegną do ścian, zewsząd nadlatują limfocyty.
{28212}{28540} Tysiące granulocytów biegną z pałkami w rękach i atakują tłumy wirusów. Z otwartymi paszczami ganiają też bakterie. Tworzą zwarte szeregi i wypierają fale żółtych intruzów. Stopniowo oczyszczają teren organizmu.
{29032}{29273} Niektóre granulocyty łapią się za brzuch i upadają na ziemię, z ich ust lecą bąbelki. Zgraje nowych wirusów wyważają kolejne komórki ze ścian i wdzierają się do środka organizmu.
{29502}{29628} Piotr dzwoni do dowódcy w sztabie, potem do Pe eS I.
{31053}{31335} Tysiące przeciwciał, czyli białych skrzydlatych stworzonek, wyskakuje przez rozsuwaną podłogę latających pojazdów limfocytów i leci w kierunku ścian oblężonych przez wirusy.
{31488}{31552} Dowódca przeciwciał.
{31833}{31990} W łóżku pod kołdrą leży chłopiec, mama wyciera chustką pot z jego czoła, z policzków chłopca znikają wypieki.
{32040}{32120} Tymczasem w płucach chłopca wirusy się nie poddają.
{32296}{32522} Wirusy wyrywają kolejne komórki, chmary nowych wirusów wpadają do środka, a tysiące przeciwciał je obsiadają. Walka trwa.
{32622}{32673} Przeciwciała siadają na nosie wirusa i ciągną go za uszy.
{32934}{32995} Ściany zbudowane z komórek powoli się rozpadają.
{33100}{33180} Na pole bitwy przyjeżdżają makrofagi.
{33213}{33350} Kapitan Piotr dzwoni do dowódcy granulocytów, potem do Pe eS I.
{34414}{34523} Granulocyty opuszczają pole bitwy, nadlatuje oddział limfocytów.
{34969}{35089} Granulocyty i limfocyty się kopiują: z jednego robią się dwa.
{35145}{35200} Porucznik Pe eS I.
{35350}{35434} Proces się powtarza, dowódca granulocytów.

{35633}{35744} Granulocyty strzelają do wirusów białym płynem z pistoletów.
{36047}{36153} Limfocyty atakują wirusy żółtymi strumieniami światła.
{36233}{36344} Piotr i Pe eS I podlatują do dowódcy granulocytów.
{36585}{36635} Pe eS I płacze.
{36700}{36730} Makrofagi zjadają resztki po bitwie.
{36750}{36829} Granulocyt do czerwonych krwinek.
{36964}{37023} W łóżku pod kołdrą leży chłopiec i się uśmiecha.
{37601}{37680} Tekst audiodeskrypcji: Agnieszka Walczak.

Appendix No. 3: Learner's questionnaire

KWESTIONARIUSZ DO FILMU „BYŁO SOBIE ŻYCIE"
AUDIODESKRYPCJA Z SYNTEZĄ MOWY

1. Ile masz lat?

2. Jesteś:
   □ Dziewczynką
   □ Chłopcem

3. Czy nie widzisz od urodzenia?
   □ Tak, nie widzę od urodzenia.
   □ Nie, straciłem/straciłam wzrok później.

4. Jesteś osobą:
   □ Niewidomą
   □ Słabowidzącą

5. Czy oglądałeś/oglądałaś już kiedyś filmy z audiodeskrypcją, czyli dodatkowym opisem tego, co dzieje się na ekranie przeznaczonym dla niewidomych i słabowidzących?
   □ Tak
   □ Nie
   □ Nie wiem

6. Czy korzystasz z syntezatora mowy w domu lub w szkole?
   □ Tak
   □ Nie
   □ Nie wiem

7. Czego nowego o krwi dowiedziałeś/dowiedziałaś się z filmu?

8. Czerwone krwinki krążą po Twoim organizmie. Co w filmie przenosiły krwinki w kieszonkach umieszczonych na plecach?

9. Co robią w organizmie białe krwinki?

10. Który z bohaterów filmu podobał Ci się najbardziej? Opisz go.

11. Który z bohaterów filmu najmniej Ci się podobał? Opisz go.

12. O tym, co dzieje się w filmie opowiadał głos z syntezatora. Co było dla Ciebie niejasne w tym opowiadaniu?

13. Czy podobał Ci się głos syntezatora w tym filmie?
    □ Tak
    □ Nie
    □ Nie wiem

14. Jeśli miał(a)byś wybór, jaki głos syntezatora wybrał(a)byś do tego filmu?
    □ Kobiety
    □ Mężczyzny
    □ Obojętnie

15. Głos z syntezatora, który opowiadał o tym, co dzieje się w filmie, mówił:
    □ Wyraźnie
    □ Mało wyraźnie
    □ Niewyraźnie

    □ W sam raz
    □ Za szybko
    □ Za wolno

16. Czy chciał(a)byś obejrzeć kolejne odcinki z tej serii z audiodeskrypcją czytaną przez głos z syntezatora?
    □ Tak
    □ Nie
    □ Nie wiem

Appendix No. 4: Teacher's questionnaire

KWESTIONARIUSZ DLA NAUCZYCIELA
DO FILMU „BYŁO SOBIE ŻYCIE"
AUDIODESKRYPCJA Z SYNTEZĄ MOWY

1. Czy w ramach swoich lekcji stosował(a) Pan(i) już filmy z audiodeskrypcją?

2. Jak ocenia Pan(i) opis zastosowany w audiodeskrypcji?

3. Czy ma Pan(i) jakieś uwagi do usłyszanej przed chwilą audiodeskrypcji? Jeżeli tak, to jakie?

4. Czy użył(a)by Pan(i) tego filmu jako narzędzia wspomagającego naukę na swojej lekcji? Proszę uzasadnić odpowiedź.

5. Czy widzi Pan(i) jakieś zalety wynikające ze stosowania filmów z audiodeskrypcją na lekcjach przyrody? Jakie?

6. Czy jeśli w przyszłości tego typu filmy byłyby dostępne, korzystał(a)by Pan(i) z nich w ramach swoich lekcji?

7. Co Pan(i) sądzi o zastosowaniu syntezatora mowy do czytania audiodeskrypcji?