

VILNIUS UNIVERSITY

INDRĖ KOVERIENĖ

DUBBING AS AN AUDIOVISUAL TRANSLATION MODE: ENGLISH AND  
LITHUANIAN PHONEMIC INVENTORIES IN THE CONTEXT OF VISUAL  
PHONETICS

Summary of Doctoral Dissertation

Humanities, Philology (04H)

Vilnius, 2015

The research was carried out at Vilnius University in 2005–2015.

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From 1 July, 2013 to 13 October, 2015

**The dissertation defence is to be held at the public meeting before the Scientific Board of Philology at Vilnius University:**

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The thesis defense session is due to take place at the public meeting of the Scientific Board to be held on 21 December, 2015 (12 p.m.) at Vilnius University Kaunas Faculty of Humanities, Room 10.

Address: Muitinės St. 12, LT-44280, Kaunas, Lithuania.

The summary of the dissertation was posted on 20 December 2015.

The summary of the dissertation is available at the Library of Vilnius University and on the Internet, VU website [www.vu.lt/lt/naujienos/ivykiu-kalendorius](http://www.vu.lt/lt/naujienos/ivykiu-kalendorius)

VILNIAUS UNIVERSITETAS

INDRĖ KOVERIENĖ

DUBLIAVIMAS KAIP AUDIOVIZUALINIO VERTIMO MODA: ANGLŲ IR  
LIETUVIŲ KALBŲ GARSYNAI VIZUALINĖS FONETIKOS KONTEKSTE

Daktaro disertacijos santrauka

Humanitariniai mokslai, filologija (04H)

Vilnius, 2015

Disertacija rengta 2005–2015 metais Vilniaus universitete

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**Disertacija ginama Vilniaus universiteto Filologijos mokslo krypties taryboje:**

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Disertacija bus ginama viešame Filologijos mokslo krypties tarybos posėdyje 2015 m. gruodžio 21 d. 12 val. Vilniaus universiteto Kauno humanitarinio fakulteto 10 auditorijoje. Adresas: Muitinės g. 12, LT-44280, Kaunas, Lietuva.

Disertacijos santrauka išsiuntinėta 2015 m. lapkričio 20 d.

Disertaciją galima peržiūrėti Vilniaus universiteto bibliotekoje ir VU interneto svetainėje adresu [www.vu.lt/lt/naujienos/ivykiu-kalendorius](http://www.vu.lt/lt/naujienos/ivykiu-kalendorius)

# DUBBING AS AN AUDIOVISUAL TRANSLATION MODE: ENGLISH AND LITHUANIAN PHONEMIC INVENTORIES IN THE CONTEXT OF VISUAL PHONETICS

## Summary

The focus and the research order of this dissertation have been determined by the apprehension of the direct influence of audiovisual synthesis on speech perception. Concurrent of live communication because of inborn human ability of lip-reading, audiovisual synthesis has been transformed into the production of audiovisual market, due to such factors as globalization and technological development.

**Novelty and relevance of the research.** Despite the marginal position of dubbing in respect of other audiovisual translation (AVT) modes employed for the spread of foreign audiovisual production in Lithuania, dubbed animated films currently play an exceptional role in the Lithuanian cinematic market, as the latter has experienced a notable boom. According to the statistical data, the Lithuanian cinema attendance improved gradually by 2 thousand cinema-goers in the period from 2011 to 2012, and this increase was mainly caused by the growing interest in animated films whose attendance has almost doubled since 2008 (Statistics Lithuania). As the Internet Movie Database (IMDb) indicates, animated films have considerable *box office* success, for in 2007-2011 they were listed 25 times among the Top 10 *grossing films* in Lithuania, whereas worldwide in the same period of time, animated films appeared only 16 times among the Top 10 highest grossing films.

The relevance of the thesis is confirmed not only by the statistical analysis of the Lithuanian cinematic market but also by the survey<sup>1</sup> participants who were assessing the main factors encouraging the boom in attendance of animated feature films in Lithuania. The results of the study have demonstrated that animation is an influential genre determining the choice of Lithuanian cinema-goers not only due to the specific elements of this genre, such as comedy and adventure, but also because of the use of dubbing as an AVT mode which creates the illusion that the events on the screen are taking place in a familiar environment, which probably increases the viewer's enjoyment and so enhances the function of entertainment (Mason 1989, 13; Szarkowska 2005, 2; Pedersen 2010, 7).

The growing attendance of animated features in Lithuania proves that the dubbing mode of audiovisual translation is of no less importance than the modes of voice-over or subtitling, and needs to be researched systematically.

Although in the context of AVT the most prevailing AVT modes have been vastly explored since the mid-1980s and the early 1990s (Bakewell 1987 Delabastita 1989; Gottlieb 1992; Ivarsson 1992; Luyken et al. 1991; Mayoral et al. 1988; Tomaszkievicz 1993, Whitman-Linsen 1992) and remains in constant focus of analysis (O'Connell 2007,

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<sup>1</sup> The research *Lietuviškai dubliuotų animacinių filmų populiarumą lemiantys veiksniai (Determinant Factors of the Popularity of Dubbed Animation in Lithuania)* (Koverienė et al. 2013) was carried out during the period of Phd studies.

Díaz Cintas and Remael 2007; Díaz Cintas and Anderman 2008; Díaz Cintas et al. 2010; Chaume 2012), the research on AVT modes in Lithuania is relatively scarce and fragmentary. With regard to the Lithuanian AVT research, the first attempts at the analysis of voice-over and peculiarities of pivot translation were made in 1999 (Grigaravičiūtė and Gottlieb 1999). Following valuable insights into the analysis of subtitles by Alina Baravykaitė (2005, 2006, 2007), the most constant object of AVT research in Lithuania remained the subtitling mode for more than a decade to come (Judickaitė-Pašvenskienė 2009, 2013; Ivanovaitė and Baranauskienė 2010; Petrašiūnienė and Valančiauskienė 2012; Ulvydienė and Aleknavičiūtė 2013). The prevailing scientific interest in subtitles signifies the position of the subtitling mode as a global phenomenon, which implies that worldwide subtitling standards can be relatively easily applied to the subtitling process in Lithuania.

Other scientific publications focused on such rather scarcely investigated topics are related to AVT as software and video-game localization, dubbing and voice-over (Reda Baranauskienė and Rasa Blaževičienė 2008; Šiaučiūnė and Liubinienė 2010; Maumevičienė 2011; Satkauskaitė and Drėgvaitė 2011; Koverienė et al. 2013; Liubinienė and Beniušytė-Milašienė 2014).

Contrarily to subtitling practices, a complex process of dubbing faces difficulties of homogenizing, since there are no standard criteria for such constituents of translation for dubbing as text segmentation, the usage of dubbing symbols, varying lip-synchrony standards or software application (Chaume 2012, 40). So far Lithuanian researchers have not made any deeper inquiry into the phenomenon of lip synchrony which is the most relevant feature of dubbing distinguishing this particular AVT mode from other AVT modes. The term *synchrony* was first introduced to the field of audiovisual studies by István Fodor, differentiating between phonetic synchrony, character synchrony and content synchrony (1976). Recent advances in the studies of synchronization offer lip synchrony, kinetic synchrony and isochrony, as essential synchrony types (Chaume 2004). Isochrony and lip synchrony are closely related types of synchronization. Isochrony implies “equal duration of utterances” and its lack is most likely to be noticed by viewers (Chaume 2012, 72). Lip synchrony “consists of adapting the translation to the articulatory movements of the on-screen characters, especially in close-ups and extreme close-ups” (Whitman-Linsen 1992, 25). In addition to this, lip synchrony is not only inseparable from the illusion that the film is a local product but also from an earlier unrecognized influence of vision upon speech perception (McGurk 1976). Ability to adapt the translation for dubbing focusing on different synchronization types is mostly beneficial to translators from English into Lithuanian since the majority (73 per cent) of the dubbed animated films released in Lithuanian cinemas over the past 13 years have come from the USA. It is lip synchrony that requires special knowledge of both source and target language phonetics to be applied successfully. Otherwise, the translation could result in dischronemes which would lead to a negative impact on speech perception.

However, there is no substantial study devoted to synchronization in general or lip synchrony in particular for dubbing from English into Lithuanian. The only relevant

scientific publication appears to be “English and Lithuanian Bilabials in Terms of Visual Phonetics” (Pasvenskienė 2013), which, however, focuses exceptionally on the analysis of English and Lithuanian bilabial consonants and cannot be regarded as a comprehensive study of entire English and Lithuanian phone inventories in terms of visual phonetics for dubbing purposes.

The current doctoral dissertation will hopefully be an initial comprehensive contribution to the establishment of fundamental lip-synchrony principles between English and Lithuanian languages, highlighting the standard guidelines of satisfactory lip synchrony in dubbing.

From this perspective, the **problem of scientific inquiry** of the dissertation is the following: the eclectic use of AVT terminology in the Lithuanian language, the absence of theoretical foundation of lip synchrony between the English and Lithuanian phonemic systems, and the application of different phonetic transcription systems for English and Lithuanian.

**The object of the dissertation** is the visual articulatory movements in English and Lithuanian articulation and lip synchrony possibilities in dubbing.

**The aim of the research** is to establish fundamental, possibly largest visemes, comprising visually identical English and Lithuanian phonemes for the purpose of lip synchrony in dubbing on the basis of the identification of the similarities and differences between the English and Lithuanian phone articulation from the point of view of visibility.

The following **objectives** have been set in accordance with the main aim:

- to introduce an organized system of AVT terms in the Lithuanian language on the background of the analysis of major AVT modes with special emphasis on the main features of dubbing;
- to highlight a range of theoretical insights related to audiovisual synthesis, audiovisual contract, visual phonetics, and the viseme as a category of speech movement patterns, in order to reveal the importance of the complementary nature of auditory and visual speech signals for speech perception in the film narrative;
- to apply the International Phonetic Alphabet (IPA) to the transcription of the Lithuanian speech which would enable the comparison of English and Lithuanian phonemes in terms of the visible articulatory movements;
- to establish fundamental English and Lithuanian visemes as a basis for lip synchrony in dubbing with complete disregard to the side-factors of dubbing and with reference to the theoretical insights of visual phonetics as well as the visibility of speech movement patterns.

This dissertation addresses the following **hypotheses**:

1. The essential condition for English and Lithuanian phoneme grouping into generic visemes is a unified phonetic transcription system.
2. The visemes, primarily applied in computer speech animation, can be reduced in number to larger sets for lip synchrony in dubbing.
3. The visemes applicable to achieve lip synchrony in live-actor feature film dubbing are congenial for the lip synchrony in animated feature film dubbing.

4. A viseme can comprise vowel, diphthong and consonant phonemes.
5. The vowel and diphthong phonemes of a viseme share at least two articulatory criteria of phone production from the three main ones: horizontal (front-back) position, openness and roundness.
6. The fundamental criterion of consonant-phoneme grouping into visemes is active articulators.
7. Grouping of phonemes into visemes is grounded on phonological segmental and suprasegmental elements.

**Methodology of the thesis and methodological tools.** The application of the IPA to the Lithuanian speech transcription is carried out in accordance with the methodological guidelines proposed by the International Phonetic Association. In order to compare the phonemic inventories of the two languages for the purpose of lip synchrony, descriptive and analytical methods are employed to reveal the theoretical insights initiated and developed by Alfred Charles Gimson and Alan Cruttenden, Paul Rauch, Aleksas Girdenis, Antanas Pakerys and Vytautas Vitkauskas. With special emphasis on the role of lip synchrony in speech perception as well as significant features of AVT modes, the theories of synchronization typologies elaborated by Istvan Fodor, Candice Whitman Linsen and Frederic Chaume are reviewed. Lip synchrony as a necessary condition for audiovisual speech perception is disclosed through an extensive analysis of audiovisual speech synthesis and, particularly, a conceptual phenomenon referred to as “The McGurk Effect” which proves close interaction of auditory and visual information and automatic integration of lip-reading information into speech perception. Furthermore, with regard to the methodological thought of Michael Chion (1994) and the audiovisual contract theory, the relationship between sound and image in the context of a film narrative is defined and the phenomenon of syncretism which predetermines the existence of post-synchronization and dubbing as an AVT mode is uncovered.

After the empirical analysis of the visual features of the phonemes of both languages, by use of the viseme-based method of articulatory analysis as the essential tool for grouping visually similar units, the English and Lithuanian phonemes are clustered into visually generic sets – visemes – for the purpose of lip synchrony in dubbing.

**Research material.** Dubbing in Lithuania is limited to animated feature films with the exception of several instances where live action and animated elements combine and feature films for children (there are few dubbed feature films for adults). Therefore, 18 films (footage: 1710 min.) of the above mentioned categories run in Lithuanian cinemas in 2004-2014 and a collection of news broadcasts in the period of 2012 - 2015 (footage: 59:30 min.) have been chosen for the analysis of the empirical data of the present thesis. In total, 329 episodes of visual features of phoneme articulation are presented. The empirical part of the thesis comprises 56 episodes of visual features of phoneme articulation from animated feature films, films combining live action and animated elements and feature films for children, and 30 episodes from the BBC news broadcast. The audiovisual material has been processed by applying computer software *Adobe Premiere Pro CS* and *Snagit*. Since there is no officially available information about



the AVT modes employed for adaptation of foreign audiovisual production, the dubbed production was reviewed and systematized manually by consulting Lithuanian cinema centers and Lithuanian dubbing companies.

The dissertation is typed in *Segoe UI* theme fonts highly recommended by the International Phonetic Association to support all the diacritics of the IPA used in the current thesis.

The results of the study may prove helpful not only to the translators and adapters but also to the whole dubbing team, which is actively involved in the process of dubbing to achieve synchronization between the source language and the target language. In respect of the practical value, the current thesis does not limit itself to the audiovisual industry, it opens up a new perspective to use the IPA transcription for the Lithuanian language, which could serve as a means of providing the representatives of humanities with a wider range of possibilities for internationality, either by promoting the spread of the research on the Lithuanian language worldwide or for language teaching purposes which is urgent in this era of migration and globalization. A special emphasis should be put on the systematic approach to the AVT terminology in the Lithuanian language encouraging further investigation of AVT and media industry in Lithuania and fostering the development of the Lithuanian language.

## THE STRUCTURE AND CONTENT OF THE WORK

The current thesis consists of an introduction, four chapters, conclusions, a list of references, data sources and appendices.

The *Introduction* presents the problem of scientific inquiry, defines the object of investigation, proposes the hypotheses, formulates the aim and objectives of the thesis, describes the employed methodology, discusses the relevance and novelty of the research, and offers a brief presentation of the material analyzed.

Chapter 1 *Dubbing as an Audiovisual Translation Mode* falls into two smaller sub-chapters and traces the foundation and the evolution of AVT and dubbing as an AVT mode. The stress is laid on AVT as a separate field of translation related to the term multi-medial text type offered by Katharina Reiss and Hans J. Vermeer in response to the growing volume of audiovisual texts worldwide (Reiss & Vermeer 1984). This chapter tends to focus on the definition of AVT as the translation of text transmitted simultaneously through acoustic and visual channels and characterized by “several signifying codes” (Martínez-Sierra 2008, 29 as cited in Martínez Sierra 2012, 146). However, a short overview of other terms to define this particular field of translation such as *media translation* (Eguíluz et al. 1994), *screen translation* (Mason 1989), *film translation* (Snell-Hornby 1988), *film and TV translation* (Delabastita 1989), *film communication* (Lecuona 1994) is presented and thoroughly discussed.

Sub-chapter 1.1 *Classification of Audiovisual Translation Modes and the Systematic Approach to AVT Terminology in the Lithuanian Language* highlights the classification of

the mainstream AVT modes, introduces the definition of dubbing and analyses its principal features proving it to be the most challenging translation mode in comparison to other worldwide prevailing AVT modes – subtitling and voice-over. Dubbing is defined as “the process of matching a target language translation to the screen actors’ body and articulatory movements in the recording made in a dubbing studio” (Chaume 2012, 67), while subtitling is regarded as “a translation practice that consists of presenting a written text, generally on the lower part of the screen, that endeavours to recount the original dialogue of the speakers, as well as the discursive elements that appear in the image (letters, inserts, graffiti, inscriptions, placards, and the like), and the information that is contained on the soundtrack (songs, voices off)” (Díaz Cintas and Remael 2007, 8), and voice-over is considered to be “a technique in which a voice offering a translation in a given target language (TL) is heard simultaneously on top of the source language (SL) voice (Díaz Cintas and Orero 2006, 473). However, in the translation process no mode of AVT assures ideal equivalence of the source and target texts, therefore each of AVT modes is often criticized by its opponents. The restrictions of dubbing are usually related to character dyschrony unless the voice of the dubbing actor matches the personality in the source language, voice-over is criticized for the original soundtrack that is heard in the background whereas the major drawbacks of subtitling are associated with the violated “semiotic structure of sound film”, restrictions of the screen and its physical limits as well as text condensation (Gottlieb 2005, 21).

Since AVT is a new field of research in Lithuania the rest of the sub-chapter is devoted to the terminological issues of the audiovisual terms in the Lithuanian language. The usage of the Lithuanian terms in question have been negotiated and approved by the State Commission of the Lithuanian Language and are thoroughly analyzed and presented in a systematic way.

Sub-chapter 1.2 *The Application of the Mode of Dubbing in the Lithuanian AVT Industry* reviews the present situation of the AVT market in Lithuania, which is focused on two AVT modes, subtitling and voice-over, the former prevailing in the cinematic market and the latter considered the most popular on TV. Dubbing is regarded to be a marginal AVT mode, which is presumably due to financial constraints because Lithuania has a rather narrow market and therefore is not able to afford the costs involved in the dubbing process to cover the entire audiovisual market.

Although the total number of animated films translated using voice-over or a combination of voice-over and subtitling exceeds the number of the dubbed ones in 2000-2013, an onword trend in the number of dubbed animated films was observed from 2009-2012, while the peak of the dubbed animated production was reached in 2011 climbing to 17 dubbed animated films, whereas 13 of them were translated employing voice-over or a combination of voice-over and subtitling.

Finally, there is presented a short overview of the main professionals in the dubbing process and their functions, as well as those of the patronage such as comissioners, distributors, the *Committee of the Lithuanian Film Centre*, the *State Commission of the*

*Lithuanian Language*, the *State Language Inspection*, the *Commission of Vilnius International Film Festival* assessing the Lithuanian translation of the competitive films, the subsidiary of the *SDI Media* in Denmark responsible for the translation of the dubbed animated films in *SDI Lithuania*, whose role is to take care that “the literary system does not fall too far out of step with the other sub-systems society consists of” (Lefevere 1992, 14).

Chapter 2 *Theoretical Approach: Relation between Auditory and Visual Reception Channels and Its Impact on Speech Perception in the Context of Film Narrative* contains four sub-chapters and discloses the importance of the multimodal nature of speech perception in the film narrative proving the relevance of the dubbing requirements related to lip synchrony. Departure from the requirements would lead to negative influence on speech perception of the target text as a result of audiovisual dissonance between the source and target texts.

Sub-chapter 2.1 *Audiovisual Speech Synthesis* uncovers the essential findings of the experiment of the perceptual phenomenon known as ‘McGurk effect’ published in “Hearing lips and seeing voices” (McGurk and MacDonald 1976, 746) which demonstrates “previously unrecognized influence of vision upon speech perception”. The experiment reveals that lip-reading/speech-reading (further *lip-reading*) is an inherent ability to understand speech by observing the moving patterns of speech and visible features of phoneme articulation on the speaker’s face. However, lip-reading is practiced not only by the hard-of-hearing and the deaf but also by those who have no hearing impairment. Although lip-reading is especially helpful in noisy environments, it is also advantageous in any other situation regardless of the age. However, the ability to lip-read may vary, since every person possesses different lip-reading capacity (Sumbly and Pollack 1954; Binnie et al. 1974; Massaro and Cohen 1983; Dodd and Campbell 1987; Massaro 1987).

Sub-chapter 2.2 *Audiovisual Contract Theory* focuses on the theoretical framework provided by Michael Chion who scrutinizes the field of audio-vision in the film narrative and familiarizes the readers with the fundamental concepts and terms associated with the interaction of sound and image. The theoretician regards *audiovisual relationship* as an *audiovisual contract* stating that it “is not natural but rather a sort of symbolic pact to which the audio-spectator agrees when she or he considers the elements of sound and image to be participating in one and the same entity or world” (1994, 222). By exploring the process of synchronization between sound and image in the film the author combines the terms *synchronism* and *synthesis* and introduces a newly coined term *synchresis* defined as “the spontaneous and irresistible weld produced between a particular auditory phenomenon and visual phenomenon when they occur at the same time. This join results independently of any rational logic” (1994, 63). According to the theoretician it is *synchresis* that determines the stage of post-synchronization and dubbing as an AVT mode.

Sub-chapter 2.3 *Synchronization Typology and Fodor’s Visual Phonetics* lays the focus on synchronization as one of the principle features of AVT and considers it as the

most distinguishable feature of dubbing. The Hungarian linguist Istvan Fodor in his nascent study *Film Dubbing. Phonetic, Semiotic, Esthetic and Psychological Aspects* (1976) was the first to describe the relevance of synchronization to dubbing and to introduce a number of terms related to this phenomenon, such as dyschrony or dischroneme – separate cases of synchrony and dyschrony. The author considers synchronization synonymous to dubbing and defines it as “a faithful and artistic rendering of the original dialogue, an approximately perfect unification of the replacing sounds with the visible lip movements, and bringing the style of delivery in the new version into optimal artistic harmony with the style of acting” (Fodor 1976, 9). Furthermore, Fodor sets himself the task to elaborate a separate discipline entitled *Visual Phonetics* and related to acoustic and auditory phonetics, and also based upon logopedics (Fodor 1976, 85). Although the author does not give an exact account of this developing field of the study, it is referred to as a discipline that “links mouth articulatory movements of the screen actor and the phonemes that the translator should fit to his or her mouth so as to avoid a clash between the translation and the original message, and the consequent communicative noise and loss of the reality effect” (González Requena 1988, 1989 as cited in Chaume 2004, 38). According to Fodor, the requirements for a satisfactory synchronization can be paralleled to rhyme and rhythm, the principal features of poetry translation since “dubbing translation demands the highest standard of workmanship” (1976, 78).

Fodor additionally offered the first typology of synchronization differentiating between the phonetic synchrony related to the lip movement of the actors, the character synchrony concerning the voice qualities of the dubbing actors, and the content synchrony which deals with the transfer of the source text into the target text and the problems associated with the transfer.

Beside Fodor’s synchronization typology, other offered classifications of synchronies are introduced, the only chronologically prominent of which are those proposed by Whitman-Linsen and Chaume which are discussed in greater detail (Whitman-Linsen 1992; Paguin 1998; Gottlieb 2008; Jüngst 2010; Chaume 2004, 2012).<sup>1</sup>

Table 1 **Typologies of synchronization**

Fodor (1976)	Phonetic				Character					Content
Whitman-Linsen (1992)	Visual/Optical				Audio/Acoustic					(-Content)
	Lip	Syllable articulation	Length of utterance	Kinetic	Idiosyncratic vocal type	Paralinguistic elements	Prosody	Cultural variations	Accents and dialects	
Chaume (2004; 2012)	Lip	Isochrony		Kinetic	(-Character)					(-Content)

Source: created by the author according to Fodor (1976), Whitman-Linsen (1994) and Chaume (2012)

Sub-chapter 2.4 *The Viseme Theory* further scrutinizes the audiovisual synthesis in terms of *visemes* primarily used in computer facial animation. The term *viseme* was first used by Fisher in 1968 as a shorthand of two terms *visual* and *phoneme* as “a visible analogue to the phoneme” (Baillly 2012, 25). The findings of the experiment conducted by Fisher disclose that phonemes which are mostly confused visually comprise 5 sets of initial and final phonemes 1) /p/, /b/, /m/, /d/ – 1) /p/, /b/; 2) /f/, /v/ – 2) /f/, /v/; 3) /k/, /g/ – 3) /k/, /g/, /ŋ/, /m/; 4) /ʌ/, /w/, /r/ – 4) /ʃ/, /ʒ/, /dʒ/, /ʒ/; 5) /ʃ/, /t/, /n/, /l/, /s/, /z/, /dʒ/, /j/, /h/ – 5) /t/, /d/, /n/, /θ/, /ð/, /z/, /s/ (Fisher 1968).

However, there is no direct correspondence between visemes and phonemes, since a single viseme can be comprised of a number of phonemes possessing near to identical visual features. Phonemes of different languages are classified into visemes according to visual features of phoneme articulation, therefore difficulties of distinguishing phonemes within a single viseme arise, although differences among phonemes of different visemes are fairly substantial to be recognized.

Conventionally visemes are perceived as static visual features of sound articulation, however, such visemes do not necessarily tend to represent significant contrasts between different visemes. The context of coarticulation uncovers different phonemic realizations or allophones that can be hardly represented by the same visemes due to the impact of neighbouring phonemes (Trask 2004). Therefore, for the purpose of computer animation visemes are being researched not only as conventional, or static, but also as dynamic units related to visually plausible phonetic sequences which imply better visual representation of phonemes (Taylor et al. 2015).

Translation of a verbal text for dubbing could be highly supported by visemes as a methodological tool. The current research, however, limits itself to the analysis of static visemes, since it is hardly possible for the translator to cope with the principles of coarticulation. A too high number of visemes would reduce the translator’s possibilities of rendering the denotative meaning of the text. Therefore the current dissertation focuses on the comparison of visible features of phonemes of the English and Lithuanian languages to determine fundamental visemes as a basis for lip synchrony with complete disregard of the side-factors of dubbing.

Chapter 3 *The Application of the International Phonetic Alphabet (IPA) to the Lithuanian Language* focuses on the phonetic symbols of the IPA vs. the Copenhagen phone-notation system conventionally used for scientific investigations into the Lithuanian phonological phenomena since 1925. The absence of a unified notation system between the English and Lithuanian languages has urged the application of the IPA to the Lithuanian phonemic system. As a system of phonetic notation the IPA was initiated by the International Phonetic Association founded in 1886. From the outset of the establishment the association has aimed at devising a practical set of symbols fairly exhaustive for sound representation of the existing languages in the world.

In the current dissertation the application of the IPA to the Lithuanian language is conducted with reference to the methodological guidelines issued by the International

Phonetic Association. The first phonemic principle considered as the ‘golden rule’ of the association claims that “a separate sign for each distinctive sound, i.e. for each sound, which being used instead of another, in the same language, can change a meaning of a word” (IPA 1999/2007, 27). In other words there should be correspondence between different phonetic symbols and different phonemes of the same language, and if it is possible no diacritics should be added. Different phonetic symbols cannot signify the same phonemes of different languages. Other principles indicate that it is necessary to represent every possible sound of any existing language, limit oneself to the use of Roman letters, unless their number is not sufficient, and finally avoid diacritics since they are difficult to follow (IPA 1999/2007, 159-196).

Chapter 4 *Comparison of the English and Lithuanian Phonemic Inventories and the Grouping of Phonemes into Static Visemes for the Purpose of Lip-Synchrony in Dubbing* falls into smaller sub-chapters and embraces the investigation into the similarities and differences of the English and Lithuanian vowel, diphthong and consonant phonemes as well as grouping of the English and Lithuanian phonemes into visemes on the basis of visual features of phoneme production.

According to Peter Roach (2000, 10) vowels are sounds in which there is no obstruction to the flow of air as it passes the larynx to the lips.” The difference between the production of consonants and vowels is that the consonants are made by obstruction, while vowels are produced by resonance (Brinton 2000, 35). Vowels themselves differ because of the different resonance chamber shape in the mouth. The comparison of the English and Lithuanian vowel phonemes is based on the assessment of three articulatory criteria of sound production (horizontal (front-back) position, openness and roundness). To demonstrate the similarities and differences of the English and Lithuanian monophthongs, the Cardinal Vowel system is employed since „There is only one way of making written descriptions of vowels intelligible to a large circle of readers from different nationalities: to describe the sounds with reference to a scale of ‘Cardinal Vowels’, i. e. a set of fixed vowel sounds having known acoustic qualities and known tip and lip positions“ (Jones 1918, 28). Although the analysis of the production of the English vowel phonemes is conventionally based on the cardinal vowel system, it has not been applied to the monophthongs of the Lithuanian language so far. For the purpose of the comparison of the two languages, the Lithuanian vowel phonemes are placed on the trapezium of Cardinal Vowels.

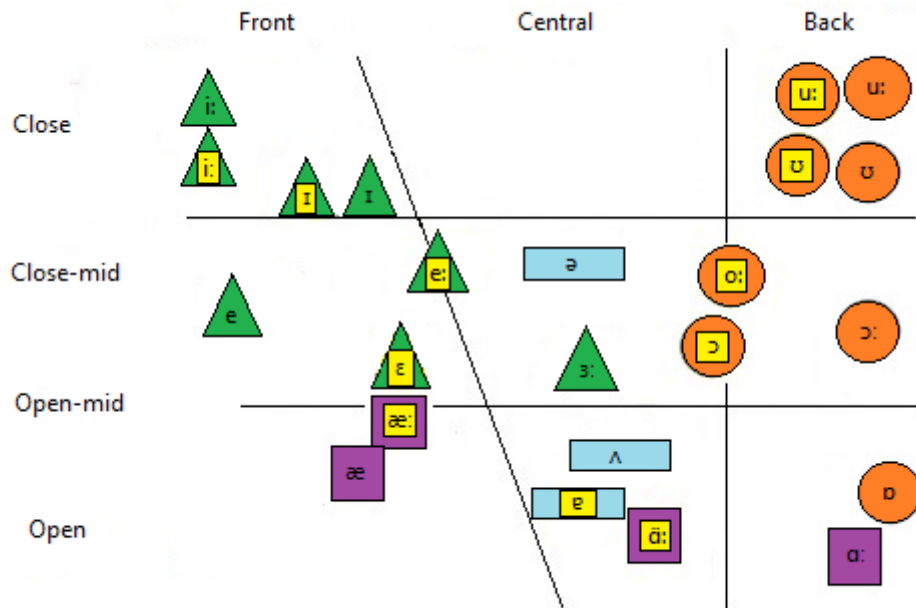


Figure 1 The position of English and Lithuanian monophthongs in the Cardinal Vowel system  
 Source: created by the author according to Carter et al. (2001, 59)

As reported by Roach (2000, 20), “Diphthongs are sounds which consist of movement or glide from one vowel to another”. In the case of the stressed syllable the first element of the English diphthongs is said to be stronger and longer than the second element. On the other hand, both compound and complex types of the diphthongs of the Lithuanian language differ in accentuation, hence the meaning is dependent on the use of either the acute or the circumflex accent. To demonstrate similarities and differences between the English and Lithuanian languages the system of Cardinal Vowels conventionally applied to English monophthongs and diphthongs is used as a fundamental tool to indicate the principal features of the Lithuanian diphthong production.

The monophthong and diphthong phonemes in the green triangular shape stand for the spread lips. The phonemes in the violet square shape indicate a considerable separation of jaws, the phonemes in the orange circle shape show rounded and protruded lips and finally the blue rectangular shape has been chosen to indicate the neutrally open jaws. To distinguish the difference between the English and Lithuanian languages the yellow colour has been applied to the Lithuanian diphthongs.

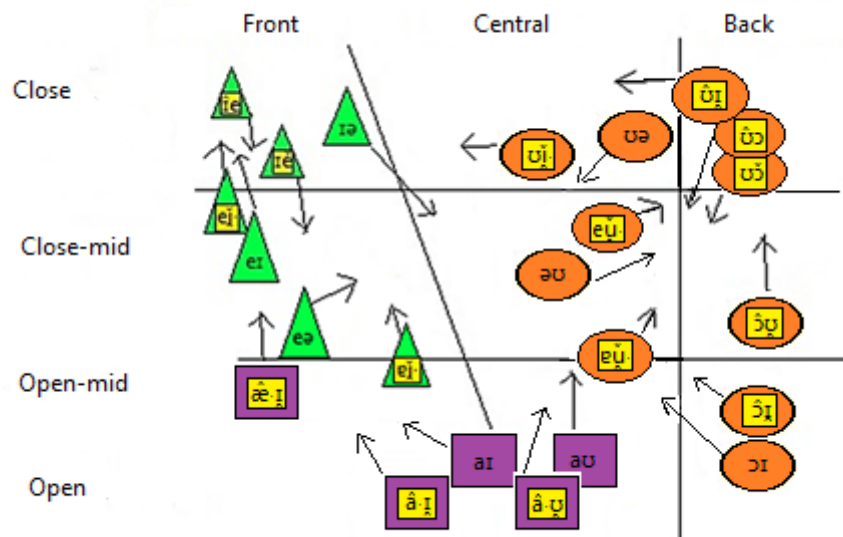


Figure 2 The position of English and Lithuanian diphthongs in the Cardinal Vowel system

Source: created by the author according to Carter et al. (2001, 59)

The comparison of the English and Lithuanian consonants is based on such articulatory aspects as the way of phone production, the type of obstruction, the place of obstruction (the active and passive organs of speech) and voicing. However, the major difference between the English and Lithuanian phonemes is based on the criterion of palatalization, since contrarily to the English consonants, each Lithuanian consonant possesses a minimal pair of the palatalized consonant. Table 2 demonstrates the consonant inventories of the two languages.

Table 2 The classification of the Lithuanian and English consonant phonemes according to the type of obstruction, the way of phone production, the place of obstruction (the active and passive organs of speech) and voicing

		According to the place of obstruction		Forelingual			Mediolingual	Backlingual (dorsal)	Glottal
		Labial		Dental	Alveolar	Post-alveolar			
According to the type of obstruction		Labial	Dental	Dental	Alveolar	Post-alveolar	Palato-alveolar	Palatal	Velar
Obstruent	Plosive	p – p, pʲ b – b, bʲ		t, tʲ, d, dʲ	t d			c t	k – k g – g





Occlusive	Sonorant (nasal)		m – m, mʲ		ŋ, ŋʲ	n			ŋ		
	Obstruent	Affricate			(ts), (tsʲ) (dʒ), (dʒʲ)	(tʃ), (tʃʲ) (dʒ), (dʒʲ)		tʃ dʒ			
Constrictive	Obstruent	Fricative		f – f, fʲ v – v, vʲ	θ ð s, sʲ z, zʲ	s z ʃ, ʃʲ ʒ, ʒʲ		ʃ ʒ	ç j	x ɣ	
	Sonorant	Medial	w				ɹ		j – j	(w)	
		Rolled					r, rʲ				
		Lateral			ɬ	l – lʲ					
										h	





Source: created by the author according to Gimson and Cruttenden (1994), Roach (2000) Pakerys (2003) ir Girdenis (2003)

All in all, the comparison of the English and Lithuanian phonemic inventories reveals that the Lithuanian articulation is more advanced with respect to the English one.

The research results prove that both English and Lithuanian phonemes fall into 4 monophthong-diphthong visemes and 4 consonant visemes. All the visemes comprise visually similar phonemes, which can be interchangeably used to achieve lip synchrony in dubbing. The similarity of two consonant visemes to two vowel-diphthong ones allows to reduce the total number of the distinguished visemes into 6 generic visemes.

Table 3 **Vowel, diphthong and consonant visemes**

No	Visual features	The Lithuanian phonemes	The English phonemes
1.	 <p><b>Considerable separation of jaws</b></p>	/ä:/, /â·ɪ/, /â·ʊ/, /æ:/, /æ̂·ɪ/	/ɑ:/, /aɪ/, /aʊ/, /æ/
2.	 <p><b>Neutrally open mouth</b></p>	/e/, /ts/, /tsʲ/, /tʃ/, /tʃʲ/, /d/, /dʲ/, /dʒ/, /dʒʲ/, /dʒ/, /dʒʲ/, /ɬ/, /lʲ/, /n/, /nʲ/, /s/, /sʲ/, /ʃ/, /ʃʲ/, /r/, /rʲ/, /t/, /tʲ/, /tʃ/, /tʃʲ/, /dʒ/, /dʒʲ/	/ɒ/, /ə/, /θ/, /ð/, /tʃ/, /dʒ/, /l/, /n/, /s/, /ʃ/, /t/, /z/, /ɹ/, /z/, /g/, /h/, /j/, /k/, /ŋ/

		/z/, /z̥/, /z̥ʲ/, /x/, /ç/, /g/, /j/, /ʎ/, /ʝ/, /j̥/, /j̥ʲ/, /k/, /c/, /ŋ/ <sup>2</sup> , /ŋʲ/ <sup>3</sup>	
3.	 <b>Spread lips</b>	/ɪ/, /e̞ː/, /e̞ːʲ/, /i̞e/, /i̞e̞/, /ɛ/, /eː/	/ɪ/, /eɪ/, /iə/, /e/, /eə/, /ɜː/
4.	 <b>Rounded and protruded lips</b>	/ʊ/, /uː/, /ûç/, /u̯ç/, /ûɪ/, /u̯ɪ/, /e̞ʊː/, /e̞ʊːʲ/, /ɔ/, /oː/, /ɔ̞ɪ/, /ɔ̞ʊ/	/ʊ/, /uː/, /ʊə/, /əʊ/, /ɒ/, /ɔː/, /ɔɪ/, /w/
5.	 <b>Closed lips</b>	/p/, /pʲ/, /b/, /bʲ/, /m/, /mʲ/	/p/, /b/, /m/
6.	 <b>The lower lip touching the upper teeth</b>	/f/, /fʲ/, /v/, /vʲ/	/f/, /v/

Source: created by the author

The first generic viseme *Considerable separation of jaws* is comprised exceptionally of the monophthong-diphthong phonemes. The major number of the phonemes in this viseme are defined as open back or central, the viseme also includes open front vowels and diphthongs. All of the phonemes of this viseme are pronounced with a considerable separation of jaws. The correspondence of two articulatory features among the phonemes within the first generic viseme is observed.

The second generic viseme *Neutrally open mouth* includes a set of English and Lithuanian monophthong-diphthong and consonant phonemes by combining the second English and Lithuanian monophthong-diphthong viseme with the fourth consonant viseme. This generic viseme is considered to be the largest one comprising 65 consonant

<sup>2</sup> Allophone

<sup>3</sup> Allophone

phonemes and three monophthongs, which are produced with the mouth and lips neutrally open. The monophthong phonemes are defined as open, open-mid, close-mid and central and match at least two articulatory criteria (horizontal movement and roundness). Among the English and Lithuanian consonant phonemes, the following classes of phonemes are included: forelingual dental, alveolar, post-alveolar and palato-alveolar, mediolingual palatal, backlingual velar and glottal. In spite of the major differences in the production of the above mentioned consonants, the correspondence in terms of visibility in their production has been identified.

The third generic viseme *Spread lips* coincides with the third monophthong-diphthong viseme. All of the phonemes of the third viseme are produced with the lips spread and comprise close, close-mid or open-mid, front or central monophthong and diphthong phonemes.

The fourth generic viseme *Rounded and protruded lips* consists of the fourth monophthong-diphthong viseme comprising monophthong and diphthong phonemes defined as close, close-mid or open-mid, back or central, as well as the second consonant viseme consonant /w/ defined as both bilabial sonorant and velar sonorant because it involves two obstructions of the vocal tract formed simultaneously. One of them is lip rounding when the lower and upper lips approach each other while the other is formed in the back of the mouth with the tongue body slightly approaching the soft palate. All of the phonemes of the fourth viseme are produced by rounding and protruding the lips.

The fifth generic viseme *Closed lips* embraces the first viseme of the English and Lithuanian consonant phonemes comprising bilabial plosive consonants produced with the lips put together.

Finally, the sixth generic viseme *The lower lip touching the upper teeth* covers the third consonant viseme of labiodental consonants produced with the lower lip touching the upper teeth.

## CONCLUSIONS

1. On the basis of the phonemic principle and the phonetic symbols of the International Phonetic Alphabet for phoneme notation, as well as diacritics and suprasegmentals indicating the additional features, and the assessment of the qualitative and quantitative aspects of Lithuanian vowel, diphthong and consonant phoneme production, the Lithuanian phonological alphabet in terms of the IPA allows to compare the Lithuanian phonemic inventory with other languages in a common system.
2. On the basis of the investigation into the features of articulation of the English and Lithuanian phonemes as well as the assessment of the similarities and differences of visual features attributed to vowel, diphthong and consonant phonemes, the phonemic inventories of the English and Lithuanian languages fall into six generic visemes including vowel, diphthong and/or consonant phonemes, which can be considered interchangeable within a viseme while transferring the source language

text into the target language text, in order to render the denotative meaning in feature films with live actors and animated feature films. In the process of a verbal text translation the translator is not compelled to replace a homophone of the source text by a homophone in the target text comprised of homorganic sounds, but is provided an instrument to interchangeably use any phoneme belonging to the same viseme.

3. The comparison of the visual features of vowel and diphthong phonemes of the English and Lithuanian languages proves the principle of correspondence of two articulatory criteria of sound production from the main three distinguished criteria (horizontal (front-back) position, openness and roundness). However, it does not provide the basis for grouping phonemes into visemes, since in the case of rounded and protruded lips a single prevailing feature of roundness is maintained with the exception of the open-mid central long unrounded vowel phoneme /ɜ:/, whose visual features are highly influenced by the quantitative aspect.
4. The assessment of visual features of the production of compound diphthongs, the importance of accent as an essential criterion for their classification into separate visemes has been determined. In the production of the Lithuanian compound diphthongs, due to the falling accent (acute) the first element of the diphthong is considered to be visually dominant over the second element, and vice versa, the rising accent (circumflex) determines the visual dominance of the second element over the first one. An exception is observed with the close central compound diphthong /uĩ/ which is characterized by the visual dominance of the first element because of the prevailing feature of rounding despite the circumflex accent. Either the acute or circumflex accent has no significant influence on the visual features in the production of the Lithuanian complex diphthongs, since both elements of complex diphthongs are characterized by similar articulatory criteria in terms of visibility and regarded as a phonemic unit rather than two separate phonemes.
5. The findings of the investigation into the visual features of the English diphthongs has revealed that due to the stronger articulation of the first element, visual dominance is attributed to the first element of the English diphthongs with the exception of /əʊ/ which is produced centrally between close-mid and open-mid, and in terms of visibility, is significantly influenced by the position of the protruded lips.
6. Close back vowel phonemes in both the English and Lithuanian languages are characterized as having the strongest impact on the neighbouring sounds in terms of visibility not only due to the labialization of consonants preceding close back vowels but also because these phones in the production of diphthongs strongly influence front or central and close or mid-open and mid-close diphthongs produced with the lips spread, loosely spread or neutrally open.
7. The major criterion of grouping English and Lithuanian consonant phonemes into visemes is considered to be the articulatory gesture of the active place of articulation. Due to the front articulation and, therefore, the pronounced articulatory gestures of the active articulator in terms of visibility, occlusive bilabial and labiodental consonants possessing distinguished visual features fall into separate

visemes. The English constrictive bilabial medial sonorant /w/ compliments the fourth vowel-diphthong viseme. Other English and Lithuanian consonant phonemes, including forelingual dental fricatives, are not considered significant in terms of visibility and correspond to the position of the neutrally spread mouth.

8. Due to the pronounced dominance of the visual features, the vowel and diphthong phonemes of the first and the fourth visemes, need to be replaced by the phonemes of the same visemes, otherwise dischrony in the dubbing would be obvious, while inattentive interchange between the vowel-diphthong phonemes comprising the second and the third visemes would not be easily identified in the presence of side-factors.

In the issue, on the basis of the analysis of *English and Lithuanian Phonemic Inventories in the Context of Visual Phonetics*, the first hypothesis of the current dissertation is confirmed by conclusion 1, conclusions 2, 6 and 8 support hypotheses 2, 3 and 4, whereas the claim of hypothesis 5 is only partly supported by conclusion 3. Finally, conclusion 7 confirms hypothesis 6, and conclusions 4 and 5 support hypothesis 7.

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# DUBLIAVIMAS KAIP AUDIOVIZUALINIO VERTIMO MODA: ANGLŲ IR LIETUVIŲ KALBŲ GARSYNAI VIZUALINĖS FONETIKOS KONTEKSTE

## Santrauka

Šio darbo specifika ir tyrimo pobūdį nulėmė suvokimas, kad garsinio ir vaizdinio kanalų (audiovizualinė) sintezė dėl įgimto gebėjimo skaityti iš lūpų pasižymi tiesioginiu poveikiu šnekos percepcijai. Tradiciškai audiovizualinė sintezė neatsiejama kasdienio bendravimo gyvai dalis, tačiau globalizacija ir technologinė pažanga šių dviejų kanalų sintezės apraiškas transformuoja į audiovizualinės rinkos produkciją. Neatitikimo tarp garsinio ir vaizdinio kanalų sąlygoti nuostoliai ne tik sumenkina audiovizualinės produkcijos kokybę, tačiau ir pasižymi neigiamu poveikiu šnekos percepcijai. Audiovizualinio vertimo (AVV) kontekste šie nuostoliai būdingiausi dubliavimui – modai, kurioje originalo kalbos fonograma keičiama vertimo kalbos fonograma siekiant kuo tikslesnės laiko, frazuotės ir lūpų sinchronijos (Luyken ir kt. 1991, 73).

**Tyrimo aktualumas ir naujumas.** Nors Lietuvos audiovizualinės produkcijos polistemoje dubliavimas laikytinas marginaline moda, užimančia periferinę poziciją kitų AVV modų atžvilgiu, dažniausiai Lietuvoje dubliuojamos produkcijos – lietuviškų animacijos dubliažų – skaičius auga ir, kaip rodo lankomiausių filmų reitingavimas, tokie filmai Lietuvos kino pramonei atneša didelę pelno dalį. Be to, šio tyrimo aktualumą ir naujumą patvirtina ne tik žemas dubliavimo kaip AVV modos iširtumo laipsnis, tačiau ir Lietuvos auditorijos požiūrio į AVV modas tyrimas<sup>1</sup>, atliktas disertacijos rengimo laikotarpiu. Tyrimo rezultatai patvirtina, kad vienas svarbiausių lietuviškai dubliuotos animacijos populiarumo veiksnių – dubliavimas kaip AVV moda. Lietuvos žiūrovams svarbu, kad dubliaže būtų taikomos visų tipų sinchronijos – izochronija, lūpų ir kinetinė. Daugiausia pasiruošimo ir specialaus išmanymo reikalauja lūpų sinchronijos tipas, tiesiogiai siejamas su gebėjimu skaityti iš lūpų. Tačiau tyrimų, pateikiančių tikslus nurodymus, kaip pasiekti lūpų sinchroniją tarp lietuvių ir anglų kalbų garsynų dubliavimo tikslais, nėra. Dėl to siekiama sukurti bazinius principus, kuriais remiantis atliekama lūpų sinchronija tarp anglų ir lietuvių kalbų garsynų.

Žvelgiant iš šios perspektyvos formuluojama **disertacijos problema**: eklektiškas AVV terminijos vartojimas lietuvių kalba, teorinio pamato lūpų sinchronijai tarp anglų ir lietuvių kalbų pasiekti nebuvimas ir skirtingos šių kalbų garsų žymėjimo sistemos.

**Disertacijos objektas** – anglų ir lietuvių kalbų garsų vizualinė raiška ir lūpų sinchronijos galimybės dubliuojant filmus.

**Disertacijos tikslas** – identifikavus anglų ir lietuvių kalbų garsynų vizualinės raiškos panašumus ir skirtumus, nustatyti bazines, galimai stambiausias, vizemas, aprėpiančias vizualiai tapačias anglų ir lietuvių kalbų fonemas lūpų sinchronijos dubliavime tikslais.

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<sup>1</sup> Lietuviškai dubliuotų animacinių filmų populiarumą lemiantys veiksniai (Koverienė ir kt. 2013).



### **Uždaviniai:**

- analizuojant pagrindines AVV modas ir dubliavimo kaip AVV modos ypatumus, susisteminti terminiją lietuvių kalba;
- siekiant atskleisti ryšio tarp garso ir vaizdo priėmimo kanalų svarbą kalbos percepcijai filmo naratyve, aptarti parankius tyrimui audiovizualinės sintezės, audiovizualinio kontrakto, vizualinės fonetikos ir vizemų teorijų teiginius;
- pritaikyti tarptautinę fonetinę abėcėlę lietuvių kalbos transkripcijai siekiant palyginti vizualinę anglų ir lietuvių kalbų fonemų raišką;
- remiantis vizualinės fonetikos įžvalgomis bei vizualine anglų ir lietuvių kalbų fonemų raiška, nustatyti anglų ir lietuvių kalbų bazines vizemas kaip pagrindą lūpų sinchronijai nevertinant šalutinių dubliavimo veiksnių.

### **Ginamieji teiginiai:**

1. Esminė anglų ir lietuvių kalbų fonemų grupavimo į vizemas sąlyga yra bendra transkripcijos sistema.
2. Kompiuterinės grafikos tikslais sukurtas vizemas siekiant lūpų sinchronijos dubliavime galima jungti į stambesnius vienetus.
3. Dubliavimo tikslais taikytinos vizemos vaidybinių filmų lūpų sinchronijai yra aktualios ir animacijos rūšies filmų lūpų sinchronijai.
4. Vizema gali aprėpti balsines, dvibalsines ir priebalsines fonemas.
5. Balsines ir dvibalsines vizemas sudarančios fonemos sutampa mažiausiai pagal du artikuliacijos požymius iš trijų (horizontalaus liežuvio poslinkio, vertikalaus liežuvio poslinkio ir lūpų veiklos).
6. Pagrindiniu priebalsių grupavimo į vizemas kriterijumi laikytini artikuliacijos vietos aktyvieji kalbos padargai.
7. Fonemų grupavimas į vizemas grindžiamas fonologiniais segmentiniais ir supersegmentiniais elementais.

**Metodologinės nuostatos, teorinės atramos ir tyrimo metodai.** Tarptautinės fonetinės abėcėlės pritaikymas lietuvių kalbos transkripcijai grindžiamas Tarptautinės fonetikos asociacijos nuostatomis ir metodologinėmis rekomendacijomis. Siekiant palyginti dviejų kalbų garsynus vieno svarbiausių sinchronizacijos tipų – lūpų sinchronijos – tikslais, taikant aprašomojo ir analitinio metodų technikas atskleidžiamos A. Ch. Gimsono ir A. Cruttendeno, P. Raucho, A. Girdenio, A. Parkerio ir V. Vitkausko teorinės įžvalgos. Pabrėžiant lūpų sinchronijos svarbą šnekos percepcijai ir dubliavimo kaip AVV modos požymius, analizės lauke neišvengiamai susiduriama su I. Fodoro, C. Whitman-Linsen ir F. Chaume'o sinchronizacijos tipologijomis ir audiovizualinės šnekos sintezės teorija, kuriai ypatingos reikšmės turėjo „McGurko efektu“ vadinama iliuzija, pademonstravusi glaudų ryšį tarp kalbos vaizdinio ir garsinio signalo įrodant, kad skaitymo iš lūpų informacija yra automatiškai integruojama į šnekos percepciją. Audiovizualinės sintezės traktuotei taip pat paranki M. Chiono audiovizualinio kontrakto teorija, akcentuojanti audiovizualinio ryšio svarbą filmo naratyvo kontekste ir apibrėžianti sinkrezės fenomeną, kuris suponuoja dubliavimo kaip savarankiškos modos susiformavimą. Pasitelkus lyginamąjį metodą, lyginami anglų ir lietuvių kalbų garsynai, o

atlikus empirinę fonemų vizualinės raiškos analizę ir pritaikius kompiuterinėse technologijose tikroviškos kalbos animacijos tikslais naudojamą bazinį vizualinės garsų raiškos vienetą – vizemą, anglų ir lietuvių kalbų fonemos grupuojamos į galimai stambiausias grupes lūpų sinchronijos dubliavime tikslais.

**Tyrimo medžiaga.** Dubliavimas Lietuvoje apsiriboja daugiausia animacijos rūšies filmais arba, atskirais atvejais, vaidybiniais filmais su animacijos elementais ir vaidybiniais filmais vaikams (atlikti tik keli vaidybinių filmų suaugusiesiems dubliažai), todėl į disertacijos tyrimo lauką patenka 18 animacijos, vaidybinių su animacijos elementais ir vaidybinių filmų vaikams, kurių dubliažai Lietuvoje demonstruoti 2004–2014 metais (peržiūra siekia 2014 min.). Taip pat naudojamosi 2012–2015 m. BBC žinių medžiaga (peržiūra siekia 59.30 min.). Tiriamos 329 originalo kalbos fonemų artikuliacijos vizualinės raiškos iškarpos. Empirinėje tyrimo dalyje analizuojamos 56 animacijos, vaidybinių su animacijos elementais ir vaidybinių filmų vaikams iškarpos (likusios 243 iškarpos pateikiamos disertacijos 1 priede) ir 30 BBC žinių iškarpų. Audiovizualinė medžiaga apdorojama pasitelkiant kompiuterines programas *Adobe Premiere Pro CS* ir *Snagit*.

**Disertacijos struktūra.** Siekiant atskleisti tiriamojo objekto svarbą, pasirinktas itin platus prieigų laukas, leidžiantis suvokti ryšį tarp lūpų sinchronijos dubliavime ir įgimto gebėjimo skaityti iš lūpų. Pirmajame disertacijos skyriuje „Dubliavimas kaip audiovizualinio vertimo moda (AVV)“ pateikiama trumpa AVV kaip atskiros vertimo mokslo šakos apžvalga, analizuojama AVV modų klasifikacija, pabrėžiami dubliavimo kaip kompleksiškiausios AVV modos ypatumai ir atliekamas terminų lietuvių kalba sisteminimas. Problemos specifiką aktualizuoja Lietuvos dubliavimo produkcijos tyrimas, atskleidžiantis dubliavimo modos vaidmens svarbą animacijos rūšies populiarumui Lietuvoje. Atskiros paminėjimo reikalauja antrasis skyrius „Teorinės prieigos: ryšys tarp garso ir vaizdo priėmimo kanalų kalbos percepcijoje filmo naratyvo kontekste“, akcentuojantis vaizdo ir garso kanalų sintezės ir sinchronizacijos svarbą šnekos percepcijai. Trečiajame skyriuje „Tarptautinės fonetinės abėcėlės (TFA) pritaikymas lietuvių kalbos transkripcijai“, remiantis naujausia Tarptautinės fonetinės abėcėlės redakcija, atlikta sisteminga lietuvių kalbos ir TFA ženklų analizė ir pateikti TFA fonetinių ženklų atitikmenys lietuvių kalbos garsams žymėti. Ši sistema naudojama kaip įrankis empiriniam tyrimui ketvirtajame disertacijos skyriuje „Lietuvių ir anglų kalbų garsynų lyginimas ir fonemų grupavimas į statiškas vizemas lūpų sinchronijos dubliavime tikslais“, kuriame detalai palyginami anglų ir lietuvių kalbų garsynai, įvertinami fonemų panašumai ir skirtumai garsų vizualinės raiškos aspektu, ir abiejų kalbų fonemos grupuojamos į bazines vizualinius vienetus atitinkančias fonemų grupes, kurios naudojamos kaip pagrindas lūpų sinchronijai išlaikyti verčiant iš anglų į lietuvių kalbą dubliuojant. Pabaigoje pateikiamos išvados, 143 pozicijų literatūros sąrašas, 27 pozicijų šaltinių sąrašas ir 3 priedai.

Disertacija parašyta *Segoe UI* šriftu, kadangi šis šriftas rekomenduojamas Tarptautinės fonetikos asociacijos (TFA) (kiti šriftai neatpažįsta diakritinių ženklų).

Disertacijos rezultatai reikšmingi ne tik dubliuojantiems vertėjams ir adaptuotojams, tačiau ir visai dubliavimo komandai, dubliavimo proceso metu aktyviai dalyvaujančiai koreguojant dischronijos atvejus ir taip siekiant garso ir vaizdo sinchronizacijos. Disertacijos praktinė vertė neapsiriboja audiovizualine pramone, kadangi sukurtas įrankis – TFA fonetinių ženklų pritaikymas lietuvių kalbos transkripcijai – suteikia platesnes galimybes humanitarinių mokslų atstovų tarptautiškumui, populiarinant lietuvių kalbą platesniu mastu ar edukaciniais tikslais rengiant mokomasias lietuvių kalbos knygas užsieniečiams, o tai ypač aktualu globalizacijos laikais. Ne mažiau reikšminga audiovizualinei rinkai lietuvių kalba susisteminta medijų pramonės terminologijos dalis, prisidedanti prie lietuvių kalbos turbinimo ir puoselėjimo.

## IŠVADOS

1. Remiantis foneminiu principu, pasitelkus Tarptautinės fonetinės abėcėlės (TFA) ženklus fonemoms žymėti ir diakritikus bei supersegmentus, akcentuojančius papildomus požymius, ir įvertinus lietuvių kalbos balsinių ir dvibalsinių ir priebalsinių fonemų tarties kokybinius ir kiekybinius požymius, pagal TFA sukomplekta lietuvių kalbos fonologinė abėcėlė leidžia lyginti lietuvių kalbos garsyną su kitomis kalbomis bendroje sistemoje.
2. Lūpų sinchronijos dubliuojant tikslais, remiantis anglų ir lietuvių kalbų garsynų artikuliacijos požymių analize ir įvertinus balsinių ir dvibalsinių ir priebalsinių fonemų vizualinės raiškos panašumus ir skirtumus, anglų ir lietuvių kalbų statiškosios fonemos sudaro šešias vizemas, kurių balsinės ir dvibalsinės ir (arba) priebalsinės fonemos gali būti keičiamos tarpusavyje originalo kalbos (anglų) tekstą perkeltiant į vertimo kalbos (lietuvių) tekstą ir atvirkščiai denotacinei reikšmei perteikti vaidybiniuose ir animaciniuose filmuose. Vertėjas, versdamas verbalinį tekstą dubliavimo tikslais, turi galimybę ne tik homofenišką originalo kalbos atitikmenį keisti homofenišku vertimo kalbos variantu, kurį sudaro homorganiniai garsai, tačiau fonemas keisti tai pačiai vizemai priklausančiomis fonemomis.
3. Lyginant anglų ir lietuvių kalbų balsinių ir dvibalsinių fonemų vizualinę raišką, vyrauja dviejų esminių artikuliacijos požymių iš trijų (horizontalaus liežuvio poslinkio, vertikalaus liežuvio poslinkio ir lūpų veiklos) atitikties principas, tačiau jis nėra pagrindinis fonemų skyrimo į vizemas kriterijus, kadangi suapvalintų lūpų atveju dominuojančiu požymiu laikytina lūpų veikla. Išimtį sudaro anglų kalbos centrinės eilės vidutinio pakilimo (pusiau atviroji), nelūpinė balsinė fonema /ɜ:/, kurios vizualinei raiškai įtakos turi kiekybinis požymis.
4. Įvertinus lietuvių kalbos sudėtinių dvibalsių artikuliacijos vizualinę raišką, manytina, kad priegaidės svarba yra esminė, sąlygojanti dvibalsių grupavimą į atskiras vizemas. Dėl akūto lietuvių kalbos sudėtinių dvibalsių tartyje vizualiai reikšmingesnė pirmojo dvibalsio dėmens tartis, o dėl cirkumflekso dominuojant

antrajam sudėtinio dvibalsio dėmeniui reikšmingesnė yra antrojo dvibalsio dėmens vizualinė raiška. Išimtį sudaro centrinės eilės aukštutinio pakilimo dvibalsis [uĩ], kuriame, nepaisant cirkumflekso, ryškesnė yra pirmojo dėmens vizualinė tartis dėl dominuojančio lūpų veiklos požymio. Sutaptinių dvibalsių vizualinei raiškai priegaidės svarba nėra esminė, kadangi šie dvibalsiai sudaro atskiras fonemas ir artikuliuojami panašioje padėtyje vizualiai reikšmingų kalbos padargų aspektu.

5. Įvertinus anglų kalbos dvibalsinių fonemų vizualinę raišką paaiškėjo, kad dėl ryškesnės pirmojo dvibalsių dėmens tarties šio dėmens vizualinė raiška dominuoja, išskyrus anglų kalbos centrinės eilės vidutinio pakilimo dvibalsį /əʊ/, kurio vizualinei raiškai įtakos turi papūstų ir suapvalintų lūpų padėtis.
6. Užpakalinės eilės aukštutinio pakilimo balsinės fonemos vizualumo prasme tiek anglų, tiek lietuvių kalbose laikytinos labiausiai veikiamais garsais ne tik dėl to, kad prieš lūpinius balsius visi priebalsiai lūpinami, tačiau ir todėl, kad šis garsas artikuliuojant dvibalsius pasižymi stipriu poveikiu priešakinės arba centrinės eilės aukštutinio arba vidutinio pakilimo balsiams, kuriuos artikuliuojant lūpos patempiamos į šalis arba burna neutraliai praveriama.
7. Pagrindiniu anglų ir lietuvių kalbų priebalsinių fonemų grupavimo į vizemas kriterijumi laikytinas artikuliacijos vietos aktyvusis kalbos padargas. Dėl priešakinės artikuliacijos vietos ir todėl vizualiai ryškios aktyviojo kalbos padargo veiklos atskiras vizemas sudaro vizualine raiška išsiskiriantys abiejų kalbų uždarmos abilūpiniai ir ankštumos lūpiniai dantiniai priebalsiai. Anglų kalbos ankštumos sklandusis paprastasis abilūpinis priebalsis /w/ papildo 4-osios vizemos balsines ir dvibalsines fonemas. Kitos anglų ir lietuvių kalbų priebalsinės fonemos, įskaitant liežuvio priešakines dantines fonemas, vizualinės raiškos aspektu nėra reikšmingos ir priskiriamos neutraliai pravertos burnos vizemai.
8. Dėl reikšmingos pirmosios ir ypač ketvirtosios grupės balsinių ir dvibalsinių fonemų vizualinės raiškos, verčiant dubliavimui, privalu šių vizemų fonemas keisti tų pačių vizemų fonemomis, kadangi priešingu atveju vertimo klaida yra lengvai pastebima. Neatidus antrosios grupės balsinių ir dvibalsinių fonemų keitimas trečiosios grupės balsinėmis ir dvibalsinėmis fonemomis, ir atvirkščiai, esant pašaliniais veiksniais, būtų sunkiau identifikuojamas.

Remiantis pateiktomis išvadomis galima teigti, kad įžanginėje dalyje pateiktos hipotezės buvo įrodytos.

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