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**Vowel System of Young Bidialectal Adults:
A Pilot Study**

Bachelor's Thesis

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(English Philology)

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Olomouc 2023

Vowel System of Young Bidialectal Adults: A Pilot Study.
(Bakalářská práce)

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Počet znaků: 72 985

Počet stran (podle znaků /1800): 40

Počet stran (podle čísel): 49

Abstract and annotation

The topic of this bachelor thesis is bidialectalism and how it is related to bilingualism. The literature review first discusses the difference between language and dialect and describes bidialectal/bilingual communities in the world. Then, it focuses on the issue of bidialectal phonology. The thesis considers the vowel system of a bidialectal person (a person who speaks two dialects in one language), it aims to find out how much the fact that a person controls two dialects affects sound categories in each dialect and to what extent equivalent vowels overlap or differ. The analysis makes use of models developed to describe the interaction of sound categories in the context of second language learning. The aim is to use these models to describe the organization of phonological representations in a person who speaks two dialects. Because authentic native English data are difficult to collect, the ideas in this thesis are explored in the context of a specific case of Czech bidialectalism. Specifically the thesis focuses on speakers of Silesian-Moravian (SM) and Standard Czech (SC). SC phonology contains a contrastive length of vowels, while SM does not have the length contrast. SM maintains a contrast between the high front vowel /i/ and the centralized vowel /i̯/, which was lost in SC. For the purposes of the study, the participants are bidialectal speakers who were born and grew up in Ostrava/Opava region but who study in Olomouc. Their vowel systems (specifically the high vowels) are compared with monolectal speakers of the respective dialects. The acoustic analysis of speech recordings is complemented by a questionnaire capturing the participants' language experience, their awareness of their own dialects, and practices of use.

Keywords

Bidialectalism, dialect switching, cross-dialectal differences, dialect phonology, high vowels, Czech spoken in Silesia

Abstrakt a anotace

Tématem této bakalářské práce je bidialektismus a jeho souvislost s bilingvismem. Přehled literatury nejprve pojednává o rozdílu mezi jazykem a nářečím a popisuje bidialektální/bilingvní komunity ve světě. Poté se zaměřuje na problematiku bidialektální fonologie. Práce se zabývá hláskovým systémem bidialektálního člověka (člověka, který mluví dvěma dialekty v jednom jazyce), klade si za cíl zjistit, nakolik skutečnost, že člověk ovládá dva dialekty, ovlivňuje zvukové kategorie v jednotlivých dialekttech a do jaké míry se ekvivalentní hlásky překrývají, resp. liší. Analýza využívá modely vyvinuté k popisu interakce zvukových kategorií v kontextu učení se druhému jazyku. Cílem je pomocí těchto modelů popsat organizaci fonologických reprezentací u osoby, která hovoří dvěma dialekty. Vzhledem k tomu, že autentická data z rodilé angličtiny je obtížné shromáždit, jsou myšlenky v této práci zkoumány v kontextu konkrétního případu českého bidialektalismu. Konkrétně se práce zaměřuje na mluvčí slezskomoravského (SM) a standardního českého (SC) dialektu. Fonologie SC obsahuje kontrastivní délku samohlásek, zatímco SM tento délkový kontrast nemá. SM zachovává kontrast mezi vysokou přední samohláskou /i/ a centralizovanou samohláskou /i/, který se v SC ztratil. Pro účely studie jsou účastníky bidialektální mluvčí, kteří se narodili a vyrostli na Ostravsku/Opavsku, ale studují v Olomouci. Jejich hláskové systémy (konkrétně vysoké samohlásky) jsou porovnávány s monolektálními mluvčími příslušných dialektů. Akustická analýza nahrávek řeči je doplněna dotazníkem, který zachycuje jazykovou zkušenost účastníků, jejich povědomí o vlastních nářečích a praxi jejich užívání.

Klíčová slova

Bidialektalismus, střídání dialektů, dialektální rozdíly, dialektální fonologie, vysoké samohlásky, čeština ve Slezsku

Prohlašuji, že jsem tuto diplomovou práci vypracoval samostatně a uvedl úplný seznam citované a použité literatury.

V Olomouci dne 11.května 2023

Vojtěch Čierný

Děkuji vedoucímu diplomové práce paní doktorce Šimáčkové za užitečnou metodickou pomoc, trpělivost a cenné rady při zpracování diplomové práce.

V Olomouci dne 11.května 2023

Vojtěch Čierný

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1 Introduction

The term "bidialectalism" refers to fluency in two dialects of the same language. This term is used in studies describing bidialectal situations, especially in school settings (Elifson 1977, Pavlou & Christodoulou 2001 or Mordaunt 2011). Since the term "bidialectalism" is derived from the term bilingualism, Hazen attempts to find an analogy between these two terms, arguing that for bidialectalism to be analogous to bilingualism, bidialectal speakers would have to switch between two different dialects in the way that bilingual speakers switch between two different languages; in a mutually exclusive manner (2001, 92).

One question we can ask about bidialectal vs. bilingual language control is, how accurate or complete is the switching between two languages and between two dialects? Previous research by Grosjean & Miller (1994) has shown that switching between two languages often entails a complete change at both the lexical and phonetic levels. However, more recent research by Bullock et al. (2006) has found that phonetic switching between two languages (e.g. English and Spanish) may not always be complete. Specifically, the study found that code-switching led to shorter English VOTs but did not extend Spanish VOTs, regardless of the direction of the switch. How easy is it for a bidialectal speaker to switch dialects? Do bidialectal speakers separate their native dialect and their later-acquired dialect on the phonetic level?

This bachelor thesis addresses the question of bidialectal speakers' phonology. This thesis starts by defining the notion/term dialect, and a comparison with the language, it discusses dialect acquisition and dialect switching and provides examples of bidialectalism from linguistic communities around the world. This is followed by an account of Accommodation Theory, which explains changes in the linguistic behavior of individuals that either converge towards or diverge from the other speaker in a conversation, as well as the motives for this behavior and examples of individual situations. Closely related to the Accommodation Theory is the Social Identity Theory, which focuses on intergroup interactions of people. Social Identity Theory states that the behavior of individuals in a society is based on which social group with certain defined elements they belong to. Finally, the thesis describes the linguistic situation in the interestingly dichotomous division of Bohemia and Moravia with a focus on the vowel system of Bohemian, Moravian, and Silesian Czech.

In the practical part, we investigate the vocalic system of young bidialectal speakers. We approach it in the same way that researchers of bilingualism view bilingual phonology. From Flege (1995) we adopt the idea of a single phonological system. In his Speech Learning Model (SLM) Flege assumes that bilingual speakers' vowel categories exist and are linked in a unified phonological system. This phonological system is flexible, new phonetic categories can be added and existing categories can be reshaped. With this foundation, a sample of young bidialectal speakers is then tested and specifically their vowel system.

2 Linguistic multicompetence: Bidialectalism and Bilingualism

2.1 Dialect

Hazen defines dialect as “a set of linguistic features distinguishable both qualitatively and quantitatively from other dialects of the same language” (2001, 85-6). Cuřín et al., on the other hand, define it as “a more or less stable local variation of the national language, a geographically definable set of linguistic means which serves as an instrument of communication for only a part of the nation” (1964, 157; my translation). Dialects are kind of forms or variants of one language, which have their specific features.

There are numerous debates in dialectology about the relationship between language and dialect and their clear delineation. Cuřín et al. offer delineation criteria (1964, 158-9; my translation). The first aspect is that of kinship, where older linguists perceived dialects in the spirit of the genealogical theory as parts of a language, geographically precisely defined, where the proto-language was gradually divided into smaller linguistic units. The language was in this conception a collective name for dialects that are closer to each other than dialects of another language. The second is the aspect of intelligibility. With respect to intelligibility, language was understood as a collection of dialects whose users understand each other. Later this was criticized as an inaccurate measure, because speakers of different languages, e.g. Czech and Russian, were able to communicate much better than users of different dialects of the same language (e.g. users of more distant German dialects). The last aspect is the aspect of agency, which says that language as a social phenomenon does not develop by itself, but develops on the basis of language users. Language is therefore an instrument of communication common to all members of a given community, whereas dialect serves only a part of a given community, i.e. its communicative function is much narrower.

2.1.1 Dialect Acquisition

Trudgill outlines three common ways in which speakers demonstrate their dialect when speaking (1986). Two types are related to the Communication Accommodation Theory described below, as defined by Giles (1973). This theory claims that speakers accommodate each other in spoken discourse verbally and non-verbally. Two types of accommodation can be differentiated - short-term accommodation and long-term accommodation (Trudgill 1986). Short-term accommodation is only a transitory modification of linguistic features in the direction of the other dialect. Long-term accommodation is an accommodation that significantly changes the linguistic habits of the speaker. Accommodation can lead to acquisition. This means that a change is permanent and the elements of the original dialect change (Trudgill 1986, 40). The change from a mere adaptation to permanent fixation of a non-native dialect occurs when a speaker uses an element of such a dialect without the presence of speakers of the

dialect in question, i.e. it is no longer accommodation but diffusion (Trudgill 1986, 40). Diffusion occurs when a speaker has been exposed to a non-native dialect long enough and is able to reproduce it faithfully (Trudgill 1986, 42). Without including it in the taxonomy, Trudgill also briefly mentions so-called imitation, e.g. American jokes told by an English speaker or American roles played by English actors (Trudgill 1986, 12). Chambers claims that the “process of dialect acquisition involves not only coming to sound more like the people in the new region but also coming to sound less like the people in the old region” (1992, 695).

Based on these three types, Chambers (1992) discusses eight basic principles of dialect acquisition for speakers who move from one region to another. These principles are based on the findings of his study of six young Canadian speakers who moved from Canada to England in 1983 and 1984, between two countries where a different variety of English is used in each, i.e. Canadian English versus Southern England English (Chambers 1992, 675). For the sake of the economy, I will mention only those principles closely related to my thesis subject.

In the first principle of dialect acquisition, Chambers argues that lexical variation (i.e. words for the same objects but a different word in both dialects) is acquired much faster than phonological aspects such as pronunciation (1992, 677). Related to that is the fourth principle, which states that the acquisition of complex rules or new phonemes is relative because it depends on the age at which the acquisition occurs (Chambers 1992, 687). In the study, the pronunciation of Canadian speakers was inversely proportional to age; the older the speaker was, the lower the percentage of acquisition of pronunciation in another dialect was recorded, with nine-year-olds having the highest percentage (around 60%) and seventeen-year-olds the lowest (under 10%) (Chambers 1992, 678-80). According to the results, age has a major effect on the acquisition of both language and dialect. This is consistent with the Critical Period Hypothesis, according to which there is a period in a child's infancy when the full acquisition of elements of the language(s) occurs very easily, but after this period, proper acquisition becomes more difficult (Lenneberg 1967). Specifically for phonetics, Ruben estimates the CP for phonetics to be between 6 months and 12 months after birth (1997, 203); Long argues that the CP for phonetics closes by the sixth year of life (1990, 274).

The third principle is the elimination of old rules, which generally occurs faster than the acquisition of new rules (Chambers 1992, 695). Thus, speakers move away from both the features of their native dialect and the features of the non-native dialect, but with each successive use of the non-native variety, they move closer to it and further away from their native dialect. As an example, Chambers cites a study by Wells (1973) which examined 36 Jamaican emigrants to London who inserted the glide consonant /j/ after a velar consonant in their Jamaican Creole, e.g. *car* > /kja:r/, and the unmerging of /ɪə/ e.g. *steer* > /stier/. The author investigated how quickly and accurately these speakers could eliminate yod-insertion and learn the unmerging of /ɪə/ in a new environment. The author found that despite Jamaican Creole being a nonrhotic dialect, speakers had difficulty acquiring the new rule, i.e. unmerging of /ɪə/, with a score of 43%, whereas their success rate was as high as 79% when eliminating the old rule, i.e., yod-insertion. The results of this study demonstrate, as Wells argues, that “adolescents

and adults, faced with a new linguistic environment, can adapt their speech to a certain extent by modifying the phonetic realization of their phonemes; but they do not, on the whole, succeed in acquiring new phonological oppositions or in altering the distributional restraints on their phonology” (1973, 117-18).

2.2 Bidialectalism

Crystal defines bidialectalism or bidialectism as “proficiency by a person or a community in the use of two dialects of a language, whether regional or social” (2008, 52). Before we move on to the further discussion of bidialectalism, it should be noted that the existence of bidialectalism presupposes the existence of monolectalism in the same way that the existence of bilingualism presupposes the existence of monolingualism. A monolectal speaker is proficient in only one dialect, which is inherently unlikely to be nearly impossible. Linguists agree on what is called receptive multilectalism, or the assumption that if a speaker can understand a language, he or she is able to understand several dialects of that language. As noted by Riionheimo, Kaivapalu & Härmävaara, this is mainly due to linguistic or dialectal similarities (2017, 117).

However, this inter-dialectal understanding may not always occur, especially when two dialects of one language have a greater degree of differentiation; in such a case, the two dialects appear as two different languages. As an example of this, Uličný describes a situation when a Prague radio presenter speaks to an elderly person from a transitional strip of Czech and Polish dialects (2018, 50). There are two options for mutual understanding - either a member of the discourse with such a different dialect converges to a more standard variety of Czech (in other words, to a variant that is not so marked), or an interpreter is used. Trudgill defines three ways in which speakers can reduce the degree of pronunciation dissimilarity with others (1986, 62). The first is the alteration of one's own variant to that of the other, the second is the use of the variant of the other in several (not all) words (called transfer/mixed dialect), and the third is the use of an intermediate pronunciation between the two dialects (called approximation/fudged dialect).

2.2.1 Bidialectalism vs. Bilingualism

Following Hazen's definition of dialect, Hazen argues that the very notion of bidialectalism is derived from bilingualism, but the analogy between these two terms is unclear and difficult to answer (2001, 85). The reason for this is that regarding bilingualism “although certainly not all bilingual conversation is mutually exclusive between language features, it is humanly possible for bilinguals to meet this mutual criterion” (Hazen 2001, 92). However, the same principle of mutual exclusivity can not be applied to bidialectalism. Hazen states the reason for this by saying that if one person speaks dialect A and the other person speaks dialect B, for the third speaker to be considered a truly bidialectical speaker, he would need to demonstrate the features of dialect A and B in a mutually exclusive manner (Hazen 2001, 92). The author's theoretical continuum of bidialectalism is given in Figure 1.

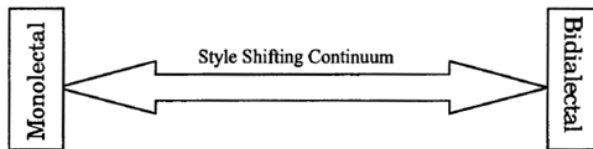


Figure 1 A Potential Theoretical Space for Bidialectalism (Hazen 2001, 92)

As in the case of a bilingual continuum, with monolingualism on one end and bilingualism on the other, Hazen applies the same formula to bidialectalism. However, he doubts the ability of speakers “to switch between two dialects as coherent sets of language variation patterns with quantitative and qualitative accuracy to both dialects” (2001, 92).

2.2.2 Bidialectal speakers’ phonological system

Hazen raises the interesting question of whether, given that a multilingual can acquire two different languages, and thus two different grammars, proficiency in a non-native dialect can be acquired such that there would not be any mixing of the two different dialects together (2001, 88). A partial answer to Hazen’s question is thus provided by Grosjean (1989), who argues that such mixing of two languages (or two dialects) is inevitable because both linguistic systems of a bilingual speaker are constantly engaged and thus there is no switching between two different phonetic systems, but everything takes place within one phonological system which is constantly evolving. Flege believes that a speaker’s sound system “remains adaptive over the life span, and that phonetic systems reorganize in response to sounds encountered in an L2 through the addition of new phonetic categories, or through the modification of old ones” (1995, 233). This applies to everyone, whether one is learning a new language or dialect. Flege (1995) further argues that bilingual speakers have one phonological system in which the vowels of both languages co-exist. This is one of the postulates of his Speech Learning Model (SLM). In this common phonological space, “bidirectional influence between the sounds of both languages is likely to occur, predicting articulatory changes in the L1 in a similar fashion as in the L2” (Bergmann et al. 2016, 71).

2.2.3 The Speech Learning Model

The Speech Learning Model is Flege’s set of hypotheses and postulates about differences in the learnability of L2 phonetic segments, and one of the main ideas of this model is that mechanisms in the acquisition of the L1 phoneme remain intact throughout life and are exploitable in L2 acquisition (Flege 1995). Traditionally, L1 is thought to influence L2 production, but Flege’s SLM hypothesized that this influence is bidirectional, i.e. L2 also influences L1. Bidirectional L1~L2 influences are now well documented (see Flege 1987, Brown & Gullberg 2008 or Gorba 2019).

The SLM hypothesis assumes that L2 learning can affect L1 sound perception and production. What matters is whether L2 learning leads to the creation of a new category in the part of the phonological system occupied by an L1 sound. It is possible that as a result of L2 learning L1 sound becomes more like a similar L2 sound (e.g. in Flege 1987, advanced French speakers of English increased VOT in their L1 French).

However, it is also possible that the similar L1 and L2 categories diverge. Flege states that “L2 vowel may be "deflected" away from an L1 vowel, and so differ from a native speaker’s category for the L2 vowel sound” (1995, 242).

These phonetic changes in the L1 sound system due to L2 are also called phonetic drift (Chang 2019, 191). The age of L2 acquisition is an important factor in the formation of the sound system. Early L2 learners are more likely to be able to distinguish phonetic differences between close L1 and L2 sounds and thus form separate categories for L2 sounds, whereas later L2 learners have a noticeable influence of L2 on their L1 (Chang 2019, 195). The author adds that when L1 and L2 are separated, they may develop independently. This can result in the native-like realization of both sounds in each language, with little or no influence from the other language. However, in some cases, the two sounds may diverge from each other. This divergence may occur because the speaker tries to maximize the distance between the L1 and L2 sounds in their shared phonetic space which can lead to a pronunciation that deviates from the native phonetic norms of one or both languages. This phenomenon has been observed in several studies, including Mack (1990) or Yusa et al. (2010).

However, some studies show that L2 does not necessarily affect native phonetic norms in L1, such as the study by Yeni-Komshian et al. (2002) which tested the pronunciation of L1 Korean learners of English who immigrated to the US. The study found that participants who arrived in the US at a younger age (1-5 years) had a Korean pronunciation that was close to that of monolinguals, suggesting that early exposure to L2 can lead to native-like L2 proficiency without negatively affecting L1 pronunciation. Additionally, participants who arrived at an older age (12-23 years) were rated as having native-like pronunciation in their L1, again suggesting that L2 experience may not always have a negative impact on L1 pronunciation.

Other similar models that assume the existence of a common phonological system for both languages and their mutual influence include the Perceptual Assimilation Model (Best 1995) and the Native Language Magnet Model (Kuhl 1993, 2000).

3 Communication Accommodation Theory

This section gives a brief outline of Accommodation Theory (Communication Accommodation Theory, or CAT for short, as defined by Giles 1973). The theory is closely related to the research part of this thesis and serves as the basis on which my original hypothesis about dialect switching in young adults was formed. Accommodation Theory is a theory developed by the social psychologist Howard Giles in the seventies (Giles 1973; Giles, Taylor & Bourhis 1973). At the core of this theory is the idea that people constantly adapt (accommodate) their verbal and non-verbal behavior to the other individual in conversation. According to Dragojevic et al., this communicative adjustment is “ubiquitous and constitutes a fundamental, and arguably necessary, part of successful social interaction” (2015, 36). The authors discuss psychological accommodation, based on the speaker’s motives, and linguistic accommodation, which reflects the actual linguistic behavior of individuals (Dragojevic et al. 2015, 39). An example of this could be when a speaker accommodates to the fact that his friend is sad (psychological convergence), and instead of disregarding his friend's feelings (linguistic divergence), he adjusts his speech to console his friend (linguistic convergence). Failing to acknowledge the friend's emotions doesn't necessarily count as linguistic divergence, since one can choose not to verbalize their indifference. However, in this example, the speaker actively adapts their language to address their friend's emotional state.

It is important to understand why people accommodate. Giles, Scherer & Taylor (1979) identified two main motives for accommodation, and these relate primarily to the speaker’s identity, which they want to preserve, and to maintaining positive relationships with others (affective motive). As cited by Dragojevic et al. (2015) this is “motivated by a desire for social approval from one’s interlocutors, as a means of positively reinforcing one’s own personal and/or social identity” or to improve understanding and comprehension e.g. when two varieties of one language are very different from each other (cognitive motive). Examples of accommodation from everyday interactions might be speaking more simply to a toddler or speaking more slowly to a stranger or articulating more clearly when the interlocutor appears to be out of hearing (Giles & Smith 1979, 45).

In acquisition, changes in phonological systems can be observed. In the course of accommodation, speakers do not modify their phonological system to become closer to others. Instead, they adapt the pronunciation of some words (Trudgill 1986). The author adds that the speaker’s motivation is “phonetic rather than phonological: their purpose is to make individual words sound the same as when they are pronounced by speakers of the target variety” (1986, 58).

Communication Accommodation Theory (CAT) also acts as a building block of mutual influence, as it enables individuals to shape each other’s perceptions, attitudes, and behaviors. CAT can be used as a theoretical model for understanding how communication and mutual influence operate between different groups. The core idea of intergroup interactions is social identity (following Tajfel & Turner 1979 and their

Social Identity Theory). The Social Identity Theory is based on “aspects of an individual’s self-image that derive from the social categories to which he perceives himself as belonging” (Tajfel & Turner 1979, 40). People see themselves and others as belonging to social groups based on e.g. gender, occupation, nationality, or belonging to a region. Group memberships form a crucial part of an individual's self-concept. Members from the same group are seen as more similar to each other and different from outgroup members. According to this theory, people's behavior is motivated by the social group they belong to, and there is rarely an individual who is “not at all affected by various social groups or categories to which they respectively belong” (Tajfel & Turner 1979, 34). The social group (in this case, dialect group) that people belong to could also influence their attitude towards other groups (dialects), and therefore accommodation might not occur if they discriminate a dialect (e.g. speakers from Ostrava sometimes mockingly imitate the quantitatively longer vowels of speakers from Bohemia and conversely, speakers from Bohemia mock the specific Ostrava jargon).

3.1 Types of Accommodation

There are several parameters according to which accommodation is divided, such as accommodation based on the prestige of the variety (upward x downward accommodation). Upward accommodation is a shift to a dialect, language, or language variety that has more prestige and downward accommodation is a shift to a dialect, language, or language variety that has less prestige or is even stigmatized (Dragojevic et al. 2015, 37). For example, a person from Ostrava who moves to Prague may start speaking in Common Czech to cover his/her vernacular dialect (upward accommodation) or a person who accommodates to a person with a less prestigious variety to deepen the relationship (downward accommodation).

Another accommodation taxonomy provided by Dragojevic et al. is based on intensity, namely full and partial accommodation (2015, 38). An example of full accommodation could be when a bilingual person switches entirely to speaking Spanish when communicating with a monolingual Spanish colleague. A person using a more professional tone and choice of words when speaking with a supervisor is an example of partial accommodation.

Another way to discuss accommodation is in terms of the number of switched dimensions (unimodal x multimodal), the former meaning a shift in only one aspect (e.g. accent) and the latter meaning a shift in multiple aspects, often simultaneously (e.g. accent, body posture, facial expressions, etc.). Last but not least, accommodation can be described in terms of the time scope as short-term and long-term accommodation, as offered by Trudgill (1986). Short-term accommodation means a shift that occurs in only one or a few social situations, which usually does not fundamentally change a person’s speech habits (e.g. speaking to a child in a simpler language). Long-term accommodation is a shift that extends into subsequent social situations and is often repetitive and can change a person’s speech habits (e.g. a group

of friends developing their own unique slang or inside jokes that become a regular part of their communication style over time).

The adjustment strategies people use in the course of verbal communication include convergence, divergence, and maintenance.

3.2 Accommodation Strategies

3.2.1 Convergence

Convergence is an accommodation strategy where one speaker adapts certain verbal and non-verbal aspects to the other speaker in such a way as to create a similarity between them. Convergence is generally seen as a positive strategy of highlighting commonalities between two speakers, but even this has its pitfalls. Giles & Smith give the example of an American tourist in England who, based on ignorance and mistaken stereotypes about English speakers, overaccommodates, i.e. his level of convergence is so strong that it offends the British people and appears condescending rather than a ground for establishing positive relationships (1979, 54). This is compounded by the phenomenon that Trudgill describes as hypercorrection (based on the notion of hyperadaptation), which is essentially the attempt to speak a more prestigious variety, but disproportionately, causing the production of forms that do not exist in that variety (1986, 66).

In the case of upward and downward convergence, an example is given by van den Berg (1986) who observed the diversity of accommodation situations in various places in Taiwan, such as markets, banks, and parks. Although Mandarin Chinese is spoken in Taiwan, vernacular variants are also represented. In a study conducted by van den Berg, the author observed a certain disparity (asymmetry) in the convergence between salespeople and customers in the marketplace, with salespeople converging by speaking more Mandarin (upward convergence) and customers reducing the proportion of Mandarin (downward convergence), but in a bank, for example, there is upward convergence on the customer side and downward convergence on the clerk side (van den Berg 1986, 105). The author explains the reason for this communication difference by the different education levels.

Gender can also be a criterion for the difference. Namy, Nygaard & Sauerteig (2002) observed that men converge to women significantly less than women converge to men. Even the medium of communication need not be a barrier to accommodation, as Danescu-Niculescu-Mizil, Gamon & Dumais (2011) show in their study that people also accommodate on the social network Twitter. As the authors themselves noted, this is apparently because “accommodation is robust enough to occur under these new constraints, presumably because it is deeply ingrained in human social behavior” (Danescu-Niculescu-Mizil, Gamon & Dumais 2011, 753).

Dialect convergence on a regional scale may also occur from a historical-political point of view. Bláha (2018) speaks of a political hardening of relations in the Czech Republic between Bohemian and Moravian region, caused by the disputes between the two sides (the author mentions that a landmark in Moravian-Bohemian relations was the

battle of Vysoká or the battle near Moravský Krumlov). As the author concludes, both of these disputes were won by Bohemia, which created conditions for a rather convergent development of the local dialects (Bláha 2018b, 20).

3.2.2 Divergence

Divergence is defined as “speakers changing their behavior to be more distinct from the interlocutor on interpersonal or (more particularly) group-marked behaviors” (Gallois & Giles 1998, 144). Motives for divergence, as opposed to convergence, are expressions of distance or emphasizing differences between the two speakers. Divergence tends to be associated with a negative association, but just as there are negative effects with convergence, divergence can be beneficial as well. Giles & Smith give the example of a foreigner in a foreign country who does not converge to the local language but retains his own, which makes him different and more interesting than if he tried to mask his origin and converge (1979, 63). The authors further argue that when an individual's social identity is strong, divergence can serve as an important tool to differentiate oneself from out-groups psychologically and favorably (1979, 52).

3.2.3 Maintenance

Maintenance means keeping the same level of communication, i.e. without accommodation towards the other speaker (convergence) or away from him (divergence) (Dragojevic et al. 2015, 37). In some cases, this may be due to factors such as language proficiency. An interesting example of maintenance can be when a Czech speaker responds in Czech to a Slovak who asks for directions. This linguistic maintenance is possible not only because of the similarity of the languages but also because many Czech may not be fluent in Slovak.

However, linguistic similarity is not always a reason for linguistic maintenance. Bourhis mentions that, as with linguistic divergence, speakers may opt for linguistic maintenance either because they do not sympathize with their interlocutor or because “speakers wish to assert their group identity vis-à-vis outgroup interlocutors” (1984, 35). The author’s study in Montreal found that 30% of Anglophone pedestrians chose to maintain their use of English in response to a plea for directions voiced in French by a Francophone interlocutor, despite possessing some level of French language proficiency (Bourhis 1984). The study suggests that this language maintenance response was used by the Anglophones as a means of dissociation from the Francophone speaker due to their perceived outgroup status (Bourhis 1991).

4 Czech

Czech is the national language, which according to Cvrček is divided into varieties according to criteria such as medium of communication (spoken or written word), region (dialects and interdialects), or situation (sociolects) (2010, 21). Czech contains 14 vowels: six short vowels /a/, /e/, /i/, /o/, /u/, and the neutral vowel /ə/, five long vowels /a:/, /e:/, /i:/, /o:/, /u:/ and three diphthongs /ou/, /au/, /eu/ (Cvrček 2010, 44). The short and long vowels are relatively close together in the vowel chart and differ only in quantity, except for the high front vowel pair /i/ and /i:/, which differs more in quality than quantity - /i/ is less closed and more central than /i:/ (Dankovičová 1997, 79).

Czech is composed of the complex Czech national language, which includes Standard Czech and a set of dialects. According to Cuřín et al., “standard languages arose from a dialectal basis, usually from the dialect of the area where there was an economic, political or cultural center” (1964, 160; my translation). According to Cvrček et al., the concept of linguistic culture was developed by members of the Prague Linguistic Circle in the 1930s, who dichotomously differentiated Czech into standard (i.e. Common Czech) and non-standard (vernacular dialects) (2010, 23). Common Czech was perceived as “a unit tending to become the primary means of spoken communication in the whole territory of Czech” (Cvrček et al. 2010, 23; my translation).

The most important Czech work dealing with Czech dialectology is the *Nástín české dialektologie* (1972) by Jaromír Bělič, who argues that dialects have a certain connotation of a non-standard language. This is because the 'correct' form of the Czech language is considered to be Standard Czech. In some cases, however, the dialect is opposed to Standard Czech, which causes problems, especially in the school environment among pupils and students (Bělič 1972, 5). Criteria such as age and education influence dialect use, as young people come into contact with speakers of other dialects more often than older people (Bělič 1972, 10).

Cvrček et al. (2010) also talk about dialectal diversity, which is caused by linguistic changes. These changes occur in one place, from where they gradually spread to other areas, the most remote of which may not be affected by the change at all, and therefore an older form of the language or dialect may be used in those areas (Cvrček et al. 2010, 28). In areas with more developed industries or areas close to cities, there is usually a more recent differentiation of local dialects, especially in the eastern region of the Czech Republic (Morava), the old dialects hold much more firmly than in the west in Bohemia (Bělič 1972, 10).

As mentioned above, Czech, like any other language, has a certain standard form. However, there are deviations from this standard form of language. Two reasons for these deviations are described by Palková, the first of which is deviation due to dialect (1994, 187-8). The author points out that dialect is essentially a separate linguistic system differing both in the inventory and in the spelling composition of words. The second deviation from the standard form of Czech is due to the influence of sloppy

pronunciation style. Here, unlike dialectal deviation manifested by a change in vowel quantity, this deviation is manifested by a change in vowel quality. This negligence negatively affects the intelligibility and formant composition of the vowel. It is most often a centralization from a full vowel to a reduced vowel /ə/ (Palková 1994, 187-8).

Articulation is another important aspect of the correct pronunciation of vowels, given that e.g. the front mid-tense unrounded vowel /e/ is pronounced more closed as the front high unrounded lax vowel /i/ in some Moravian regions (Hála & Sovák 1941, 183). The authors also mention the influence of teachers on the pronunciation of students due to the different pronunciation of high front vowels, which differ only quantitatively at least in Standard Czech (/i/ x /i:/), qualitatively only in Moravia (/i/ x /i/) (Šimáčková, Podlipský & Chládková 2012).

4.1 Interdialect

Given the more frequent contact between different dialects and the influence of Standard Czech on non-standard speech, this “has the consequence that in individual dialects the various vocabulary, but also spelling, morphological and other features which distinguish these dialects from neighboring dialects or Standard Czech more or less give way” (Bělič 1972, 10; my translation). In this way, the old local dialects are gradually leveled out and the so called interdialects, or common dialects, are created, which are closer in nature to the unified national speech of non-standard or colloquial Czech (Bělič 1972, 10). The interdialect is defined by Šípková (2017) as “an unstabilized variety of the national language representing the last developmental stage of traditional territorial dialects” (my translation).

Czech interdialects include the Common Haná interdialect, the Common Moravian Slovak interdialect, and the Common Lachian interdialect; however, none of them is as strong as the Common Czech because of the economic, political, and cultural power of the Prague center over the other interdialects (Cuřín et al. 1964, 163). Trudgill writes of interdialect as being the result of phonetically intermediate forms between two different dialects (1986, 62). An example of this is demonstrated in a study by Rekdal (1971), where the author examined the long-term accommodation of speakers from Sunndal, Norway to Oslo, Norway, and found that there are several so called hybrid forms used by speakers that are not found in either Oslo or Sunndal Norwegian, e.g. 'to work' is in Sunndal as /jub/, in Oslo as /jɔbə/, but in the interdialect it is /jubə/. Trudgill thus defines interdialect as “situations where contact between two dialects leads to the development of forms that originally occurred in neither dialect” (1986, 62).

4.1.1 Common Czech

The most important interdialect in the Czech Republic (also called koiné) is Common Czech, which was created by leveling the original dialects of the Bohemian dialect group (Bělič 1972, 325). The term 'leveling' is defined by Trudgill as “the reduction or attrition of marked variants”, marked meaning unusual or minority forms (1986, 98). Leveling occurs especially in smaller dialect units and their exclusive features, while features common to larger areas are quite resistant (Cuřín et al. 1964, 163). Common

Czech can be heard even in more official speech and is spoken of as the generally accepted non-standard form of the national language (Bělič 1972, 325).

Despite the unequivocal prestige of the standard variety of Czech, according to Svobodová, the less prestigious varieties are gradually coming to the fore (2018, 40). Common Czech was not tolerated in the past because it was perceived as ungrammatical or otherwise marked, but over the years abandoned its stigmatization, with the result that it is penetrating both spoken and written public discourse (e.g., news media reports). Common Czech has also been penetrating Moravia and Silesia due to population movements. According to Lefenda, there is no recognition of the prestige of Common Czech in the Moravian-Silesian region (2018, 95). The reason for this may be the insufficient psychosocial conditions for the dissemination of Common Czech in East Moravia and Silesia, as it is perceived rather negatively there (Uličný 1996, 61; my translation).

Some authors, such as Sgall & Hronek in their book *Čeština bez příkras* (1992) offer a controversial view that Common Czech is a variety that Moravians and Silesians resort to in order to avoid ridicule and thus disguise their identity, implying that the only correct way of speaking is that of Bohemia. This view highlights the tension between regional and national identities in the Czech Republic. On the other hand, Krčmová argues for the recognition of Moravia as a distinct cultural and linguistic region within the Czech Republic (2018, 58).

5 Czech Dialectal Groups

Bělič mentions 5 basic dialect groups in the Czech Republic (1972, 11). The first of these is the Bohemian dialect group, in Bohemia and the bordering south-western parts of Moravia (see 1 on the map below). The second is the Central Moravian/Haná dialect group, in the territory of the central part of the former Moravia, except for the sections in the southwest and the strip in the east (see 2 on the map). The third is the East Moravian (also Moravian-Slovak) dialect group (see 3 on the map). The fourth is the Silesian (also Lachian) dialect group, on the territory of the northeastern tip of Moravia and the adjacent part of former Silesia (see 4 on the map). The remaining grey parts on the map are dialectally diverse areas (former German-speaking territories). Each of these dialect groups is further subdivided into subgroups.

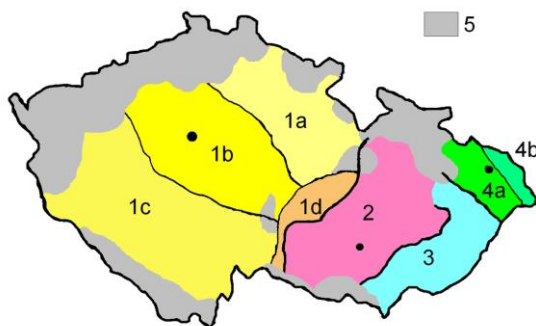


Figure 2 Map of Czech dialectal groups (Karlík, Nekula & Pleskalová 2002, 393)

5.1 Bohemian Czech

In Bohemian dialects, there is a set of five vowels, identical to Standard Czech, i.e. /ɪ/, /e/, /a/, /o/ and /u/ and their long counterparts /i:/, /e:/, /a:/, /o:/ and /u:/ (Bělič 1972, 11). However, a study by Podlipský, Skarnitzl & Volín (2009) found that the high front vowel pair /ɪ/ and /i:/ do not exhibit a length difference twice as long as in the case of other vowel pairs. Instead, the long vowel /i:/ is only 30% longer than the short one, while the long:short ratio is about 1.7 for the other four vowel pairs (Podlipský, Skarnitzl & Volín 2009, 134).

In some regions of Bohemia, there is also a six-membered set of vowels with the addition of /i/ if the difference in pronunciation between /ɪ/ and /i/ also distinguishes the meaning of words e.g. *bil/byl* (Bělič 1972, 33). The most distinctive feature common to all dialects in this dialect group is the change from /i:/ to the diphthong /ej/, partly /i:/, e.g. *hloupej* x *hloupý* or diphthong /ou/ instead of /ú/, identical to the Standard Czech e.g. *nesou* x *nesu* (Bělič 1972, 11). As far as phonetic realization of vowels goes, Palková points out that in Bohemia, there is a tendency towards more open vowels, while in Moravia there is a tendency towards more closed vowels (2018, 154). Bohemian Czech vowel space is given in Figure 3.

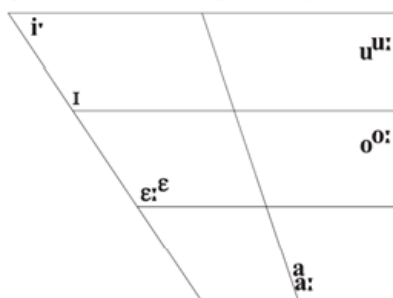


Figure 3 Bohemian Czech vowel space (Šimáčková, Podlipský & Chládková 2012, 228)

5.2 Moravian-Silesian Czech

In the Moravian-Silesian region, there is a greater dialectal diversity than the Czech language spoken in Bohemia. The reason, according to Bláha, is that there is no economically and culturally important place in Moravia and Silesia equal to Prague (2018a, 8). Unlike Czech spoken in Bohemia, which falls under one comprehensive Czech dialect group, in Moravia-Silesia there are four dialect groups - the Central Moravian dialect group, the East Moravian dialect group, the Silesian dialect group, and the Polish-Czech mixed strip (see Figure 2 for a map of these dialect groups). One characteristic feature of dialects from Moravia (more specifically Lachian dialects) is the tendency to shorten long vowels, i.e. sometimes there is no difference in quantity at all (Palková 1994, 187). Even though these speakers have their own dialect, the influence of Standard Czech is evident. According to Lefenda, in formal or public settings, people from Moravia-Silesia tend to use Standard Czech as their primary mode of communication (2018, 95). This is because Standard Czech is perceived as the appropriate and expected language for such occasions, and is widely regarded as the standard form of the language. Moravian Czech vowel space is given in Figure 4.

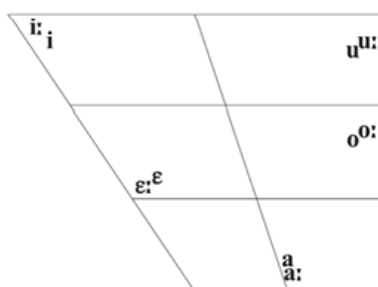


Figure 4 Moravian Czech vowel space (Šimáčková, Podlipský & Chládková 2012, 228)

5.2.1 Silesian (Lachian) dialect group

According to Bělič, the vowel system of the Silesian (Lachian) dialect group contains only short vowels in a six-member set - /i/, /ɪ/, /e/, /a/, /o/, /u/, of which vowels /i/ and /ɪ/ are separate phonemes (1972, 285). In small marginal sections of the Silesian region, there is a seven-member set of vowels, containing i/ɪ as an allophones of a /i/ phoneme e.g. *třý/tří* or *hřych/hřich* (Bělič 1972, 286).

The lexical distribution of vowels may vary between traditional and modern forms of words. For example, /i/-/e/ variation in words where the vowel follows a nasal,

němy/ňimy or *nes(l)/nis*. In some parts of the Silesian region, the vowel /u/ has traditionally been used in words like *chrummy*. However, younger speakers may now be more likely to pronounce this word with the vowel /o/ - *chromy* (Bělič 1972, 286-7). As the author further states, a striking common feature of all dialects belonging to the Silesian dialect group is the regular stress of trisyllabic and multisyllabic words on the penultimate syllable, with a rare occurrence of the stress on the first syllable; together with the absence of vowel length, these dialects coincide with the Polish language (Bělič 1972, 289).

The southern (Moravian) subgroup of Silesian dialects belongs to this dialect group, forming a peripheral strip in the neighborhood of the East Moravian dialects around Štramberk, Příbor, Frenštát pod Radhoštěm. The phonological features of this subgroup are mostly identical to the northern sections of the East Moravian dialects (Bělič 1972, 291). Another subgroup is the western (Opava) subgroup of Silesian dialects, which occupies the north-western part of the Silesian region together with the western overlap into Poland, to the east partly beyond Hlučín and up to Klimkovice, and separately from the continuous territory Studénka with Pustějov (Bělič 1972, 294). This dialect group is characteristic of its pronunciation of the long vowel /e:/, as it is pronounced as its short counterpart /e/ e.g. *delka*, *mleko* (also /i/ or /í/ e.g. *ňišč*, *višč*) (Bělič 1972, 295). Following is the eastern (Ostrava) subgroup of Silesian dialects, occupying the easternmost part of the Silesian dialect area and bordering on the Polish-Czech mixed strip in the east. This marginal position of the eastern subgroup results in a strong increase of dialectal features identical to Polish towards the eastern border, and due to the industrial development of the city of Ostrava and the movement of the population, the dialects in the wide area around Ostrava are mixed and leveled, but the traditional absence of long vowels and the stress on the penultimate syllable holds firm (Bělič 1972, 300; my translation). These two features are so intense that they are adopted into the language of immigrants (Šrámek 233, 1997).

However, the traditional dialectal features characteristic of Silesian dialects are continuously declining. Šrámek (1997) states that the reason for this is the gradual urbanization after the Second World War. This urbanization led to the fact that the traditional territorial dialects, which were previously associated with the rural way of life and agricultural environment, began to be gradually eroded in the territory of the industrial agglomeration and displaced by the language of the new social classes living mainly in the urban environment (Šrámek 1997, 233). The author claims that these features are either replaced by features common to all Silesian dialect subgroups or by features identical to the spoken form of the Standard Czech (1997, 232). The most intensive and fastest shedding of the traditional features of Silesian dialects can be traced in students and people in professions requiring direct contact with people (e.g. teachers, clerks, doctors, etc.) (Šrámek 1997, 236).

The participants in this thesis are from the Ostrava region and can be described as speakers of the Silesian interdialect (Šrámek 1997).

6 Research Questions

This study focuses on two groups of speakers - monolectal and bidialectal speakers of Silesian Czech. Monolectal speakers are either speakers from the Ostrava region (belonging to the Silesian dialect group) or speakers of Common Czech (belonging to the Czech dialect group in a narrower sense). The third group of speakers are bidialectal speakers from Silesia who are in regular and prolonged contact with speakers from outside the Silesian region.

We wanted to see whether young Silesians distinguish between two high front vowels /i/ and /i:/ e.g. /bil/ 'he hit' and /bi:l/ 'he was'. We compare these vowels in Silesian speech with the vowels of speakers of Common Czech, who have one short high front vowel, namely /i/, in both words. We compare the Euclidean distances between vowels from the two putative categories /i/ and /i:/. Because we compare the Euclidean distances across speakers we normalize the data by converting the Hertz values into Bark values using the Bark conversion formula from Traunmuller (1997): $Z_i = 26.81/(1+1960/F_i) - 0.53$. The Euclidean distance is commonly determined from the average F1 and F2 values for each category. However, this approach can also be employed for individual token pairs where all of the elements of the pair occur in the same phonological setting, as in minimal pair data (Nycz & Hall-Lew 2013, 3). In our analysis, we calculate the Euclidean distance for individual pairs of words although they are not strictly minimal pairs.

We tested whether there would be a difference in Euclidean distances for Silesians from Ostrava (monolectals), bidialectal Silesians (in the Silesian Czech mode), and speakers of Common Czech. We predicted that there would be no difference between the vowels represented in the script as short [i] and [i:] (respectively as long [i:] and [i:]) in the speech of speakers of Common Czech, both short vowels and both long vowels will have the same spectral quality, i.e. [i] and [i:] respectively. We predicted the Euclidean distances between the vowels to be greater in the speech of the Silesians. We further predicted that bidialectal Silesians would make less difference between these vowels than monolectal Silesians, due to long-term accommodation (convergence).

For the high front vowels in Table 1, we tested for differences in length. We tested whether Silesians have a smaller difference in duration between vowels that are distinguished in Standard Czech by phonological length and represented in writing as short [i] and long [i:], respectively [i] and [i:]. We compared the length contrast between vowels presented in the table as long and short vowels in the production of Silesians from Ostrava (monolectals), bidialectal Silesians (in the Silesian Czech mode), and speakers of Common Czech. We predicted that speakers of Common Czech would make greater length differences between these vowels than Silesians. We predicted that bidialectal Silesians would make a greater length difference than monolectals due to long-term accommodation (convergence).

We also asked whether bidialectal Silesians have a greater difference in quality between given vowels when speaking in the Silesian Czech mode than when speaking in the Standard Czech mode. We predicted that they would accommodate and realize

the vowels /ɪ/ and /i/ with less difference in the presence of a speaker of Standard Czech. Similarly, we asked whether bidialectal Silesians have a smaller length difference between given vowels when speaking in the Silesian Czech mode than when speaking in the Standard Czech mode. We predicted a larger length difference in the Standard Czech mode, i.e., an accommodation towards the listener.

7 Methodology

7.1 Participants

The study included 3 groups of speakers who were selected according to their place of origin (12 respondents in total, 3 men and 9 women, between 19 and 33 years of age). The first group contained 4 monolectal speakers outside of Ostrava, belonging to the Czech dialect group, specifically the Central Bohemian subgroup (1 man and 2 women), including the exception of 1 woman who comes from Broumov, a dialectally diverse area of former German-speaking territory in the north. The next group contained 4 monolectal speakers, belonging to the Silesian dialect group, specifically the eastern (Ostrava) subgroup (2 men and 2 women). The last group were bidialectal speakers who came from Ostrava or its surroundings but went to study in Olomouc, who fall under the western (Opava) subgroup (2 women) and the eastern (Ostrava) subgroup (2 women).

7.2 Elicitation instrument

The stimuli for this research were Czech monosyllabic to trisyllabic words, selected with respect to the consonantal context of the target vowel to ensure the highest possible level of accuracy for measuring vowel quality and quantity. Words whose vowel surroundings contained nasals, labials, and approximants were excluded. Another selection criterion was the choice of word pairs with the most similar quantity and quality of the vowel in the second syllable. In addition to these words, some suitable words from a study of spoken Czech by Šimáčková, Podlipský & Chládková (2012) were added. The total number of words pronounced by respondents was 54. However, only 14 words (7 pairs) were selected for analysis in this work. The words were shown to respondents using a PowerPoint presentation. Two separate presentations were created – one with Common Czech prompts and the other with Silesian Czech prompts.

7.2.1 *The stimuli*

In each pair the words have the same number of syllables, the vowels are in the stressed syllable, and the consonants flanking the vowel have the same place of articulation. Four word pairs contain Common Czech short vowels (tokens of putative /i/ and /i/ in Silesian Czech), three pairs contain Common Czech long vowels (tokens of putative /i/ and /i/ in Silesian Czech, which does not have a vowel length contrast). The words are listed in Table 1.

Word pair	Environment	CC pronunciation	SC pronunciation
lis-rys	coronal consonants	lis-ris	lis-ris
žito-rydlo	coronal consonants	ʒito-ridlo	ʒito-ridlo
sírky-rysy	coronal consonants	sírki-risi	sírki-risi
šikana-kytara	coronal & dorsal consonant	ʃikana-kitara	ʃikana-kitara
šít-rýt	coronal consonants	ʃi:t-ri:t	ʃit-rit
tíha-rýha	coronal consonants	ci:ɦa-ri:ɦa	cifɦa-riɦa
díry-sýry	coronal consonants	ci:ri-si:ri	ciri-siri

Table 1 Word pairs, their environment, and pronunciation in Common Czech and Silesian Czech

7.2.2 The prompts

The prompts were recorded by four young speakers - 2 native speakers of the Bohemian dialect (1 male from Česká Třebová, and 1 female from Pardubice) and 2 native speakers of the Silesian dialect (1 male, and 1 female, both from Ostrava). Each speaker recorded three variants of the instructional sentences in their dialect. The speakers and their sentences were then alternated on each slide in the presentation. The audio instruction prompt was meant to provide a context for the words to be uttered by the participants. More importantly, in the recording of the bidialectal participants, the function of the audio prompt was to remind the participant of the dialect in use. Prompts were phrased as requests, questions, or mild orders, some of which used family members as interrogators. The prompts are given in Tables 2 and 3.

Speaker	Prompts
Male speaker	<i>Máma chce, ať to třikrát přečteš. Prosím tě, přečti toto slovo třikrát. Táta chce, ať to třikrát přečteš.</i>
Female speaker	<i>Máma chce, ať přečteš třikrát toto slovo. Táta chce, ať přečteš třikrát toto slovo. Prosím tě, přečti toto slovo třikrát.</i>

Table 2 Silesian speakers prompts

Speaker	Prompts
Male speaker	<i>Můžeš prosím toto slovo třikrát přečíst? Prosím přečti toto slovo třikrát. Máma chce, aby jsi toto slovo třikrát přečetl.</i>
Female speaker	<i>Přečteš prosím toto slovo třikrát? Přečti prosím třikrát toto slovo. Máma chce, ať jí toto slovo třikrát přečteš.</i>

Table 3 Bohemian speakers prompts

7.3 Procedure

Before the data collection began, a short interview took place in which the interviewer and the participant talked about trivial everyday topics. Importantly, two interviewers collected the data. The Silesian monolectals were interviewed by a native speaker of Silesian Czech, and the Common Czech monolectals were interviewed by a speaker of Standard Czech. The data collection method was simple: the participant was seated in

front of a computer screen. They first heard a prompt i.e. a short instruction recorded in their dialects. Following the audio prompt a word was displayed on the screen for 500ms. When the word disappeared, a short beep lasting for 180ms sounded, and the participant was to read the word clearly and loudly three times. The aim was to get the respondents to pronounce the words in as natural form as possible without being too influenced by the orthography of the word and adapting their speech accordingly. To enhance the manipulation of the context, in the middle of the presentation and when the last 20 words were left, a slide was added for a short break, with a picture of Štěpán Kozub in the Silesian version of the presentation and Tereza Ramba in the Bohemian version of the presentation.

Monolectal speakers were recorded only once, bidialectal speakers were recorded twice with a week-long break separating the recording sessions. In one session, the interviewer was Silesian and spoke the vernacular dialect, which was also the dialect of the prompts. In the other session, the interviewer spoke Standard Czech, and the prompts were spoken in Common Czech. After producing all words, respondents were asked to read the short excerpt from Aesop's Fables *Severák a Slunce* (North and Sun). At the end of the recording session, the monolectal speakers were given a short questionnaire asking about their origins, the origins of their parents, and their awareness of their use of dialects. Bidialectal speakers received this questionnaire only at the end of the second recording session.

7.4 Equipment & Place

The recording took place in a sound-proof recording room at the Faculty of Arts UPOL, except the recordings of the monolectal Silesian speakers, who were recorded at home. A Zoom H4n recorder with a sampling frequency of 44.1 Hz and quantization of 24 bits was used at the Faculty of Arts UPOL. Monolectal Silesian speakers were recorded with a Behringer C-1 Studio Condenser microphone and the recording was recorded via Audacity, where it was subsequently rendered into .wav format.

7.5 Data Processing

First, each recording was edited so that there was no opening exchange between the interlocutor and respondent or closing termination. Each recording was divided into recordings of words in isolation and a separate fluent text. The recordings were converted to mono and annotated in Praat, version 6.1.52 (Boersma & Weenink). Vowel boundary delineation followed the principles outlined in *Principles of phonetic segmentation* by Macháč & Skarnitzl (2009). After segmentation, F1 and F2 formant measurements were performed with the help of a Praat Script (Bortlík 2016).

8 Results

The effect of speaker linguistic experience on the Euclidean distances between the target vowels was examined by a mixed-model ANOVA (TIBCO Statistica, 2018). The model included Euclidean distances as the dependent variable, Group (monolectal Silesian, bidialectal Silesian, and Common Czech group) as the fixed factor. Speaker and Item (i.e. vowels spelled as "i" and "y") were included as random variables. The mixed-model ANOVA results are given in full in Table 4. It presents the Type 3 ANOVA table for the fixed and random effects included in the model and their interactions.

Predictor	Effect	df	MS	df	MS	<i>F</i>	<i>p</i>
{1}Group	Fixed	2	0.352	9.759	0.302	1.164	0.352
{2}Speaker	Random	9	0.216	53.988	0.145	1.489	0.176
{3}Item	Random	6	0.693	13.665	0.254	2.727	0.058
1*2	Random	0	0.000				
1*3	Random	12	0.237	59.378	0.139	1.703	0.089
2*3	Random	54	0.145	167.000	0.079	1.841	0.002
1*2*3	Random	0	0.000				

Table 4 Mixed-model ANOVA results for Synthesized Errors, degrees of freedom, error, F-value, and corresponding p-value computed using the Satterthwaite method. Significant effects and interactions are in bold.

Table 4 shows that there was no effect of Group. There was no difference between the Silesians and the Common Czech speakers and no difference between monolectal and bidialectal Silesians. The near significant effect of Item indicates a tendency for some pairs of words showing a greater Euclidean difference between the vowels than others. This difference is especially great for some speakers, hence the significant interaction between the Item and Speaker.

A separate mixed-model ANOVA was run to examine the effect of speaking mode on the Euclidean distance between the target vowels in the speech of the bidialectals. The model included Mode (Silesian vs. Standard Czech) as the fixed factor and Speaker and Item as random variables. The mixed-model ANOVA results are given in full in Table 5.

Predictor	Effect	df	MS	df	MS	<i>F</i>	<i>p</i>
{1}Mode	Fixed	1	0.021	0.409	0.111	0.187	0.799
{2}Speaker	Random	6	0.398	35.931	0.347	1.146	0.357
{3}Item	Random	6	0.690	5.965	0.061	11.385	0.005
1*2	Random	0	0.000				
1*3	Random	6	0.061	35.898	0.347	0.175	0.982
2*3	Random	36	0.346	110.000	0.131	2.643	0.000

Table 5 Mixed-model ANOVA results for Synthesized Errors, degrees of freedom, error, F-value, and corresponding p-value computed using the Satterthwaite method. Significant effects and interactions are in bold.

As seen in Table 5, there is no effect except for a significant Item and a significant Item * Speaker interaction. The point is that for some pairs there is a large distance between the vowels (žito-rydlo), which may be influenced by the consonantal

environment in addition to the vowels themselves. The Speaker * Item interaction shows that this is only true for some speakers, for others it is not so great.

The effect of the speaker’s linguistic experience on the duration of the target vowels was examined by another mixed-model ANOVA. The model included duration as the dependent variable, Group (monolectal Silesian, bidialectal Silesian, and Common Czech group), and Vowel Length (long, short) as the fixed factors. Speaker was included as a random variable. The mixed-model ANOVA results are given in full in Table 6. It presents the Type 3 ANOVA table for the fixed and random effects included in the model and their interactions.

Predictor	Effect	df	MS	df	MS	<i>F</i>	<i>p</i>
{1}Length	*Fixed	1	0.685	9.004	0.009	75.549	0.000
{2}Group	*Fixed	2	0.002	9.000	0.018	0.090	0.915
{3}Speaker	*Random	9	0.018	8.904	0.009	1.963	0.166
1*2	Fixed	2	0.000	9.000	0.009	0.051	0.950
1*3	Random	9	0.009	227.000	0.001	7.187	0.000

Table 6 Vowel duration, across three speaker groups: monolectal Silesians, bidialectal Silesians, and Common Czech speakers. Mixed-model ANOVA results for Synthesized Errors, degrees of freedom, error, F-value, and corresponding p-value computed using the Satterthwaite method. Significant effects and interactions are in bold.

Our prediction that Silesian speakers will shorten the vowels that are phonemically long in Standard Czech was not confirmed. The factor Vowel length was significant, the vowels represented as long in orthography were significantly longer than the short vowels. At the same time, the factor Group did not have a significant effect on vowel duration, both Common Czech speakers and Silesian speakers produced a duration difference between long and short vowels.

A mixed-model ANOVA examining the effect of speaking mode on the duration of vowels in the speech of the bidialectals included Mode (Silesian vs. Standard Czech) and Length as the fixed factors and Speaker as random variables. The mixed-model ANOVA results are given in full in Table 7.

Predictor	Effect	df	MS	df	MS	<i>F</i>	<i>p</i>
{1}Length	*Fixed	1	0.381	3.000	0.046	8.295	0.064
{2}Mode	*Fixed	1	0.006	3.343	0.000	15.866	0.023
{3}Speaker	*Random	3	0.092	3.024	0.048	1.912	0.303
1*2	Fixed	1	0.001	3.036	0.000	8.350	0.062
1*3	Random	3	0.046	2.946	0.000	349.202	0.000
2*3	Random	3	0.000	1.021	0.000	4.057	0.342
1*2*3	Random	3	0.000	150.000	0.001	0.099	0.961

Table 7 Mixed-model ANOVA results for Synthesized Errors, degrees of freedom, error, F-value, and corresponding p-value computed using the Satterthwaite method. Significant effects and interactions are in bold.

Interestingly, Mode had a significant effect when the speech of bidialectals was examined in a separate model. This result is significant even after Bonferroni correction for multiple analyses (expected level of significance $\alpha = 0.025$). Also, it is interesting to see that Vowel length was not a significant factor. A closer look at the mean values shows that bidialectals’ means were different for long and short vowels (185 ms and

82 ms in the Silesian Czech mode and 166 ms and 76 ms in the Standard Czech mode) but there were also large standard deviations for the long vowels. Vowel length is also significantly varied with Speaker.

8.1 Summary of the Questionnaire

From the results of the questionnaire and specifically the question about awareness of dialect use, it is evident that dialect awareness in Bohemia may be less spread and the influence of Common Czech is strong there, although it is not possible to make such a conclusion from one statement. This is reflected in the response of a monolectal Common Czech respondent from Prague who stated that she definitely does not speak the dialect. There is a small deviation from this lack of awareness for 2 Common Czech respondents from Poděbrady, a town about 50 km away from Prague, which still falls under the Central Bohemian dialect subgroup. One of these respondents said that he did not think he spoke the dialect and the other said that she was sometimes aware of it. A respondent from the dialectally diverse area in the north, Broumov, which is close to the German border, stated that she is fully aware of the use of dialect, which is probably due to the dialectal diversity around that area.

The opposite is true of monolectal Silesian and bidialectal Silesian respondents who are either completely or occasionally aware that they speak a dialect; 3 monolectal Silesian respondents chose the option of being aware at times and 3 bidialectal Silesian respondents along with 1 monolectal Silesian speaker were completely aware. The only exception is a bidialectal woman from Opava, who chose the option "I don't know", which can be explained perhaps by the lack of clarity of the assignment, which uses a different Czech word for dialect (*dialekt*, instead of more clear *nářečí*) and the respondent may not have known the meaning of this word. Either way, this corresponds to the generalization that people in Moravian-Silesia are much more aware of the use of dialect than people in Bohemia.

Regarding the question about awareness of respondents speaking differently depending on where they are, half of the respondents chose the option "Sometimes" (3 Common Czech, 1 monolectal Silesian, and 2 bidialectal Silesian speakers). The second most common answer was "Rather not", chosen by 2 monolectal Silesian and 1 bidialectal Silesian speakers. The rest of the respondents chose "Yes, I'm aware" (1 Common Czech and 1 bidialectal Silesian speaker) and 1 monolectal Silesian chose the option "I don't know". Bidialectal Silesian speakers, with the exception of one woman from Opava choosing "Rather not", are mostly aware that they speak differently depending on where they are, and this is probably caused by greater sensitivity to language variation due to their exposure to multiple dialects. Interestingly, Common Czech speakers are similarly aware, even though most of them claim they don't think they speak any dialect. Conversely, monolectal Silesian speakers are less aware that they speak differently depending on where they are, even though most said they were aware that they speak a dialect. This may be due to the characteristic nature of Silesian dialects, especially the absence of long vowels. Overall, the responses suggest that there is a varying degree of awareness among the respondents regarding their dialectal

variation, and it is likely influenced by factors such as exposure, education, and personal experience.

9 Discussion

The study examined monolectal and bidialectal Silesian speakers and Common Czech speakers to determine whether Silesian speakers make a distinction in quality between the vowels /i/ and /i:/ vis-à-vis Common Czech speakers and whether Silesian speakers make a smaller distinction in vowel quantity between /i/ and /i:/ vis-à-vis Common Czech speakers. Parallel analysis was performed between monolectal vis-à-vis bidialectal speakers (i.e. distinction in both quality and quantity). Finally, the study examined whether bidialectal Silesian speakers make a difference in quality and quantity when speaking in Silesian Czech mode or Standard Czech mode.

Our original assumption that Common Czech speakers would not make a spectral difference between the vowels /i/ and /i:/ (both short and long vowels will have the same spectral quality) was not confirmed. We predicted this spectral quality to be higher in Silesian speakers. The results show that there is no difference between Silesian and Common Czech speakers and monolectal and bidialectal Silesians in quality. However, the results indicate a certain tendency for some pairs of words to show greater differences between vowels than others, and since a Speaker-Item interaction was observed it suggests that this effect is particularly more pronounced for some speakers than for others. The factor of the Group did not have a significant effect on vowel quality.

The same result was found for vowel quantity. The study did not find a significant difference between monolectal and bidialectal Silesians and Common Czech speakers in terms of quantity of /i/ and /i:/, suggesting that there is no clear distinction in quantity between these vowels in the speech of these groups. Despite the prediction that Silesian speakers would make less distinction between short and long vowels due to the absence of long vowels in their vowel system, the study showed that, like Common Czech speakers, they demonstrated a length difference between /i/ and /i:/. Both Silesians and Common Czech speakers produced a duration difference between long and short vowels, with no significant effect of Group on vowel duration.

Next, mobile Silesian speakers, bidialectals, were compared to speakers who live only in the Silesian region (monolectals). The bidialectal speakers were predicted to make less of a distinction between /i/ and /i:/ than monodialectal speakers, because of their regular exposure to Common Czech and to Standard Czech, neither of which makes this distinction. It was also predicted that monodialectal speakers would have a stronger Silesian accent and therefore for them, this difference between /i/ and /i:/ would be greater. However, the result showed that there is mostly no difference. The difference was found only for specific pairs of words and their interaction with the speaker.

Similarly, bidialectal Silesian speakers were predicted to make greater differences in quantity between /i/ and /i:/ than monolectal Silesian speakers due to long-term accommodation. However, according to the results, there was no significant difference in duration between these two groups.

Finally, we were interested in the influence of situational context on the speech of bidialectals who were recorded in two modes – Silesian and Standard Czech Mode. It was predicted that bidialectal Silesian speakers would converge toward the speaker; with a Standard Czech speaker, they would make less of a difference between /i/ and /i:/, and with a Silesian Czech speaker they would make more of a difference. Apart from the significant effect of the Item and the interaction between the Item and Speaker, no significant effect of Mode was observed. The interaction between Item and Speaker indicates that this occurred only with some speakers, while it did not occur with others.

Another prediction was whether bidialectal Silesians in Silesian Czech Mode would make smaller differences in quantity between /i/ and /i:/ compared to Standard Czech Mode. Again, it was predicted that there would be a convergence towards the speaker. In this case, however, the effect of Mode was significant, meaning that there were differences in vowel length between the two modes. The effect of vowel length was significant only in the interaction with the speaker. This may be due to the fact that the absence of long vowels is a distinctive feature of Silesian dialects that is easily recognizable by speakers from other dialect groups, and these speakers may have experience masking their Silesian origin in formal settings so as not to sound too regional.

As this is a pilot study, there are several problems that future studies should avoid. The results show that there was no significant change in vowel sounds in bidialectal speakers. This may be because the respondents have fallen victim to the Observer's Paradox, or the classic phenomenon in which the person being recorded or otherwise observed changes their behavior (in this case, they overarticulate) because they are affected by the stress, pressure, or discomfort of being recorded, as defined by Labov in his *Sociolinguistic Patterns* (1972). The tendency of Silesian speakers to use Standard Czech in formal situations to avoid ridicule and disguise their identity as offered by Sgall & Hronek (1992) may also have had an influence. Moreover, the influence of orthography in the presentation of stimuli was strong despite the efforts to remove it. The format or wording of the stimuli used in the presentation may have influenced the vowel length of the responses. Given that the speakers produced 54 isolated words out of context in citation form and the recording was monotonous and repetitive, this may have affected the outcome of our study and hence slower or less accurate responses.

We expected to find a contrast between /i/ and /i:/ in the speech of Silesians. Instead, the results revealed a significant effect of the word pair. In some pairs, most speakers, both of Common Czech and Silesian Czech, made a qualitative difference between vowels. This was due to the effect of the consonantal context, namely of the palatal consonant in the word *žito* (in the pair *žito-rydlo*). It is a matter of poor word choice, as there was an influence of the consonantal context on the quality of the vowel, where even Common Czech speakers made a difference. The next study will need to make sure that the effect of the context is eliminated. Regarding the word *sirky*, this word was used as an /i/ item in the data set but it could have been potentially problematic as some Silesian speakers may have only /i/ after /s/ (there is always a vowel /i/ after fricatives /s/ and /z/).

As mentioned in the summary of the questionnaire above, we used the word "*dialekt*", referring to regional speech patterns, which may have confused some respondents. The term "*nářečí*" is commonly used to describe these speech patterns, whereas "*dialekt*" is often associated with non-Czech languages. Therefore, some respondents' interpretation of the word "*dialekt*" may have been different and this could have affected the accuracy and validity of the data collected from respondents. Also, we did not take word length into account in the analysis, as individual people vary in terms of word length. We analyzed the first syllable, which is not always stressed because Silesian speakers have stress on the penultimate syllable (which applies only to the trisyllabic words).

Another possible factor that may have influenced the results deviating from our predictions is the gender ratio, which is unbalanced in our study (75% women x 25% men). Future studies should ensure a more balanced gender ratio. Similarly, it is important to include a larger number of respondents to get a broader and more comprehensive view of the speech of young bidialectal speakers.

10 Conclusion

The purpose of this thesis was to introduce the theoretical background of bidialectalism and bidialectal phonology with a focus on young bidialectal speakers' vowel system. The aim was to find out whether these bidialectic speakers adapt their pronunciation to the person they are talking to and to what extent. To support our hypotheses, the theoretical framework of Communication Accommodation Theory (CAT) by Howard Giles was used, which explains the linguistic and communicative strategies that speakers use to adapt based on whom they are talking to, either towards (convergence) or away from the speaker (divergence). Another model used in this study was James Flege's Speech Learning Model, which assumes that vowel categories are located in one universal phonological system to which new categories are added and existing ones can change. This model was applied to bidialectalism and the aim was to find out to what extent bidialectal speakers keep these categories separate and whether they can distinguish at the phonetic level between their native dialect and the non-native dialect.

The results of this study show interesting findings for all three groups tested. Bidialectal Silesian speakers did not significantly differ in the quality and quantity of high front vowels from monolectal Silesian speakers or Common Czech speakers. The mode in which the bidialectal Silesian speakers were recorded had no effect on the quality of their vowels, however, an effect of mode on vowel quantity was found. These findings suggest that there may be a linguistic convergence towards Common Czech in terms of the vowel quantity, while the quality of vowels remains similar across the groups tested.

11 Resumé

Cílem této bakalářské práce bylo představit teoretická východiska bidialektalismu a bidialektální fonologie se zaměřením na hláskový systém mladých bidialektálních mluvčích. Cílem bylo zjistit, zda a do jaké míry tyto bidialektální mluvčí přizpůsobují svou výslovnost osobě, se kterou hovoří. Pro podporu našich hypotéz byl použit teoretický rámec Komunikační akomodační teorie (CAT) Howarda Gilese, který vysvětluje jazykové a komunikační strategie, které mluvčí používají k přizpůsobení se na základě toho, s kým hovoří, a to buď směrem k mluvčímu (konvergence), nebo proti němu (divergence). Dalším modelem použitým v této studii byl Model osvojování řeči od Jamese Flegeho, který předpokládá, že hláskové kategorie se nacházejí v jednom univerzálním fonologickém systému, do kterého se přidávají nové kategorie a stávající se mohou měnit. Tento model byl aplikován na bidialektismus s cílem zjistit, do jaké míry bidialektální mluvčí udržují tyto kategorie oddělené a zda dokáží na fonetické úrovni rozlišovat mezi svým rodným dialektem a jiným dialektem.

Výsledky této studie ukazují zajímavá zjištění u všech tří testovaných skupin. Bidialektální mluvčí slezštiny se v kvalitě a kvantitě vysokých předních samohlásek výrazně nelišili od monolektálních mluvčích slezštiny ani od mluvčích obecné češtiny. Mód, v němž byli nahráni bidialektální slezští mluvčí, neměl vliv na kvalitu jejich samohlásek, byl však zjištěn vliv módu na kvantitu samohlásek. Tato zjištění naznačují, že z hlediska kvantity samohlásek může docházet k jazykovému sbližování s obecnou češtinou, zatímco kvalita samohlásek zůstává u všech testovaných skupin podobná.

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13 Appendices

13.1 Questionnaire

Questionnaire for respondents from Bohemia

1. Jaký je tvůj věk?
2. Jaké je tvé pohlaví?

Kde ses narodil/a?
3. Kde jsi vyrůstal/a? (pokud jsi vyrůstal/a na více místech, uveď všechny)
4. Odkud pocházejí tvoji rodiče?
5. Jak moc si uvědomuješ, že mluvíš nějakým dialektem?
 - a. Naprosto uvědomuji
 - b. Občas si to uvědomuji
 - c. Nevím
 - d. Nemyslím si, že mluvím dialektem
 - e. Určitě nemluvím dialektem
6. Uvědomuješ si, že mluvíš různě, podle toho kde jsi (např. v Olomouci ...)?
 - a. Ano, uvědomuji si to
 - b. Občas si to uvědomuji
 - c. Nevím
 - d. Spíše si to neuvědomuji
 - e. Vůbec si to neuvědomuji

Questionnaire for respondents from Ostrava

1. Jaký je tvůj věk?
2. Jaké je tvé pohlaví?
3. Kde ses narodil/a?
4. Kde jsi vyrůstal/a? (pokud jsi vyrůstal/a na více místech, uveď všechny)
5. Odkud pocházejí tvoji rodiče?
6. Jak často mluvíš s lidmi, kteří jsou odjinud (nejsou z Ostravska), např. v práci?
 - a. Denně
 - b. Několikrát týdně
 - c. Občas
 - d. Velmi zřídka
 - e. Nikdy

Jak moc si uvědomuješ, že mluvíš nějakým dialektem?

- a. Naprosto uvědomuji
- b. Občas si to uvědomuji
- c. Nevím
- d. Nemyslím si, že mluvím dialektem
- e. Určitě nemluvím dialektem

Uvědomuješ si, že mluvíš různě, podle toho kde jsi (např. v Olomouci ...)?

- a. Ano, uvědomuji si to
- b. Občas si to uvědomuji
- c. Nevím
- d. Spíše si to neuvědomuji
- e. Vůbec si to neuvědomuji

13.2 List of stimuli

DOHODA	doɦoda <i>agreement</i>	LÉK	le:k <i>cure</i>
DÍRY	ji:ri <i>holes</i>	LÉKAŘI	le:kaɾɪ <i>doctors</i>
DŮKAZY	du:kazi <i>evidence</i>	ORGANIZACE	ʔorganizatse <i>organization</i>
EURO	ʔeuro <i>euro</i>	RAUT	raot <i>buffet</i>
GÓL	go:l <i>goal</i>	ROSA	rosa <i>dew</i>
KAZETA	kazeta <i>cassette</i>	RUCE	rutse <i>hands</i>
KOUT	koot <i>corner</i>	RYDLO	ridlo <i>chisel</i>
KUŘATA	koɾata <i>chickens</i>	RYS	ris <i>feature</i>
KYTARA	kitara <i>guitar</i>	RYSY	risi <i>features</i>
KÓDOVAT	ko:dovat <i>to code</i>	RÝHA	ri:ɦa <i>furrow</i>
LACNÝ	laɦsni: <i>cheap</i>	RÝT	ri:t <i>to grout</i>
LIS	lis <i>press</i>	RŮŽE	ru:ʒe <i>rose</i>
LOS	los <i>lottery ticket</i>	SAD	sat <i>orchard</i>
LÁVKA	la:fka <i>footbridge</i>	SÁT	sa:t <i>to suck</i>

SADA	sada <i>set</i>	SŮL	su:l <i>salt</i>
SED	set <i>sitting position</i>	ŠIKANA	ʃikana <i>bullying</i>
SEDY	sedɪ <i>sitting positions</i>	ŠÍLENEC	ʃi:lenets <i>madman</i>
SEKERA	sekera <i>axe</i>	ŠÍT	ʃi:t <i>to sew</i>
SIRKY	sírki <i>matches</i>	TECHNIKA	texnika <i>technology</i>
SKAUT	skaot <i>scout</i>	TICHO	cixɔ <i>silence</i>
SOUD	sout <i>court</i>	TVARY	tfarɪ <i>shapes</i>
SUD	sot <i>barrel</i>	TÍHA	ci:fa <i>weight</i>
SVATÝ	sfati: <i>saint</i>	ZEUS	zeos <i>Zeus</i>
SÉRA	se:ra <i>serums</i>	ZIMA	zima <i>winter</i>
SÓLA	so:la <i>solos</i>	ZÁDA	za:da <i>back</i>
SÝKORA	si:kora <i>titmouse</i>	ZÁSADA	za:sada <i>principle</i>
SÝRY	si:ri <i>cheeses</i>	ŽITO	ʒito <i>wheat</i>

13.3 Severák a Slunce text

Severák a Slunce se hádali, kdo z nich je silnější. Vtom spatřili pocestného, který kráčel zahalen pláštěm. Ujednali tedy, že ten se má považovat za silnějšího, kdo první dokáže, aby si pocestný svlékl plášť. Tu začal Severák foukat ze vší síly, ale čím víc foukal, tím víc se pocestný zahaloval do svého pláště. Konečně se Severák vzdal marného úsilí. Pak začalo Slunce svítit a hřát a za nějaký okamžik pocestný, kterému bylo horko, shodil plášť. Tak musel Severák uznat, že Slunce je silnější.