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**PHONETICS AND PHONOLOGY**

**Selected Aspects of English Pronunciation**

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Phonetics and Phonology. Selected Aspects of English Pronunciation

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## Introduction

The acoustic form of language, speech, is the first form of communication that people encounter and learn from the earliest stages of their lives. Speech is based on physiological processes in the human body, i.e. a human ear recognises speech sounds from other sounds and articulators move in a conscious way with a specific intention – communication. Speaking is the most natural form of communication for people, but at the same time speakers are the least familiar with the theoretical aspects and rules of pronunciation. Pronunciation of a foreign language is even more complicated, because its learners need to know and understand the systematic use of specific sounds of a new language. Making “new” sounds is viewed as challenging for the language learners and practice helps them to overcome the initial obstacles and allows them to communicate confidently.

This publication is viewed as a sequel to the previous textbook, *Phonetics and Phonology. A Practical Introduction to Pronunciation and Transcription* (Vančová, 2016), which presented the general issues of English pronunciation, terminology and a classification of their most prominent features followed by the basic exercise based on sound recognition and drilling.

This publication was written for a deeper insight into the pronunciation of Slovak learners of English and strives to address the pronunciation problems the learners display during the English phonetics and phonology course and subsequent studies. This publication addresses specific problems students have in class and in communication in the academic environment, such as unsystematic use of the accents of English resulting in the incorrect use of the phonemic inventories of the English language, the problematic use and recognition of some functions of advanced pronunciation properties of English, the incorrect pronunciation of the academic vocabulary, and the relations of the English pronunciation to other linguistic disciplines. In addition, the one subchapter of this publication also contrasts BBC English, the model of the pronunciation course, to the General American pronunciation that is probably the most familiar accent the students in class speak, and three other most prominent accents of English.

# 1 THE ACOUSTIC ASPECT OF LANGUAGE

Language as a communication system has two primary forms (modes) – spoken and written. Spoken language is much older than the written one, as the written form of language is approximately 5,000 years old and the spoken one originated between 100,000 to 50,000 years ago (Yule 2010). While not all people are able to learn how to read and write, speaking is natural to all people that have no congenital communication disorders. In addition, people communicate not only with people speaking the same language through words and their meanings; people can also communicate with speakers of other languages through non-articulated sounds universal across many languages and cultures. There are many theories of why language originated, ranging from expression of physical sensations and emotions (anger, pain), through charming and seducing of possible mates, expressing aesthetic feelings (singing songs) to the need of cooperation and coordination in tasks (e.g. moving heavy weights, building homes).

In this chapter, the development of articulation will be described, as well as the place of the acoustic aspect of language within the system of linguistics, and finally, the relation between the written and spoken form of language and their practical impact will be described.

## 1.1 The development of human speech

The uniqueness of the acoustic form of language lies in its physiological nature. Speech is based on the use and movements of articulation organs. These organs can be used and fully commanded by the speakers with the intention to communicate; animals have similar articulators and make sounds, but these sounds have no particular meaning and animals rely on a complex range of signals in communication, be it body language, facial expressions, odour or melody of the sounds animals make.

The system of human articulators is a multiple part apparatus with different functions. Lungs and trachea are **respirators** responsible for the production and transport of the air stream through articulatory organs lying above them. *Phonatory apparatus* (vocal folds) in larynx vibrate due to the air stream passing through them, make voice and give it its particular qualities. *Resonators* (nasal, oral and pharyngeal cavity) allow the sound to resonate. The main group of *modulating articulators* is set in the oral cavity (lips, teeth, tongue, palates). The setting of the modulating organs is different for every person; therefore, the concrete speech is unique to each speaker. The ability to speak and command the articulators for speaking purposes develops progressively from a very young age. Children are born without teeth; and they cannot fully control their muscles to consciously produce speech. As children grow, they

learn to control their muscles and their bones become more solid, lose their flexibility, and teeth grow in.

Crystal (2010) describes the first two years of children learning their mother tongue. Children start learning sounds when they listen to them in their mother’s womb. In the first eight weeks after children are born, the noises a child makes are mostly biological and reflexive. The sounds allow them to express the hunger, pain, and discomfort in a series of one second sounds in a high pitch resembling the vowel /ʌ/. A child can recognise certain consonants from around four weeks and learns to use air stream and vocal folds. In the following period lasting up to 20 weeks, cooing which is quieter, lower pitched, and more musical, appears. A child can make consonant-like and vowel-like sequences in the back of the mouth. Cooing is less rhythmical and is based on imitation. A child can move the tongue horizontally and vertically, control the lips, tongue and use vocal folds. Between two and four months a child can distinguish tones of voice (angry, soothing, playful).

Around the ninth month a child can make velar, alveolar fricative and nasal consonants and sounds longer than one second. Labial sounds are less frequent, and babbling is less varied than before. A child uses a smaller set of sounds more regularly. Reduplicated babbling (baba) and first syllables (adu) appear. The rhythm is similar natural speech. This period lasts approximately until the 18<sup>th</sup> month. After that, there is a great variation and intentions behind the sounds (questioning, greeting, calling, wanting). The child uses proto-words with clear shape but their meaning may be clear only to a small circle of people. With time, a child learns to make eventually the full set of sounds that allows them to communicate in their mother tongue. The figure below indicates that it can take up to eight years for a native speaking child to learn to articulate all speech sounds. The greatest progress in children’s speech is observed in the first year of life; however, generally children display individual differences in speech development.

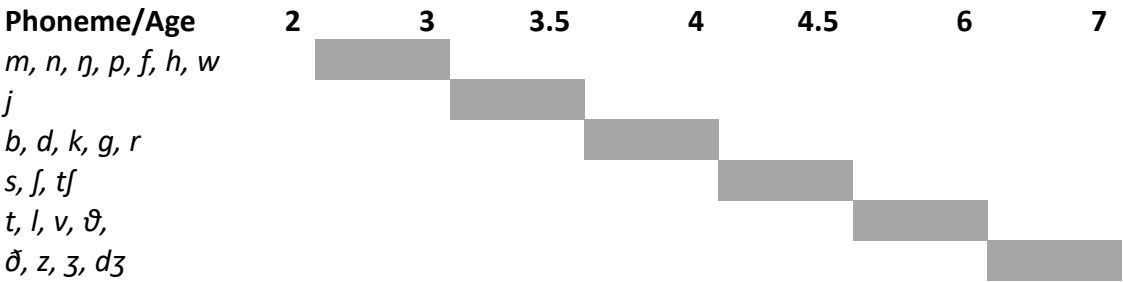


Figure 1 The Acquisition of the English Consonants, based on Sander, 1972

The process of learning pronunciation of a foreign language is different from learning the pronunciation of the mother tongue; however, pronunciation of a foreign language is based

on sounds the learners were exposed to in their early years of experiencing and using language. When someone learns a new language, they must make sounds that had never been practiced before. There is a widely discussed theory based on Flege's (1987) claim that there is a "critical period" for learning the pronunciation of a foreign language, according to which sounds that are not presented to children in an early age, again, become impossible to learn without an accent for the foreign learner of English. However, very early after its publication contradictory opinions (e.g. Patkowski, 1990) against this claim appeared, meaning that even adult learners can achieve a reasonable level of English pronunciation and their accent does not necessarily interfere with their level of overall comprehensibility in English. In this publication, a selected aspect of the Slovak pronunciation features that may interfere with their English pronunciation will be discussed at the end of chapters 2 and 3.

## 1.2 Interfaces of phonetics and phonology with other linguistic disciplines

Language is a communication system of multifaceted constitution. There are several criteria according to which language or speech can be divided (e.g. acoustic, grammatical, semantic, stylistic, pragmatic), but all these individual linguistic layers with their means are integrated into a unified network that cannot be split in communication into smaller segments due to their cooperative nature.

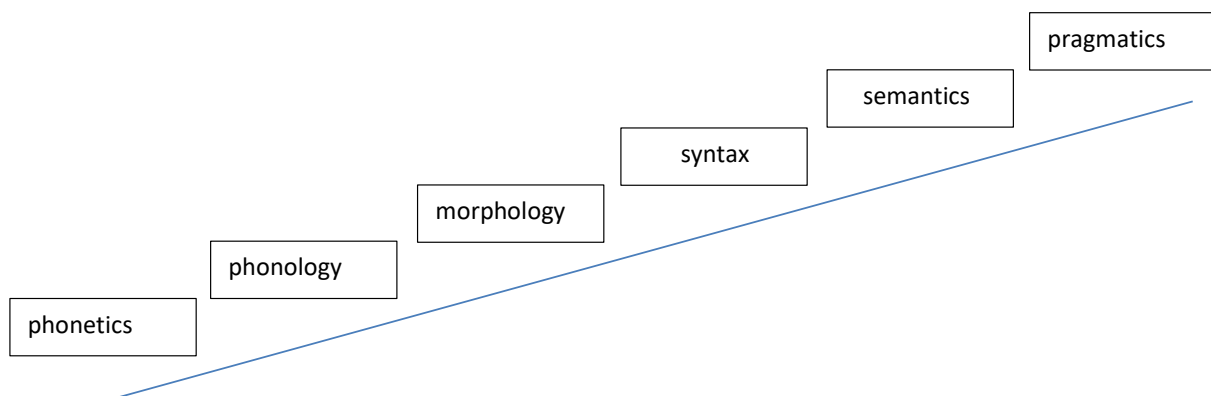


Figure 2 A simplified model of the linguistic disciplines related to language layers

The different layers of language are studied by their respective linguistic disciplines. A closer look at the different layers visually represented in the simplified diagram above reveals that language layers are not separated but are inseparably interlinked. They present language as a continuous means of communication built of different parts necessary for communication.

The first language layer, **phonetics**, deals with specific conditions (articulation, sound wave transmission, sound recognition) during which concrete speech sounds and combinations of sounds are made and it explains the occurrence of *allophones*. **Phonology** deals with those



pronunciation features (*phonemes* and *suprasegmental features*) that can distinguish one utterance from another utterance. Both disciplines, phonetics and phonology, deal with the acoustic form of language.

The next linguistic layer is the grammatical layer, studied by two disciplines, morphology and syntax.

**Morphology** deals with word forms and word classes and pronunciation of these forms is essential to clear communication. One of the first links of morphology and pronunciation is the formation of English plurals. English plurals are made in their regular form by adding a suffix “-s” to singular nouns (e.g. *dogs, cats, foxes*). However, plural pronunciation in English is different for each of these example words, depending on the preceding sound. If the sound preceding plural suffix is voiced, the plural is pronounced as /z/ as in /dogz/. If the preceding sound is voiceless, the plural is read as /s/ as in /kæts/. Finally, plural is read as /ɪz/ as in *foxes*, when the preceding sound is strident (i.e. /s/, /z/, /ʃ/, /ʒ/, /tʃ/, /dʒ/). The same analogy can be made for verbs in their 3<sup>rd</sup> person singular of the Present Simple Tense (e.g. *knows, hits, watches*). Therefore, the plural of English nouns and the 3<sup>rd</sup> person singular of verbs is a suffix “-s” read as /z/, because regarding the pronunciation rules, the majority of categories contains the sound /z/ (O’Grady, 2001).

Regular verbs in the Past Simple Tense take the suffix “ed”. The suffix “-ed” is added to verbs with different types of acoustic endings (e.g. *watched, closed, wanted*). Analogically, this single suffix has three different pronunciation forms related to the voicing of the previous sound (/wɒtʃt/, /kləʊzd/, /wɒntɪd/). From the acoustic point of view, the underlying representation of the past tense of the English regular verbs is /ɪd/ written as “-ed”, because two of three pronunciation types of verbs use the sound /d/ in them.

Finally, words with the same form but different word class can also have different pronunciation – the noun “house” ends in /s/ – /haʊs/, but the verb “to house” ends in /z/ – /haʊz/.

In the linguistic hierarchy, the next discipline is **syntax**, which studies sentence structures and word order. There is a direct link between sentence structure and pronunciation as well. In phonology, Roach (2009) identified a group of words with the same orthography that can function as nouns, adjectives or verbs. Roach (2009) calls them “word class pairs”. However, there is a difference in pronunciation of these words based on word stress placement. The general rule of placing word stress towards the beginning in nouns and towards the end in verbs is also applied in this group of words. Word stress, as a relative prominence of some parts of words, is always associated with full vowel sounds, which will be found also in the stressed syllable of the word class pair word. In addition, following rhythmical rules, the unstressed syllable will contain a weak sound. As an example, the word *protest* (n.) /'prɒt.ɪst/ and *protest* (v.) /prə'test/ can demonstrate the difference in pronunciation.

This issue definitely concerns morphology, but since language is viewed as a system of interlinked layers, it is also reflected at the sentence level. Sentences “*There is a /prə'test/*” or “*We /'prəʊ.test/ against the society*” are unacceptable and confusing, proving that correct pronunciation is essential in communication also at the syntagmatic level.

In addition, intonation as another pronunciation feature can be meaningful in communication. More specifically, in single-word utterances, as in simple answers “yes/no”, it can provide the listener with information beyond the semantic meaning of the words. In longer structures, the change in the height of voice can indicate relation between two clauses (e.g. subordination in structure and in meaning), divide longer sequences of words into smaller segments (substituting comma in speech) or connect shorter text parts into meaningful units. In addition, intonation can substitute incorrect grammar, e.g. forming grammatically incorrect questions with clear meaning from grammatically correct declarative sentences (e.g. “*They know?*” instead of “*Do they know?*”).

The next linguistic layer, **semantics**, deals with the meaning of words. Looking at the aforementioned group of “word class pairs” (Roach, 2009) , in some cases the difference between the orthographically identical words is not only in their pronunciation, word class and use in sentence structures, the difference can also be in their meaning. One of the most demonstrative examples is the word “desert”; which as a noun /'dez.ət/ stands for a dry sandy place without rain and vegetation, and as a verb /dɪ'zɜ:t/ stands for leaving (an army or a place).

The ability of phonemes, the smallest units of phonology, to change the meaning of words is their essential feature. Any phonetically relevant sound (vowel, diphthong, triphthong or consonant) must have this ability to be considered a phoneme. An example of different types of phonemes and their ability to change the meaning of word by replacing one of them in the word “he” /hi:/ is presented below:

he – her /hɜ:/  
he – high /haɪ/  
he – higher /'haɪə/  
he – she /ʃi:/

Phonology also deals with compounds with different stress placement that causes change in the lexical meaning of the words, e.g. *garden egg* (an egg found in a garden) /,gɑ:.dən 'eg/ and *garden-egg* (a type of a plant /'gɑ:.dən eg/ ).

**Lexicology**, a linguistic discipline dealing with the word stock and the relations between lexical units, relates to phonetics and phonology when treating polysemy and homonymy. Polysemantic words have more than one meaning (e.g. *mole* – a small animal and an agent in disguise; *bank* – a financial institution or a building of the institution). Homonymy deals with words from two perspectives – from the acoustic perspective (two words sound the same but

are written differently, e.g. *red* /red/ – *read* /red/) and from the orthographic perspective (two words are written in the same way but are read differently; e.g. *read* /ri:d/ – *read* /red/).

An applied linguistic discipline, **lexicography**, dealing with dictionary compiling, uses symbols of the phonetic alphabet to provide dictionary users with pronunciation. **Sociolinguistics** currently studies accents and dialects, because nowadays, due to globalization, the geographical location of speakers is not essential to their pronunciation. Television, radio and above all the Internet now influence the way people speak in general, and pronunciation is definitely affected by these media. That is the reason why sociolinguists analyse the speech of other than geographical communities (e.g. young people, the elderly, professionals, etc.).

Acoustic representation of words is the quintessential part of language and any changes on this level will influence other layers of language. Language layers are inseparable and shape the overall communication. A competent user of language must be aware of these relations to convey and recognise the intended message.

### 1.3 English orthography and pronunciation

English is perceived by foreign learners as a relatively difficult language to read and write in due to the lacking correspondence between the way words sound and the way words are written. Many European languages have a relatively close relation between the word spelling and its acoustic forms. Two main causes for such disparity in English is the richness of the etymology of the English word stock, as well as historical changes in pronunciation and spelling.

In English, each sound can be written down in at least two different ways. Some letters can only be doubled and are read the same way (*club* – *clubbing*), other sounds must be recognised according to the combination of letters and their position in a word.

George Bernard Shaw, an Irish playwright interested in pronunciation and the author of the play *Pygmalion*, proposed the pronunciation /fij/ for the word written as “ghoti”. Kelly (2000) provides Shaw’s explanation:

*gh* = *tough*

*o* = *women*

*ti* = *notion*

The combination of letters “gh” at the beginning of words such as “ghost” would be read as /g/, the letter “o” is typically read in the BBC English as /ɒ/ in “hot”, or /əʊ/ in “host” and the digraph “ti” as /tɪ/ in “tin” or /aɪ/ in “tiny”.

Shaw's example demonstrates a great variation in English spelling which all speakers of English must overcome. Generalisations on English orthography and pronunciation relations are formulated in available literature (e.g. Cambridge Pronunciation Dictionary, 2011; English Pronunciation in Use, 2007), but only growing exposure to written and spoken texts in English will build command of English spelling.

Kelly (2000) states that about 80% of words are read relatively regularly, but there are fewer than 500 words that are not systematic and belong to the most frequently used words in English. English does not belong to the group of so-called phonetic languages with a high degree of correspondence between spelling and pronunciation such as, for instance Slovak, Italian or Spanish.

Generally speaking, consonants display a greater consistency and correspondence between orthography and pronunciation, even though some differences occur, the majority of consonants have one main sound or letter associated with them (e.g. *b, m, p, b, k, l*).

Vowel letters tend to display greater variety in their pronunciation as vowel sounds can correspond to several letters.

One letter can represent several sounds:

- *a* – *aunt, America, allophone*
- *c* – *colour, celebrate*

Similarly, one sound can be written in different ways:

- /ʊ/ – *put, looking, should*
- /e/ – *pen, said*

Sounds also correspond to groups of letters called **digraphs**. They are pairs of letters read as a particular sound, e.g. *ph* = /f/. Some digraphs display a greater variety in pronunciation, e.g. “ch” in *chin* /tʃ/, *chronology* /k/ or *champagne* /ʃ/.

Vowel digraphs have primary and secondary sound associations (Kelly, 2000), e.g. “ea”:

- primary association /i:/, e.g. *eat, heat, cheap*
- secondary association /ei/, e.g. *great, break* or /e/, e.g. *dead, weather, breakfast*

Vowel sounds can change predictably in short words. If they are found between two consonants, they are read as short vowels, e. g. *cub, dan, ton* etc. If the same word is added the letter “e” at the end, it changes either to a long vowel or a diphthong, e.g. *cute, Dane, tone*. If the letter “r” is added immediately after a vowel, it becomes longer, e.g. *curb, darn, torn* (Kelly, 2000).

Similarly, simple words can change their vowel quality if new, complex words are formed through suffixes. The root word “teach” is pronounced in the same way in *teacher, teaching,*

*headteacher*. But some roots change the vowel quality after the stress change, e.g. pronounce /prə'naʊns/ – pronunciation /prə,nɪn.si'ei.jən/.

As previously mentioned, the acoustic form and the written form of words are related and are used in communication to convey a meaning. The meaning of words is relatively fixed and English learners learn it when they master the English vocabulary. However, only a small number of words have just one meaning and the other word meanings may not be clear to the learner in communication. There is a group of English words with two completely distant and unrelated meanings called *homonyms*.

Although lexicology and semantics deal with homonymy, it is also worth mentioning the peculiarities of homonyms in a pronunciation course.

Homonymy is based on the accidental acoustic or orthographic similarity of two words which results primarily from the different origins of the two words. Words that sound the same but have different spellings are called homophones (e.g. /naɪt/ = *night* – *knight*) and words that look the same but have different pronunciation are called *homographs* (e.g. *wind* = /wind/ – /waɪnd/). Words that are homonymous must be in total correspondence in their acoustic and/or orthographic form.

Homographs are usually clear to identify; however, homophones present a greater challenge to the English learners. Primarily, the learners may not be aware of the two possible pronunciations of words and the subsequent second meaning of words, another aspect of pronunciation difference may lie in the interference from the mother tongue. For instance, the Slovak language pronounces voiceless consonants at the end of words, even if the word ends with a voiced consonant. On the contrary, English consonants do not change to voiceless at the end of words.

The pronunciation aspect of homonymy is directly related to the aforementioned complexity of English spelling and the lack of regularity in reading the English vowel letters. Although their semantic aspect (the meaning of words) is dealt with by other linguistic disciplines, such as semantics and lexicology, a proficient learner of English should be aware of their existence and should be competent in their use.

## TASKS

1. Think of more examples of how words and their pronunciation relate to other words.
2. Analyse the extract below. Try to find pronunciation changes of individual words caused by the surrounding words and as many instances of the interference of other linguistic layers as you can.

*The imposter borrowed the name of Neville Manchin, an actual professor of American literature at Portland State and soon-to-be doctoral student at Stanford.*

*In his letter, on perfectly forged college stationery, "Professor Manchin" claimed to be a budding scholar of F. Scott Fitzgerald and was keen to see the great writer's "manuscripts and papers" during a forthcoming trip to the East Coast. The letter was addressed to Dr. Jeffrey Brown, Director of Manuscripts Division, Department of Rare Books and Special Collections, Firestone Library, Princeton University. It arrived with a few others, was duly sorted and passed along, and eventually landed on the desk of Ed Folk, a career junior librarian whose task, among several other monotonous ones, was to verify the credentials of the person who wrote the letter.*

*Ed received several of these letters each week, all in many ways the same, all from self-proclaimed Fitzgerald buffs and experts, and even from the occasional true scholar. In the previous calendar year, Ed had cleared and logged in 190 of these people through the library. They came from all over the world and arrived wide-eyed and humbled, like pilgrims before a shrine. In his thirty-four years at the same desk, Ed had processed all of them. And, they were not going away. F. Scott Fitzgerald continued to fascinate. The traffic was as heavy now as it had been three decades earlier. These days, though, Ed was wondering what could possibly be left of the great writer's life that had not been pored over, studied at great length, and written about. Not long ago, a true scholar told Ed that there were now at least a hundred books and over ten thousand published academic articles on Fitzgerald the man, the writer, his works, and his crazy wife. (John Grisham: Camino Island, 2017)*

3. Pronounce these words carefully and transcribe them. Match them to the collocations listed below:

/eə/, /ɑ:nt/, /'ɔ:.rəl/, /beə/, /dɪ'zɜ:t/, /flaʊə/, /greɪt/, /led/, /meɪd/, /meɪl/, /'mʌs.əl/, /peə/, /pi:l/, /weɪst/, /weɪl/, /wi:k/

- a) angry children ...../..... sing
- b) ..... of time / ..... – deep
- c) ..... and uncle / ..... and isn't
- d) the ..... of the species / ..... order
- e) ..... to the throne/a breath of fresh .....
- f) music as an ..... stimulus / written and ..... exam
- g) fragrant ..... / all-purpose .....
- h) orange ...../ ..... of laughter
- i) cross to ..... / room ..... of furniture
- j) ..... and bones / ..... in white wine sauce
- k) ..... at the knees / a day of the .....
- l) one of a ..... / apples and .....
- m) ..... in Slovakia / milk-, chamber- and mer-.....

- n) poisonous ..... piping / he ..... the way
- o) chocolate ..... / to ..... the army
- p) the ..... Wall of China / to ..... the cheese

4. Use these following homographs in the expressions below. Change their form for grammatical accuracy. Carefully pronounce both possible pronunciations of the words and transcribe them.

*bass, bow, close, lead, minute, Polish, row, tear, wind, wound*

- a) take a ..... / ..... and arrow
- b) gone with the ..... / the roads are .....
- c) ..... Prime minister / furniture .....
- d) ..... piping / the ..... singer
- e) ..... is a type of fish / ..... is the lowest male voice
- f) a ..... detail / a ..... and an hour
- g) a horrible ..... / a ..... of books
- h) a ..... friend / the shops ..... at ten
- i) a ..... drop / wear and .....
- j) a serious ..... / a bandage ..... tightly

## 2 PHONEMES AND ALLOPHONES

All sounds people make when they speak can be categorised into two groups – if they change the meaning of words, then they are called **phonemes**; if they cannot do that but are different in some aspects from phonemes due to their position in the word, then they are called **allophones**.

Each language has its own set of sounds used for expressing ideas called **phonemic inventory**, which is different from phonemic inventories of other languages. BBC English makes use of 44 sounds – 20 vowel sounds and 24 consonant sounds. Vowels may be subdivided into **monophthongs** and **diphthongs**, **consonants** also comprise a category of the so-called **semivowels**. All sounds are believed to have sets of features, and replacing one feature would result in a completely different sound (Roach, 2009).

Slovak learners of English are familiar with some phonemes (e.g. /b/, /d/, /g/, etc.), but may not be familiar with others (e.g. **schwa**). There are sounds that are phonemes in English but only allophones in Slovak (/ŋ/ or/ w/). Finally, there are sounds a Slovak learner of English would not find in the BBC English phonetic inventory (e.g. /x/ as in *chlieb*) and vice versa (/e:/ as in *dobré*).

In the following sections, each category of phonemes will be examined separately and inspected in detail. Typical allophones, orthographical patterns (Baker, 2007; Marks, 2007; Jones, 2011; Kelly, 2000) and phoneme distribution will also be presented.

### 2. 1 Vowel sounds

The inventory of 20 vowel sounds in BBC English is frequently used, as the sounds are necessary for syllable formation and sometimes they can build a syllable on their own.

Vowel sounds may be subdivided into 12 monophthongs, i.e. sounds acoustically and articulatory consisting of one sound, and 8 diphthongs consisting of two sounds (qualities).

#### 2.1.1 Vowels (monophthongs)

There are several criteria of vowel classification and all vowels are unique, as is clearly demonstrated in the four-sided diagram (see Vančová, 2016). The diagram describes two primary axes assumed by the tongue in articulating vowels – horizontal, i.e. the placement of the tongue in the front, centre or back of the mouth when speaking; or vertical, i.e. the vertical



distance between the roof of the mouth and the tongue. In practice, the mouth can be open, half-open, half-closed or closed when making particular vowel sounds. Referring back to Roach (2009), the gain or loss of some vowel features results in an acoustically different vowel. For example, sounds /ɪ/ and /ʊ/ are both close sounds; however, changing the place of articulation from back to front or vice versa results in a different acoustic effect. Analogically, sounds /u:/, /ɔ:/ and /ɑ:/ are all back vowels. However, the degree of the proximity/distance of the tongue to the hard palate produces a sound of a different quality.

All these different aspects and combinations in the pronunciation of sounds result in a qualitatively different sound; therefore, the first criterion of vowel classification is classification on the basis of their **quality**. Comparing the diagrams of the long and short BBC English vowels, there are 11 unique sounds, one of them having a longer variant (for reference see Vančová, 2016).

Another criterion of the vowel classification is the criterion of their length, i.e. **quantity**. In English, vowel quantity is suprasegmental in character – it depends on the following sound. Therefore, BBC English distinguishes not only long and short vowels, but also pro-long and half-long vowels.

One example of the suprasegmental quality of vowels is the so-called pre-fortis clipping effect – the vowels appearing in front of the fortis (voiceless) consonants tend to be (relatively) shorter in comparison to other vowels (Roach, 2009), e.g. words “ice” /aɪs/ and “eyes” /aɪz/ contain the same diphthong /aɪ/, however, the final consonant sound in the first word is a fortis /s/ and in the second one is a lenis /z/. Since /s/ is fortis (voiceless), the relative length of the vowel perceived by the speakers in the first word is shorter than in the second one. Equally, the sound /t/ in the word “foot” is fortis and the vowel is short, but in the word “food” the /u:/ is long, because it is followed by a lenis consonant /d/.

Another important aspect in vowel length is the position of the /r/ sound after a vowel in a word, e.g. “start” /stɑ:t/ or “turn” /tɜ:n/. This rule applies to other vowels as well, because many times the long vowels are followed by the letter “r” in writing.

In terms of articulation, all long vowels tend to be pronounced more in the back than their shorter counterparts. Long /e:/ sound is not found in the inventory of BBC English and sound /ɜ:/ is only the long sound, which is articulated at the same place; as is its shorter counterpart /ə/.

All BBC vowels are significantly different from the cardinal vowels, which are familiar to the speakers of most European languages. This fact does not apply only to the BBC vowels; this is true for the phonetic inventories of all languages. In this section, vowel sounds will be presented in groups according to their relative similarity and confusability for the learners in distribution and use.

### **/æ/ – /ʌ/ – /e/ – /ɑ:/**

This group of vowels presents difficulty for Slovak learners of English pronunciation, therefore they will be pronounced together for contrastive purposes.

**/æ/** – a front open vowel, is corresponding only with the letter “a” in orthography (animal, black, man, etc.)

**/ʌ/** – a central vowel, more close than /æ/, only used in combination of letters “oe” (does), “o” (nothing, dove), “oo” (blood, flood), “u” (mum, butter) and “ou” (touch, country).

**/e/** – a central front vowel, in writing corresponding with the letters “e” (get), “ea” (treasure), “a” (many), “ie” (friendly) or “ai” (said)

**/ɑ:/** – a back open vowel, corresponding with letters “a” (task, tomato), “al” (halve, calf), “au” (laughter, aunt), “ear” (heart) and “ar” (guitar, star)

### **/ə/ – /ɜ:/**

Both vowels are central, half-close and half open, however, the difference is not only in their quantity, but most of all in their distribution and characteristic features.

**/ə/** is called “schwa” or “shwa” and its quintessential quality is that it is never stressed. It can be found in all word positions – word initial, medial or final, depending on the word structure (containing affixes influencing word stress) and its pronunciation qualities. In English, any vowel can be reduced to schwa (e.g. *atom* /'æt.əm/ → *atomic* /ə'tɒm.ɪk/) and any schwa sound can become full (e.g. *compete* /kəm'pi:t/ → *competition* /,kɒm.pə'tɪʃ.ən/). In practical pronunciation it means that there is little correspondence between sound schwa and the letters in writing, as opposed to other vowel and consonant sounds. However, some predictions can be made:

- letter “a” at the beginning of some words (e.g. alive, awake, aware)
- letter “a” at the end of words (e.g. Asia, America, Africa, Christina, sofa)
- in suffixes “-able” (loveable), “-al” (denial), “-en” (strengthen), “-ful” (beautiful), “-less” (sleeveless), “-ment” (atonement), “-ness” (kindness), “-ous” (fabulous), “-eous” (courageous), “-graphy” (demography), “-ial” (denial), “-ion” (precision), “-ious” (glorious), “-er/-ar/-or” (lecturer, beggar, actor)
- in weak forms of some words (from, of, for, as, to, than, can, must, have, etc.)

**/ɜ:/** is a longer version of schwa, which, and on the contrary, can be stressed. In writing, it often corresponds with a combination of a vowel and the “r” letter, e.g. “ir” (thirst, shirt), “or” (work, word), “ur” (surgery, burn), “our” (journey), “ear” (early), “er” (service).

### **/ɪ/ – /i:/**

These sounds present generally no difficulty for Slovak learners; however, they have an allophone appearing in specific situations.

**/ɪ/** – a front close vowel made with lips rounded. It corresponds in writing with letters “i” (pin, strip), “e” (evening), “u” (busy), “y” (cyst) at the beginning and at the end of the English words.

**/i:/** – even more front and even more close than the /ɪ/ sound in comparison, and can be found in all word positions. It usually corresponds with letters “ee” (three, sheep), “ea” (read, treat), “e” (these, Chinese), “i” (pizza, magazine).

Sound /ɪ/ also has an allophone /i/, which is often found in the so-called weak syllables or weak forms. It can be recognised in the word final positions of words ending with “y” (lovely, pretty) or “ey” and “pre-” (pre-amplifier). Finally, it can be found in weak forms of some words (he, she, be, etc.).

Since this sound is an allophone, it does not change the meaning of words, in addition, it is also difficult to recognise.

### **/ʊ/ – /u:/**

These two phonemes also have an allophone.

**/ʊ/** – a back close vowel, found in words containing letters “u” (sugar, full) or “oo” (book, good)

**/u:/** – in comparison an even more back and even more close vowel than /ʊ/, usually corresponding with letters “o” (do), “ou” (you, group), “ui” (fruit), “eo” (shoe), “ew” (new) or “ue” (blue)

/ʊ/ also has an allophone /u/, which is difficult to recognise, because it is often found in weak syllables in such expressions as “thank you”.

### **/ɒ/ – /ɔ:/**

Generally speaking, these two sounds are not difficult to make for Slovak learners, however, they are difficult to use properly.

**/ɒ/** – a back, open vowel made with rounded lips, in writing often corresponding with letters “o” (lot, hot, shot) or “a” (wash, what).

**/ɔ:/** – a back, half-open vowel made with rounded lips, corresponding to the letters “aw” (straw), “or” (cord, furthermore, before, quarter), “a” (tall, water, walk, autumn), “a/o + gh” (daughter, thought)

### 2.1.2 Diphthongs

Diphthongs are characterised as a sequence of two vowel sounds in one syllable made with a non-interrupted gliding movement from one vowel into another. The first vowel element is usually longer and stronger; the second one is shorter and weaker. The first element is “the starting point” (Roach, 2009) and the second one is called “the direction of the movement” (ibid). Since these sounds are a combination of two vowels, they may be stressed. There is an established number of eight BBC diphthongs, which are divided into two groups according to the second element:

- **Closing**, according to the closing element in the second position, i.e. /eɪ/, /aɪ/, /ɔɪ/, /əʊ/, /aʊ/
- **Centring**, according to the central element in the second position, i.e. /ɪə/, /eə/, /ʊə/

All closing diphthongs are characterised with the visible lower jaw movement as the first element is always more open than the final closing sound. They are relatively easy to pronounce and recognise for the Slovak learners of English, with one exception discussed below. All centring diphthongs contain the same centring short sound /ə/.

For Slovak learners of English, four diphthongs represent a challenge.

The first one is the closing diphthong /əʊ/ similar to the Slovak noun/adjective suffix “-ou” or the American diphthong /oʊ/. Even though these sounds may share general resemblance, they are phonologically different (*road, old, local, go, although, almost, grow, show, no, hello, moreover, tomorrow, potato, tomato, low*).

Secondly, the diphthongs belonging to the category of the centring diphthongs are also problematic in terms of pronunciation and distribution.

In the orthography of BBC English they often correspond to the pattern “vowel + r”, optionally followed by “e” (e.g. mere /mɪə/ – mare /mɛə/ – moor /mʊə/). However, this is not true for American English, which as a rhotic accent does not pronounce these diphthongs in syllable final positions (/mɪr/ – /mer/ – /mɔr/). They are often found at the end of words ending with a vowel letter (*utopia, chair, tour*).

In addition to the aforementioned distribution pattern, in the rapid speech of English native speakers and in the incorrect pronunciation of English learners, centring diphthongs are often simplified to long vowels, therefore they are difficult to recognise for English learners (/ɪə/:

*really, utopia, aria, royal, series, area, theory, nearly, industrial, deal, medium, serum, mysterious, sodium, median, oblivion, era; /ʊə/: during, usually, jury, maturity, furious, plural, durance, amour, curial, urine, curious, Europe; /eə/: area, share, pear, bare, dairy, armchair, secretariat, square, carer, hairy, scary, heirloom, compare, Aries, Bavaria, Mary).*

## 2.2 Consonants

Consonants are sounds used at the edges of syllables; therefore, they are not essential for speech in terms of syllable formation. They are made when the air stream leaving the lungs comes across an obstacle of several types and made by different sets of articulators. There are twenty-four consonants in BBC English and, referring back to Roach (2009), they are made as a combination of features. Removing any feature would eventually result in a different consonant sound, as it will be highlighted in this section. One of such examples is the comparison of the plosive and nasal sounds. Their place of articulation is the same in both categories of consonants (bilabial /p, b/ and /m/, alveolar /t, d/ and /n/; velar /k, g/ and /ŋ/), but the manner is different (plosive/nasal) and the acoustic effect is different.

There are several criteria according to which consonants are categorised, e.g. the articulators involved in consonant formation (the place of articulation), the movement they make (the manner of articulation), the amount of energy they require from the speaker (fortis or lenis), the degree of their voicing (voiced or voiceless), their relative length (rather referred to as continuance) and distribution (their combinatory position in words). Several of these criteria will be discussed in this section in a practical context, i.e. how these features are used and reflected in speech (for the remaining criteria see Vančová, 2016).

On the contrary to vowels, consonants are not pure sounds. For a sound to be pure, it should be made when articulators are in a more or less static position and do not move. The result of this stability of articulators is a sound that has the same quality throughout its whole articulation, irrespective of its relative length. Since many consonants are made when articulators are moving, this chapter will take a closer look at this criterion of their articulation.

The degree of their voicing is influenced by the vibration of vocal cords – in lenis consonants vocal folds vibrate. Consonants keep their voicing also at the end of words; voiced consonants in the word final position do not lose their voicing (*jazz, bud*, etc.).

Fortis consonants make the preceding vowels shorter (e.g. the relative length of the diphthong /aɪ/ in the words *inside* and *insight*). This effect is called pre-fortis clipping (Roach, 2009) and was discussed in the previous section when discussing vowel sounds.

In the description of individual consonants, the criterion of the manner of articulation will be followed. Only the most prominent features will be mentioned, such as their articulation

category (place), relative energy required for their pronunciation, (lenis/fortis), typical orthographical pattern (correspondence with letters based on Baker, 2007; Marks, 2007; Jones, 2011; Kelly, 2000) and distribution (word initial, medial or final). Unless specified, consonants can occur in all positions.

### 2.2.1 Plosives

Plosives as sounds are made when articulators are moving; therefore they are not viewed as pure sounds. They are grouped in voiced or voiceless pairs made by a different set of articulators (lips, tongue in contact with alveolar ridge or soft palate). In terms of their distribution, they are used in all positions of words (initial, medial and final).

- bilabial /p/ and /b/
- alveolar /t/ and /d/
- velar /k/ and /g/

To form a plosive, articulators must perform four movements in rapid succession:

voiced plosives

voiceless plosives

- 
1. Fully closing of the air passage
2. Holding the air stream under the pressure behind the closure
3. Opening the closure, release of the air stream
4. Adding an additional puff of breath (aspiration)
- The diagram features a list of four articulation stages. To the left of the list, a blue double-headed vertical arrow spans from the top of stage 1 to the bottom of stage 3. To the right of the list, another blue double-headed vertical arrow spans from the top of stage 2 to the bottom of stage 4.

The arrows next to the list of the four articulation stages refer to the moment of voicing of plosives. The arrows indicate that there is a difference in the voicing of voiced and voiceless plosives. While voiced plosives are voiced towards the beginning of their articulation, voiceless plosives tend to be voiced towards the end of their articulation. Neither of the two groups of plosives is voiced in the very early stages of the closing phase and aspiration accompanies only voiceless plosives.

Aspiration accompanies voiceless plosives only when they are followed and/or preceded by vowels; their possible combination with other consonants (preceded by /s/, as in *spin*, *steam*, *square*, followed by /l/, /r/, /w/, /j/, as in *play*, *pray*, *queen*, *few*) makes them unaspirated. Aspiration disappears when voiceless plosives are at the end of words (*cup*, *cut*, *cook*), or in unstressed syllables.

**/p/** – a fortis, bilabial, orthography “p” (pronunciation) or “pp” (shopping), silent in some words of foreign origin (pterodactyl, psychology)

**/b/** – a lenis, bilabial, orthography “b” (biography) or “bb” (Bobby), sometimes silent (bomb, tomb, womb), but appearing again in complex words (bombastic)

**/t/** – a fortis, alveolar, orthography “t” (extra-terrestrial) or “tt” (hotter) or “th” (Theresa)

**/d/** – a lenis, alveolar, orthography “d” (democracy) or “dd” (muddy)

**/k/** – a fortis, velar, orthography “c” (colour), “k” (keenness), “ck” (mockery), “ch” (chronology), “q” (square), “x” (saxophone)

**/g/** – a lenis, velar, orthography “g” (greenhouse) or “gg” (foggy), “x” (example)

### 2.2.2 Fricatives

Fricatives are formed when the air stream escaping the lungs comes to a narrow passage made by five different combinations of articulators. This movement results in nine different fricative sounds, which are all continuants since the air stream is not fully blocked during their formation.

They are divided according to the articulators that make them:

- labio-dental /f/ and /v/
- dental /θ/ and /ð/
- alveolar /s/ and /z/
- palato-alveolar /ʃ/ and /ʒ/
- glottal /h/

All fricatives make the fortis-lenis pair, except for the glottal /h/ sound, which has no voiceless counterpart in contemporary BBC English. Its articulation is also not fully established. The glottal fricative sound /h/ is the sound of pure breath passing through the glottis (the opening between vocal folds). It does not require any other articulator in a specific position for the sound to be made. However, phonetically, sound /h/ is always pronounced simultaneously with the following vowel sound and takes its pronunciation features. Sound /h/ is written either as letter “h” only (e.g. *hot, heat, hit*), or sometimes combination of letters “wh” is read as /h/ (e.g. *who, whose*).

The distribution of fricatives is restricted for several sounds. Sound /ʒ/ is not pronounced at the beginning of English words (only in words of the French origin), and sound /h/ is never found at the end of English words. Other fricatives are used freely in all word positions.

**/f/** – fortis, labiodental, orthography “f” (friendship), “ff” (suffering), “ph” (phonology), “gh” (though)

**/v/** – lenis labiodental, orthography “v” (velocity), “ve” (everybody), “vou” (favourite)

**/θ/** – fortis, dental, its orthography is always only “th” (*this, mouthful, both*). As a fortis consonant it makes the preceding vowel shorter, therefore often found in nouns (*breath, bath, cloth*). It should be pronounced with the tongue behind the teeth.

**/ð/** – lenis dental, its orthography always only “th” (*this, brother, loathe*). It is found at the end of verbs, preceded by a long consonant (*breathe, bathe, clothe*). The tongue should be pressed at the back part of the teeth.

**/s/** – fortis, alveolar, orthography “s” (sunflower), “ss” (across), “x” (maximum), “z” (waltz), “sc” (scissors), “c + e, i, y” (cigarette, celebrity, cyclone), often found in the third person singular of verbs or in plurals of nouns when preceded by a voiceless consonant (two sinks, he thinks)

**/z/** – lenis, alveolar, orthography “z” (zephyr), “zz” (drizzle), “ss” (possession), “s” (position), “se” (user), “x” (exaggerate), often found in the third person singular of verbs or in plurals of nouns when preceded by a vowel or voiced consonant (believes, dogs, busses, roses).

**/ʃ/** – fortis, palato-alveolar, orthography “sh” (shabbiness), “s” (insurance), “ch” (Champagne), “si” (pensioner), “ti” (mention), “ss” (Russia), “sci” (scirocco), “c” (liquorice), “ci” (crucial), found in all word positions

**/ʒ/** – lenis palato-alveolar, rarely in initial position, typically in word medial and final, orthography “si” (television), “s” (usually), “ge” (garage)

**/h/** – glottal, lenis, its articulation copies the articulation of the following vowel and pure breath escapes the throat, e.g. for “hot” lips are rounded, for “hard” lips are neutral and open, for “heat” lips are spread, etc. It is never used in word final position, only word medial or initial. It is written either as “h” (homograph, ahead), or “wh” (who, wholesome), or it can be silent (honour, exhaust).

### 2.2.3 Affricates

Affricates are consonant sounds phonetically consisting of two sounds. The first element is a plosive; the second one is a fricative. There are two affricate phonemes in English that are a voiced /dʒ/ –voiceless /tʃ/ pair; therefore, in each of the affricate both elements (plosive and fricative) are either voiced or voiceless. There are only two affricates in BBC English, because the plosive and fricative sound must be performed with the same set of articulators (palate-alveolar). That is why affricates are called homorganic sounds when analysed from the articulatory perspective. Since there is overlap only with one set of articulators (palate and alveolar ridge), the BBC affricates are characterised as post-alveolar.



Phonetically, each affricate sound may be viewed as two independent sounds following each other, because articulators make two sounds and the human ear can clearly distinguish them one from another; however, phonologically an affricate is viewed as one phoneme, because the two sounds are used (distributed) together in specific contexts and carry semantic information.

On the contrary to the lenis alveolar fricative /z/, the phoneme /dʒ/ can be also used in the word initial position.

**/tʃ/** – fortis, palatoalveolar, orthography “ch” (chocolate), “t” (maturity), “st” (posture)

**/dʒ/** – a lenis, palatoalveolar, orthography “g” (ginormous), “j” (journalist), “dg” (badge), “di” (soldier), “ge” (manager)

#### **2.2.4 Nasals**

Nasal sounds are made when the soft palate is lowered and air stream escapes through the nasal cavity, which also serves as a resonator and gives sounds a particular acoustic quality. As the previous description of sounds indicates, all speech sounds are made when the air stream passes through the oral cavity. There are three sounds resonating in the nose, /m/, /n/ and /ŋ/. They are divided into three categories according to the organs that articulate them. Therefore, /m/ is bilabial, /n/ is alveolar, and /ŋ/ is velar. A closer look at their articulation shows that not pressing the lips together makes the air stream leave the lungs through nose, it is the lowering of the soft palate (compare the lip shape when making sounds /m/ and /n/). All nasal sounds are voiced.

Sound /ŋ/ is a velar sound that is used only in the medial or final position in words, never in the initial. The reason is that it is only used in words that contain a letter combination of either “n+k” or “n+g”. There is no English word starting with this letter combination. Even though in phonetics and phonology orthography is not a central point in the analysis, in the velar plosive orthography it is taken into consideration because even though the letter k is always read, the sound /g/ may disappear in certain word positions, (e.g. *bang, hang, long, strong*), or at the end of progressive verb forms (e.g. *writing, sitting, looking*) or even in the middle and at the end of some words (e.g. *singing, banging*). The only exceptions are superlatives and comparatives of adjectives (e.g. *strong – stronger – strongest; long – longer – longest*).

A comparison of articulation of the velar nasal /ŋ/ to other velar sounds, the plosives /k/ and /g/, shows that even though they are articulated by the same set of articulators (the back of the tongue and the soft palate) the final sound is not the same due to the manner of articulation. While for plosives the soft palate is raised and the back of the tongue rises too to meet it, in the nasal /ŋ/ the soft palate lowers to make contact with the back of the tongue.

Analogically, bilabial sounds /p/, b/ and /m/ and alveolar sounds /t/, /d/ and /n/ are also made in the same manner, except that the soft palate is raised for plosives and lowered for nasals.

**/m/** – lenis, bilabial, orthography “m” (mother), “mm” (swimmer), sometimes followed by silent consonants (climb, autumn) that reappear in complex words (climbing, autumnal)

**/n/** – lenis, alveolar, orthography “n” (northern), “nn” (connection), sometimes preceded by silent consonants (knee, pneumonia)

**/ŋ/** – lenis, velar pronounced when the letter “n” followed by the letters “g” or “k”, therefore, it is only found at the end or in the middle of words (wing, wink). The combination of “n + k” is always pronounced (pink, think, sink); the combination of “n + g” is not pronounced mostly at the end of words and the “-ing” forms of verbs (swinging, ringing, long, strong). Examples with the letter “g” pronounced: *English, language, tongue, etc.*

### 2.2.5 Semivowels

As their name suggests, semivowels (half-vowels) are partially vowels and partially consonants. The vowel part is their articulation, i.e. without significant obstruction to the air stream; the consonant part is their distribution (use) – always as the edges of syllables. Equally, in some words, both definite and indefinite articles have the same form when used in front of words starting in vowels, e.g. *a year, the hour*. It is caused by their articulation – sound /j/ starts similarly to the /i/ sound and semivowel /w/ starts with a sound similar to the /u/ sound. In both cases, full vowels are never formed, articulators quickly move to another articulating position.

Semivowels are only used in the initial or medial position in words; they are never used at the end of words. These two sounds can also be used as linking sounds in rapid speech between two words that have a border in vowels. The sound /j/ is used when the first word ends in the /i/ sound (e.g. *say yes*) and the sound /w/ is used when the first word ends in /u/ (e.g. *blue eyes*).

**/j/** – lenis, palatal, only found in the word initial or medial position, corresponding with the letter “y” (yam) or with the letter “u” (human, Europe, university) or “w” (knew, view).

**/w/** – labio-velar, lenis, corresponding with letters “w” (Wednesday), “u” (language), “q” (question), it can be also silent (wrong, writer, answer).

### 2.2.6 Approximants

There are two approximants in the BBC English: /l/ and /r/. They are called approximants, because articulators quickly move away from the alveolar ridge, therefore, the full contact is never made.

Sound /l/ is a lateral approximant – the air streams escapes around the sides of the tongue. It can be used in all word positions, but two important allophones are recognised. The first one is the so-called clear /l/ used at the beginning or in the middle of words, because it is always followed by a vowel. If consonant /l/ is followed by a consonant, dark /l/ can be heard. In contemporary BBC English, this is possible only in the middle and at the end of words. Since allophones do not change word meaning, the acoustic difference can be heard, but the change in their production (e.g. for contrastive purposes) does not affect the lexical meaning of the words.

Approximant /r/ is a retroflex sound; the tip of the tongue approaches the alveolar ridge and then quickly curls backwards. This specific movement for the BBC /r/ sound is easily recognised by learners of English and makes it clearly distinguishable from other /r/ sounds in European languages.

It can be used only at the beginning and in the middle of words, because it must be followed by a vowel. The use of the sound followed by a consonant is not viewed as the appropriate one. This specific pronunciation feature makes BBC English a non-rhotic accent. However, sound /r/ can be used at the end of English words when the first word ends in letter r and the following word starts with a vowel, e.g. *her eyes*. This is called a linking /r/. There is also a so-called intrusive /r/ pronounced between two words that have a border in a vowel sound, e.g. *Korea Airlines*.

**/l/** – lateral, lenis, orthography is always “l” (London) or “ll” (miller). Sometimes it can be silent (talk, walk, half, could). This phoneme has two principle allophones – “clear l” (followed by vowels in the initial or medial position) or “dark l” (followed by consonants, in the medial or final position). Since they are allophones, they do not change the meaning of those words.

**/r/** – retroflex post-alveolar, in BBC English only found in the word initial or medial position followed by a vowel. It can be also linking (between two vowels at the end of the first word and the beginning of the second word) or intrusive (between two words ending and beginning with vowels). Orthography – “r” (retroflex) or “rr” (arrival).

### **2.3 Pronunciation difficulties of Slovak speakers**

Since the expected reader of this publication is a Slovak native speaker, the following section will be devoted to the comparison of pronunciation features of English and Slovak on both segmental and suprasegmental levels.

## Vowels

- twelve distinctive vowel sounds: /ɪ/, /i:/, /e/, /e:/, /æ/, /ʌ/, /ɑ:/, /ɔ/, /ɔ:/, /ʊ/, /u:/, /ə/, and /ɜ:/
- eleven vowel sounds in Slovak – /i/, /e/, /a/, /ɔ/, /u/ and their long counterparts, and an /æ/ sound, used only rarely
- Slovak /e:/ is not found in the BBC English, however, the sound often mistaken with it is a diphthong /eə/ (e.g. *chair*)
- Slovak short vowel sounds are produced in almost the same way as long vowel sounds as Slovak speakers produce only six different vowel sounds and the difference is only in their quantity
- phonetic transcription uses different symbols, as they represent different sounds in BBC English and in Slovak

## Diphthongs

There are eight diphthongs in BBC English and four in Slovak. None of them occur in both languages.

- In Slovak, the sound in three cases starts with /i/ and ends with /a/, /e/ or /u/ sound. The fourth diphthong is /uo/. In Slovak, the second sound is longer and stronger (Král, 2016), contrary to English
- Slovak diphthong sounds can be found only in words of Slovak origin. Combination of these diphthong letters in words of foreign origin (e.g. *fi-alka*) and all other vowel letter combinations within one syllable (e.g. *E-urópa*, *demokraci-a*) are called vowel clusters, acting as separate syllables in words

## Triphthongs

In the BBC English, there are five triphthong sounds, in Slovak, there are no triphthong sounds.

## Consonants

There are twenty-four consonant sounds in BBC English and twenty-seven consonant sounds in Slovak. Some of them are used in the same way, some of them are phonemes in one language but allophones in the other, and some of them are unique to both languages.

For instance, the Slovak allophone [ŋ] (*angličtina*, *banka*) is a phoneme in English (*win/wing*, *ban/bang*, etc.). Other allophone [ʃ] (in Slovak words *krv*, *pravda*) is similar to the English phoneme /w/ (*wine – vine*, *veal – wheel*, etc.).

Some phonemes are specific, e.g. Slovak /ɲ/ is a phoneme (e.g. *deň*), but in English, it is only a combination of two sounds (n+j), similarly, the Slovak phoneme /ts/ (e.g. *cesta*) is only a neutralization of two consonants (e.g. *let's*).

In English, some phonemes cannot be used at the beginning of words (e.g. /ŋ/, /ʒ/) and some cannot be used at the end (/h/, /w/, /j).

A Slovak phoneme not existing in English is /x/ (*chlieb*); a consonant digraph of “c + h” exists in English and is read as either /tʃ/ (*cherry*) or /ʃ/ (*machine*) or /k/ (*character*) (Pavlík, 2000).

#### TASK

1. Look at the part dealing with the different use of phonemes and allophones in Slovak and English. List at least five words using the particular phoneme/allophone.

#### AUDITORY CHECK 1

Which of these words contain a short vowel and which of them contain a long vowel or a diphthong? Write the IPA symbol for the vowel next to the word.

strut .....	China .....	rain .....
real .....	poor .....	cruel .....
hurt .....	hot .....	boil .....
beat .....	heaven .....	snow .....
bear .....	hat .....	crown .....
food .....	calm .....	
foot .....	list .....	

#### AUDITORY CHECK 2

Which word ends with a vowel or a consonant? Write the final sound next to the word, and then check it in the Cambridge Dictionary. Notice the (lack of) correspondence between the letters and sounds.

banana .....	send .....	jogging .....
bomb .....	oblique .....	Utah .....
toxic .....	waterproof .....	bikini .....

the Raj	.....	horsewhip	.....	leitmotiv	.....
counterattack	.....	tranq	.....	window	.....
professional	.....	unclear	.....	retroflex	.....
airstream	.....	stress	.....	sympathy	.....
autumn	.....	sent	.....	Quartz	.....
stiletto	.....	impromptu	.....		

### AUDITORY CHECK 3

Which of the following words ends in a voiced and which in a voiceless consonant? Which words end in a vowel? Write the phonetic symbol next to the word.

stair	....	superstar	....	bath	....
bathe	....	sophisticate	....	cloth	....
hurrah	....	debutante	....	text	....
America	....	straw	....	sent	....

### 3 SUPRASEGMENTAL LEVEL

Thus far, pronunciation has mostly been discussed in this publication in the context of individual phonemes; however, people do not speak in isolated sounds. When sounds are combined in fluent spoken utterances, they slightly deviate acoustically from their abstract form called phonemes and in fluent speech are called allophones. People combine sounds into larger units, the smallest of them being syllables that make up words, words create feet, intonation units form utterances, and utterances form longer discourse. In these larger chunks of speech, phonemes display such features that cannot be observed in sounds pronounced individually. Two categories of the suprasegmental level of speech will be discussed in this chapter: suprasegmental features and the aspects of connected speech. These two categories of pronunciation qualities are relatively easy to distinguish.

Suprasegmental phonology deals with those aspects of pronunciation that influence, modify or provide additional information to the overall message given to the listener. These aspects are called suprasegmental **features** – *stress, intonation* and *rhythm*. Besides them, there are the so-called **aspects of connected speech** (Roach, 2009), that do not change the meaning of words, however, change the acoustic form and pronunciation of isolated sounds or words significantly. They are mostly *assimilation, elision* and *linking* and can be studied by both phonetics and phonology.

Both categories, aspects of connected speech and suprasegmental features, are described in detail in Vančová (2016). In this publication, their mutual relation will be emphasised along with the key features, and comparisons will be drawn to clarify their most common features.

A comparison of the aspect of connected speech and suprasegmental features:

<b>Suprasegmental features</b>	<b>Aspects of connected speech</b>
change the meaning of words	do not change the meaning of words
must be studied theoretically by English users	are made automatically during articulation by the speaker
occur predictably in all texts, irrespective of the genre or speaking rate	occur only in rapid connected speech
correspond to the message and its meaning	are caused by simplification of articulation
make the utterance more comprehensible	may cause incomprehensibility for foreign learners of English

are systematic	different pronunciation changes occur in specific combinations of sounds
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The previous table clarifies the relation of suprasegmental features and aspects of connected speech. The individual terms will be discussed in the following sections.

### 3.1 Suprasegmental features

Suprasegmental features can be separated neither in the actual process of speaking, nor theoretically in their description and classification. Their brief characteristics indicate that all three suprasegmental features are based on the relative prominence of stressed syllables, the change of pitch in those syllables and the regularity of occurrence of the prominent syllables.

**Stress** is recognised as a key element in both other suprasegmental features. **Intonation** is based on the noticeable pitch change carried by the most prominent, stressed syllable. Tone unit, a unit of intonation, must include the tonic syllable, i.e. the strongest syllable carrying intonation, and may include also head (all stressed syllables up to the tonic syllable), or pre-head (all unstressed syllables before the head) or tail (all syllables after the tone unit). **Rhythm** of an utterance is identified in terms of the relative regular occurrence of stressed syllables. Rhythm is observed on feet starting with a stressed syllable and comprising all the following unstressed syllables. Therefore, the strong connection between the suprasegmental features is noticeable, even if they are displayed on units of different lengths. This proves, that even though individual suprasegmental features can be studied separately, in concrete speech they form a unity.

#### 3.1.1 Stress (prominence, accent, emphasis)

Prominence of **stressed sounds** in words of at least two syllables is characterised by Roach (2009) in terms of their relative strength, length, vowel quality and noticeable pitch change in comparison to other syllables of weaker prominence. Word stress in English is governed by four principal rules (Roach 2009):

- the sound quality (sounds schwa, syllabic consonants and close vowels /i/ and /u/ appearing in specific word positions cannot be stressed)
- the number of syllables (monosyllabic words are stressed naturally unless they are weak forms; polysyllabic words have only one primary stress)
- the word class of the word (nouns are generally stressed towards the beginning, verbs towards the end)



- morphological structure of the word (morphologically simple words follow the above listed rules; compound words are generally stressed on the second element unless they are a noun formed by a combination two nouns; morphologically complex words have three types of suffixes – suffixes carrying word stress (e.g. -ee, -ette), suffixes shifting stress within the word root (-sion, -graphy), and suffixes not affecting word stress (-ness, -ly, full).

There are at least three recognizable degrees of prominence – **primary stress** with the highest degree of prominence carried by all lexical words. Monosyllabic lexical words carry it naturally, even though it is not formally indicated in transcription (e.g. desk /desk/, key /ki:/). **Secondary stress** is the second strongest type of prominence and can be identified in selected morphologically simple or complex words with at least three syllables, separated from the primary stress by at least one unstressed or weak syllable. As a rule, the secondary stress always precedes the primary stress; the primary stress is always at the end of the word and secondary stress is towards the beginning of the word (e.g. *photographic* /ˌfəʊ.təˈgræf.ɪk/, *engineer* /ˌen.dʒɪˈnɪə/. In morphologically compound words it appears on the second element when the compound word consists of two nouns but does not have to be formally indicated by the symbol (e.g. *thunderstorm* /ˈθʌn.də.stɔ:m/, *mother-in-law* /ˈmʌð.ə.rɪn.lɔ:/). **Tertiary stress** in English appears rarely in long words and has no mark (e.g. *autobiographical* /ˌɔ:.təˌbaɪ.əˈgræf.ɪ.kəl/). It is the weakest of the three stress levels. Syllables can also be **unstressed** (as the final syllable of the word *photographic*) or **weak** (as the second syllable of the word *photographic*). The difference between unstressed syllables and weak syllables is in their nature, as weak syllables peak in schwa, allophones of close vowels or syllabic consonants (see Vančová, 2017) and unstressed syllables peak in full vowels, but the other syllable of the word carries the primary stress.

As has already been stated, word stress in English is a suprasegmental feature with distinct ability to change the meaning of words. This is clear in the so-called “word class pairs” (Roach, 2009) that are disyllabic words that can be either nouns, verbs or adjectives, always with different stress placement, corresponding vowel changes and many times also different meanings of these word pairs (e.g. *object* – /ˈɒb.dʒɪkt/ (n.) – “a thing that you can see or touch but that is not usually a living animal, plant, or person” (CD) and /əbˈdʒekt/ (v.) – “to feel or express opposition to or dislike of something or someone” (CD). Other types of compounds (e.g. numeral + noun, adjective + noun) carry secondary stress on the first element (e.g. *one-way* /ˌwʌnˈweɪ/, *full-length* /ˌfʊlˈleŋθ/).

So far, morphologically compound words have been discussed as lexical units written together or hyphenated. Compound words can be also written as two words, and their meaning can be different when reading these words with different placement of word stress. In some cases these words act as compounds with a specific, non-literal meaning, in other cases they act as phrases containing two words with literal meanings. O’Grady et

al. (2001) therefore distinguish between the meaning of these word pairs with different stress placement and different meaning at the compound level and the phrase level of stress. The compound level refers to lexical units with fixed elements and the phrase level refers to interchangeable, free combinations of words. One of the words in a compound or a phrase carries stronger primary stress.

- *ladybug* /'leɪ.di.bʌg/ an insect      *lady bug* /,leɪ.di' bʌg/ a female bug
- *earwig* /'iə.wɪg/ a type of insect      *ear wig* /iə 'wɪg/ a wig for ears
- *cocktail* /'kɒk.teɪl/ a drink      *cock tail* /kɒk 'teɪl/ part of the body of a rooster
- *browbeat* /'braʊ.bi:t/ to force sb.      *brow beat* /braʊ 'bi:t/ to beat someone by brows

From the aforementioned examples it is clear that the English noun compounds carry the stress on the word to the left, while the English phrases carry the stress on the word to the right. English compounds are fixed combinations of words with their specific meaning, many times non-transparent; however, the English phrases in this context are free and incidental combinations of words, which may be substituted for different, transparent meanings (e.g. *stomach bug*, *curly wig*, *pony tail*, *regular beat*).

However, when these compound words are embedded within a larger compound, stress placement is slightly different. The word on the left carries primary stress, while each other part of the compound carries a lower degree of stress (*'ladybug ,nest*). There are several stress levels within a single word, the intensity of which is regularly alternating. These compounds and phrases can enter higher lexical units and sentences and their stress always shifts according to the aforementioned rules. These stress alternations make a cycle (O'Grady et al., 2001).

Cycles are based on a stress clash, i.e. subtle changes in speech rhythm when two stressed syllables follow one another. The placement of the secondary stress is derived from the placement of primary stress, respecting the basic metric principles. Secondary stress is separated from the primary stress by at least one unstressed/weak syllable where possible. Tertiary stress is the least frequently occurring type of stress even in units higher than a single word.

**Sentence stress** is different from word stress. Word stress is a typical feature of individual words and may change the word meaning. Sentence stress is placed independently on those syllables that fulfil the aforementioned conditions in all types of texts, irrespective of speech rhythm, genre or speaking style.

Sentence stress is called *phrasal stress*. It is a relative degree of force given to different words in a sentence (Kingdon, 1965 in Pavlík, 2000). Sentence stress is distributed across different words within the sentence independently from word stress, depending on the relative importance of the words in the sentence. In a neutral sentence, the most important information is placed at the end of the sentence; therefore, the sentence stress is carried by

the last stressed syllable of the last content word of the sentence. Typically, the content words (nouns, verbs, adjectives, numerals, adverbs) carry sentence stress. Content words are the counterpart of function words (prepositions, conjunctions, auxiliary and modal words, etc.), also called **weak forms** (in this case they must be monosyllabic with their peak in weak sounds; Roach, 2009).

Weak forms and regularly stressed words influence the sentence stress; however, the aforementioned rules applying to neutral sentences may be neglected when placing emphasis (sentence stress) on another word in a sentence to convey a specific meaning:

*ˌI bought an apple.* (nobody else did.)

*I bought an apple.* (It was not a gift, stolen or found, etc.)

*I bought an apple.* (not a pear, book, car, etc.)

Therefore, sentence stress may be placed on any word of a sentence irrespective of the word stress in specific situations and the listeners usually recognise the information communicated through the modified emphasis in the sentence. Sentence stress is clearly related to the rhythm of the sentence.

### 3.1.2 Rhythm

Rhythm is a suprasegmental feature based on regular occurrence of stressed syllables, which tend to be placed rather evenly. Rhythm is based on the following aspects:

- *Tempo* (speed) influences the speech rhythm in case of a shortage of time (the speaker needs to say a lot of information in a short period of time – speaking rate is faster), fear (the speaker hesitates – speaking rate is slower), fatigue (a tired person speaks slowly), personality (extroverted and introverted speakers speak differently)
- *Rhythmicality* of the speech is determined by the relative regularity and it differs in various conditions, e.g. when the speaker is well-prepared for the speech and is composed, or it can be arrhythmical in unprepared speeches and in speaker's unease (hesitation, unrest).
- The number and the length of *pauses* are different in unprepared speeches; spontaneous speech makes the rhythm less regular.

The unit of stress is a **metrical foot**. A foot must obligatorily start with a stressed syllable and include all unstressed syllables up to the next stressed syllable. Freely standing words can be divided into the following types of metrical feet, depending on the stress placement in a word:

- **trochee (Oo)** – in two-syllable words with the first syllable stressed (*surface, palace, purchase, effort*)

- **iamb (oO)** – in two syllable words with the second syllable stressed (*event, distinct, Japan, success*)
- **dactyl (Ooo)** – in three syllable words with the first syllable stressed (*energy, opera, capable, capable*)
- **amphibrach (oOo)** – in three syllable words with the second syllable stressed (*develop, determine, professor, computer*)

Feet obligatorily contain a stressed syllable and, on occasion, associated unstressed syllables. The stressed syllable makes the head of the foot and is the only element necessary for the foot formation. Monosyllabic words make the head of the foot, also called a minimal or degenerate foot (O’Grady et al., 2001).

Feet can be right-headed and they are stressed on the rightmost syllable of words (e.g. French). Left-headed are stressed on the left-most syllables (e.g. Hungarian).

There are also bounded feet, which place secondary stress in relation to primary stress of the word. Therefore, this type of foot is only observed in three or more syllabic words that have multiple stresses on alternating syllables, e.g. *disproportionate* /,dɪs.prə'pɔːʃən.ət/, *questionnaire* /,kwes.tʃə'neə/, *underestimate* /,ʌn.də'res.tɪ.meɪt/.

In these words there is only one primary stress and the secondary stress is regularly on two syllables apart. A bounded foot consists of a stressed syllable and only one unstressed syllable. In coordination to the previously stated rules, trochaic feet are left-headed and iambic feet are right-headed. Left-headed feet carry stress on odd-numbered syllables and right-headed feet are stressed on even-numbered syllables.

In higher units than single words, such as fixed expressions or sentences, an important role is played by **weak forms** in sentence stress and rhythm. Weak forms are approximately forty monosyllabic function words (prepositions, conjunctions, pronouns, etc.). These words are unstressed in grammatically and semantically neutral sentences. However, weak forms may also be pronounced in their full, **strong form** (when contrasting them, emphasising them, quoting them, putting them at the end of the sentence, etc.).

Some weak forms words have different pronunciation not only in their strong form use, but also in a different context (CPD, 2011):

	<b>strong</b>	<b>weak</b>
<b>he</b>	/hi:/	/hi/ /i/
<b>and</b>	/ænd/	/ənd/ /ən/
<b>her</b>	/hɜːr/	/hər/ /ər/

**do** /dʊ/            /də/ /du/ /duː/

**have** /hæv/            /həv/ /əv/

The function of weak forms in pronunciation is to allow the content words to be prominent and to make the speech rhythmical, as well as to be economical with the air stream. Together with word stress and sentence stress, rhythm is the basis of intonation.

### 3.1.3 Intonation

Intonation in English is a complex system of pronunciation features that allows the speaker to express different information by the tone of voice. English is therefore an intonation language, unlike languages such as Chinese, where different intonation of the same word can change the meaning of the whole word, therefore, it is called a tonal language.

The speaker must be able to actively select one of the possible pitches of the voice if their intonation is analysed; intonation in situations when speaker cannot choose the pitch (after physical activity, an inborn inability to control the voice) should not be analysed.

Intonation is based on:

- *the tone* – the relatively objective linguistic means that can be used voluntarily or involuntarily by the speaker to convey a specific message. Speakers typically are able to choose the tone of their utterance to attach additional meaning to their message. Tone can be more or less neutral or marked (e.g. humorous, ironic);
- *pitch* – a specific height of the voice that is based on the inborn qualities of the speaker. The pitch height is specific and individual. Generally, female speakers have a high voice and male speakers have a low voice, but it is not unusual for speakers to deviate from the average. The spectrum of tones the speaker is able to make is called pitch range and it can be slightly extended since vocal folds responsible for tone production are muscles, but generally speaking, it is a given quality of the voice.
- *key* – the relative height of the voice used in speaking;
- *loudness* – the general intensity in speaking requiring more effort and energy from the speaker.

Intonation is based on an observable shift in pitch recognised by both the speaker and the listener. Tones and intonation can **fall, rise, fall-rise** and **rise-fall**. The neutral meaning of these intonation direction can indicate finality (falling – the discussion is closed), openness (rising – the indication or permission to talk more), hesitation (fall-rise – yes/no, but...) or other strong emotions such as surprise or anger in utterances (rise-fall). The same utterance pronounced

by different types of tones have the same lexical meaning, but the additional meaning would be expressed (e.g. *Do you speak English. Yes. Yes? Yes...*).

The isolated function of individual tones is fully displayed also in the overall function of intonation. Similarly to tones, intonation can be stylistically neutral or have emotional colouring.

Roach (2009) lists the four major **functions of intonation**. *Grammatical* function can be considered stylistically neutral, because it typically corresponds to the sentence structure and the interpunction used in the sentence. A full stop typical for declarative sentences is expressed by falling tone, a comma is expressed by rising tone, a question mark is read as rising tone to yes/no questions or falling tone in wh-questions. If the intonation deviates from the expected form, it is to accentuate (emphasise, stress) specific information (*accentual function*), to express the attitudes of the speaker (*attitudinal function*) and to link an utterance to the ongoing discourse base (*discourse function*). For specific and detailed information on the function of tones and intonation and examples see Vančová (2016).

### 3.2 Aspects of connected speech

As previously mentioned, the aspects of connected speech do not change the meaning of words; therefore, many English learners would think that they should not be familiar with them or even aware of them. In reality, these other pronunciation features (appearing in higher units than single sounds) occur in speech frequently and may cause difficulties in understanding when they are used by native speakers of English, mainly because they are frequently used in rapid and casual speech. Since many learners are taught English from textbooks with careful pronunciation, they may feel like they do not understand what is being said. Therefore, professional users of English (such as future teachers) should be able to recognise the aspects of connected speech, to explain them to the students and to point out their main features.

#### 3.2.1 Elision

Elision is based on sounds that disappear in casual, rapid speech; the utterance is actually shorter than if the sound were actually pronounced. There are two types of elision (Pavlík, 2000):

**Historical assimilation** in separate words is manifested in some letters not being read irrespective of the tempo of the speech; therefore, historical elision of words is now firmly established. It may be related to both vowels and consonants:

Historical elision of consonants (also called silent letters):

- b: *bomb*, *climb*, *crumb*, *dumb*, *lamb*, *limb*, *tomb*, *womb*, etc.
- c: *aquire*, *musele*, etc.
- d: *handkerchief*, *handsome*, *Wednesday*, etc.
- g: *gnat*, *gnostic*, etc.
- h: *honest*, *honour*, *hour*, *rhyme*, etc.
- k: *knee*, *knight*, *knot*, *know*, *knuckle*, etc.
- l: *half*, *calf*, *chalk*, *palm*, *talk*, *walk*, etc.
- m: *mnemonic*, etc.
- n: *autumn*, *colum*, *dam*, *hymn*, *solemn*, etc.
- p: *corps*, *cupboard*, *pneumonia*, *psychology*, *pterodactyl*, *receipt*, etc.
- r (in the non-rhotic accents): *morning*, *hurt*, *worse*, *start*, *weather*, etc.
- s: *aisle*, *debris*, *island*, *isle*, etc.
- t: *castle*, *fasten*, *listen*, *often*, *thistle*, etc.
- w: *wrinkle*, *wrist*, *write*, *wrong*, etc.

### 3.2.2 Linking

Linking is based on inserting a consonant sound between two words ending and beginning with a vowel for easier pronunciation. There are three main linking sounds in English – r, w and j used in specific situations. Their omission does not change the meaning of the utterance.

#### linking r

There are two types of /r/ sounds being inserted between words – *linking* and *intrusive*. They are both described in detail in Vančová (2016), however, the principal difference between them is that while the linking r is supported by the grapheme “r” in text, the intrusive r has no support in writing.

#### linking w

Is inserted between two words, the first one ending in /u:/ or any diphthong ending in /ʊ/ followed by a second word starting with a vowel: Examples: blue ice, no interest, now available

**linking j** is inserted between two words, the first one ending in /ɪ/ or /i:/ or a diphthong ending in /ɪ/ and a second word beginning by a vowel:

Examples: Beauty and the Beast, free access, way and means, my eyes, lovely aunt

### 3.2.3 Assimilation

Assimilation is based on the change of the phoneme quality (some phonemes gain or lose some of their qualities to become like the neighbouring phonemes). The length of the utterance with assimilated sounds is the same as without the assimilated sound, the assimilated phoneme just has a different quality. This concerns consonants in consonant clusters within the word structure or at word edges. Several assimilation types (of manner of articulation, of place of articulation) were already discussed in Vančová (2016), however, Pavlík (2000) lists also these regularities in regressive assimilation:

**/t/ + /p/, /b/, /m/ → /p/**, e.g. *not proud, different place, last place, set bomb, put back, quite blue, night manager, white man*,

**/t/ + /k/ or /g/ → /k/**, e.g. *unit key, meet Kate, hot cake, separate glass, short gap, polite guard*,

**/d/ + by /p/, /b/, /m/ → /b/**. e.g. *third place, find place, kind people, second best, bed bug, red book, god mother, hand made, head master*,

**/d/ + by /k/ or /g/ → /g/**, e.g. *hide key, read catalogue, wood case, broad gallery, hold grudge, snow-covered ground*,

**/n/+ /p/, /b/, /m/ → /m/**, e.g. *in place, between planks, main plaintiff, nylon blouse, golden beach, spoon butter, dragon mother, thin membrane, lemon meringue*,

**/n/ + /k/ or /g/ → /ŋ/**, e.g. *lion king, divine comedy, citizen Kane, affection galore, well-known garden, discretion guaranteed*,

**/s/ + /ʃ/, /tʃ/, /dʒ/, /j/ → /ʃ/**, e.g. *dispense shampoo, adventurous, show, luminous lighthouse, oblivious chauffeur, niece Sherry, humorous show, luxurious gel, pointless joke, careless judge, famous university, fabulous Europe, greenhouse yam*,

**/z/ + /ʃ/, /tʃ/, /dʒ/, /j/ → /ʒ/**, e.g. *always shining, news show, close showroom, choose cherry, surprise shift, cause shiver, lose job, criticise genius, glaze gingerbread, advise youth, please you, organise university day*,

**/nt/ + /p/, /b/, /m/ → /mp/**, e.g. *bent plastic, present perfect, advertisement payment, went ballistic, coherent biologist, Saint Benedict, redundant merchant, engagement metrics, intent marketing*,

**/nd/ + /p/, /b/, /m/ → /mp/**, e.g. *second place, find peace, kind parents, friend bracelet, behind building, around block, father and mother, husband material, attend mass*,

**/nd/ + /k/ or /g/ → /ŋk/**, e.g. *extend curfew, command class, recommend cosmetics, profound gratitude, sound generator, playground games*.



**Coalescent assimilation** is a specific type of assimilation in which both sounds lose/acquire some qualities, the sounds influence each other mutually. There are two main types of this type of assimilation:

*Assibilation* that results in sibilant pronunciation of a non-sibilant consonant

*/dj/ → /dʒ/, e.g. good university, would use, around youth,*

*/tj/ → /tʃ/, e.g. light years, bright yellow, demand usage.*

*Transsibilation*, when a sibilant is replaced by another sibilant, e.g.

*/sj/ → /ʃ/, e.g. famous university, glamorous jeans, case yard,*

*/zj/ → /ʒ/, e.g. use yolk, size unit, always youthful.*

As previously stated, these aspects of connected speech do not change the meaning of words and their pronunciation is dictated by the articulatory abilities of the human body. On the contrary, suprasegmental features are partially governed by biological limitations, but their use is deliberate due to the change of meaning in their incorrect use.

### 3.3 Pronunciation difficulties of Slovak learners of English

In terms of suprasegmental features, the differences are very prominent, primarily in stress placement. Roach (2009) recognises four basic principles in stress placement. He provides examples in which words have different stress placement when they have a different number of syllables, when syllables have a certain vocalic quality, when the words belong to different word classes, and when words have different morphological structures. Slovak on the other hand stresses words only at their beginnings, with rare exceptions (compare *to rebel – rebelovat*).

In terms of rhythm, English is a stress-timed language, i.e. the number of stressed syllables is more important than the number of unstressed syllables. However, Slovak is a syllable-timed language, which means that the total number of syllables is important for speech rhythm.

Intonation seems to be similar in both Slovak and English. Falling intonation is typical for declarative sentences and statements, rising intonation in questions and unfinished utterances; however, in Slovak, a question is formed purely by changing the intonation (e.g. *Prší. Prší?*), in English, a grammatically incorrect question can be made by intonation change (compare *It is raining?* and *Is it raining?*)

## TASKS

1. Identify the primary and secondary stress in the following phrases:

a white lie	a silver tongue	sound asleep
a weak moment	every time	snail mail
a vexed question	a tight squeeze	a shrinking violet
an unknown quantity	a tall order	second sight
Uncle Sam	a status symbol	saturation point
wishful thinking	a sporting chance	a good Samaritan
a turf war	a split second	
top dog	a spare tyre	

2. Identify the stress placement and rhythmical pattern in these expressions with weak forms:

year in, year out	tit for tat	out of this world
year after year	trick or treat	in the works
yes and no	the sooner the better	your word of honour
win or lose	by the way	the thin end of the wedge
wheel and deal	in short order	not out of this wood
well and truly	in theory	a waste of space
week by week	in vain	a window of opportunity
surprise, surprise	in writing	

3. Divide the words below according to the metrical feet:

*justify, monitor, property, per se, ultimate, royal, family, picture, cultural, personal, signal, separate, mistake, management, muscular, fellow, moreover, wherever, empty, because, present, discretely, desire, standard, argue, appeal, model, so-called, minimum, approval, hopeless, display, relief, throughout, a lot, cancel, col legno, exercise, system, regardless, abroad, behind, gorgeous, telephone, directly, professor, material, importance, idea, able, museum, advice, again, verbatim, idea, final, proviso quod, effect, nature, success, current, visible, interview, directly, belief, address, escape, marry, musical, republic, senior, attack, hospital, similar, career, finish, resistance, access, surprise, study, immensely, tradition, police, event, affair, industry, positive, offer, account, o'clock, violent, absolute, diverse, social, service*

4. On the basis of Crystal's (2017) suggestions, try to say the following sentences in all these manners, using the complex prosodic properties:

Come here.	conspiratorially
Why?	happily
Good morning.	in a husky voice
Thank you.	with lips rounded, as if speaking to a child

5. Identify the linking sounds between these words:

before evening	law and order	simplify answer
by accident	lowbrow entertainment	sky is falling
century of progress	lure in	takeaway ice-cream
codify English	nephew and niece	tissue of muscles
core exercise	now or never	tomorrow is another day
employee of the month	occur everywhere	tower of London
eyebrow arch	prefer English	untie a tie
flower arrangement	qualify automatically	used to aim
free advertisement	rely on science	value of money
grandma and grandpa	repertoire of songs	yesterday evening
hello again	schwa is never stressed	
high adrenaline	sea animal	

6. Divide these proverbs and sayings into feet.

Don't tell me.

It's the thought that counts.

Make a silk purse out of sow's ear.

One swallow doesn't make a summer.

Out of sight, out of mind.

Spare the rod and spoil the child.

Still waters run deep.

Think again.

Two can play at that game

Two heads are better than one.

Two wrongs don't make a right.

Use a sledgehammer to crack a nut.

Variety is the spice of life.

Virtue is its own reward.

Walls have ears.

7. Identify the intonation and parts of tone unit in these proverbs and sayings:

A trouble shared is a trouble halved.

A watched pot never boils.

If wishes were horses, beggars would ride.

It went from bad to worse.

Let sleeping dogs lie.

That's all she wrote.

That's the way the cookie crumbles.

The streets are paved with gold.

These things are sent to try us.

What is the world coming to?

Where there's a will there's a way.

You wear your heart on your sleeve.

You can't go wrong.

You're only young once.

## 4 VARIETY IN THE PRONUNCIATION OF ENGLISH

Pronunciation and its theoretical background have been discussed in detail in this publication, however, learners of English may encounter other practical problems when listening to English pronunciation from other speakers, writing English words or pronouncing selected English vocabulary in everyday or special context. The following chapter will deal with the pronunciation of individual speakers, speakers of other accents of English and the use and pronunciation of academic vocabulary. Deviations from model pronunciation are called **variety**.

Pronunciation is unique to all individuals; there are no two persons who speak the same way. Everyone expresses themselves differently; think differently by means of the use of different language grammar, vocabulary and pronunciation. This unique use of language is called an *idiolect*.

With regards to pronunciation variety, the reasons behind variant pronunciation are manifold. Speaker's accent, a variety of pronunciation different from the standard form, can be explained by many factors. Roach (2009) lists the following possible reasons for an individual accent – age, gender, education, social background and occupation, which are all related to the particular speaker. He also distinguishes situational varieties, such as the purpose of speech, publicity or privacy in a speaking situation, relationship with the listener, etc., which also possibly influence the speaker's accent.

Older people living in remote villages tend to use an archaic language; on the contrary, young people usually speak more carelessly, articulate less and use the “high rising terminal” (also called uptalk or upspeak), i.e. rising tone towards the end of all utterances, making all statements questions and indicating unfinished utterances. Education and social background also play an important role in pronunciation.

Yule (2010) indicates that formal education requires contact with the standard form of language, whether written in books, or spoken during classes and lectures. People with a higher level of education are more likely to use the standard form than people with a lower level of education because they are aware of the existence of standard language and its grammatical and pragmatic principles. This knowledge is closely related to the social background of speakers. British society is traditionally divided into classes. People from the middle and upper class tend to be more educated and their pronunciation reflects this.

Specific pronunciation related to specific communicative situations (private/public, symmetrical/asymmetrical) is a matter of *speech accommodation*, i.e. convergence (conscious adaptation) or divergence (conscious distancing from) with the communication partner in terms of pronunciation. These conscious speech accommodation processes help to overcome

educational or social differences between communication partners, or vice versa, to emphasise the differences due to the pride in being a member of a particular social group.

An experiment on speech accommodation was performed by Labov in 1966 (in Yule, 2010) who tested it with sales-assistants in three New York department stores for customers of different social classes. He learnt that sales-assistants from the middle-priced shops were more likely to change their pronunciation to accommodate their customer. That is why studies of speech variety have been the scope of sociolinguistics and not dialectology.

In addition, pronunciation and the relative prominence of accent are influenced by the learner's mother tongue and phonological background. This means that learners/speakers tend to use sounds that are similar to the sounds used in their mother tongue.

## **4.1 Regional varieties of English**

English is a global language spoken worldwide, and, due to colonization and globalization, is spoken as an official language across all continents. Each regional variety of English has its own specific vocabulary, grammar differences and above all, pronunciation differences arising from the unique set of phonemes and the consequent use of suprasegmental features. In the following section, two main geographical areas of variety will be discussed – the short selection of British and American dialects. While the BBC accent is the model accent for many pronunciation courses as well as this publication, only a small section of main geographical varieties will be briefly presented, as they are rarely chosen for models in pronunciation courses. On the other hand, the General American accent is a model pronunciation in many textbooks, therefore will be discussed in a more detailed way than the British accents.

### **4.1.1 Selected dialects and accents spoken in Great Britain**

There are many, but the most famous British accents include West Country (around Devon, Somerset or Bristol) and Northern English (around big cities such as Manchester, Newcastle or Liverpool). The following section will concentrate on the most general accents of English spoken in Great Britain.

#### **Cockney**

Cockney is a famous British accent that is spoken in the East End of London. It is known for its use of rhyming slang instead of an intended word ("apples and pears" = stairs, "mince pie" = eye). Typical pronunciation features include:

- non-rhotic
- raised vowel /æ/ (trap, cat) becomes similar to /e/ /trep, cet/,
- the use of allophones to the standard BBC vowels (Appendix XX), e.g. /ʌ/ pronounced as /a/ = /hat/, /ɔ:/ pronounced as /o:/,
- diphthongization and triphthongization of vowels, e.g. /ɔ:/ in /fɔ:/ becomes /fo: ʊə/
- glottal stop /ʔ/ – the letter “t” is pronounced with the back of the throat (glottis) in between vowels; better sounds like “be’uh”
- the /l/ at the end of words like a vowel, e.g. people /peopow/
- /θ/ and /ð/ respectively replaced by /f/ and /v/, i.e. thing, this /fɪŋ, vɪs/

### **Welsh English**

The term Welsh English covers the accents and dialects spoken in Wales. It is heavily influenced by the Welsh language.

Features:

- usually non-rhotic.
- clear /l/ used in all word positions
- syllables are evenly stressed and the schwa sound is less frequently used; that results in different stress placement (e.g. the word Wednesday has three distinct syllables)
- the sound /r /is often trilled or tapped.

### **Scottish English**

This is the broad term covering the variety of English spoken in the country of Scotland.

Features:

- rhotic
- dark /l/ in all word positions
- “full” and “fool” sound the same in Scottish English – quantity is different from the BBC English



- quality of vowels also differs
- stress placement different

### **Irish English**

- in short words, the vowel /i:/ pronounced as /e:/, e.g. key, tea
- /ɔɪ/ pronounced as /əɪ/, e.g. join = jine
- rhotic
- /θ/ and /ð/ respectively replaced by /t/ and /d/, i.e. thing, this /tʌŋks, dɪs/
- only clear l
- /s/ occasionally a /ʃ/, e.g. /ʃtɒp/
- Primary stress in three-syllable verbs on the final syllable (realise, articulate), in nouns syllables before consonant clusters tend to be stressed (architecture, character)

The list of British accents presented in this publication is by no means complete, for reference and examples we suggest visiting the website [www.dialectblog.com](http://www.dialectblog.com).

### **4.1.2 American English**

When learning English in all its aspects (pronunciation, grammar and vocabulary), students need to have a model to follow. Since many study programmes preparing future professional users of English follow the British English model, the pronunciation course also uses the so-called BBC accent (for detail see Roach 2009). However, students learning English are influenced by the different input they have received in their previous years of experience with English and they must be made aware of the key features of the BBC accent. To highlight the specifics of BBC English, the most fruitful comparison to be made is to compare it to the General American (GA, Pavlík 2000) or Northern American (NA, Celce-Murcia et al. 2010) accent. Its status is similar to BBC English in terms of its recognisability (most Americans understand it), use (the accent preferred on TV and news reading) and educational use (often used as a model for foreign learners). Just like British accents, there are many more regional and social accents of American English; however, the GA/NA accent is the most familiar to foreign learners of English.

Even though, for the purpose of this publication, BBC English and the GA/NA English are viewed as individual dialects, in reality they have not distanced themselves from each other to the extent of mutual unintelligibility. Even though there are noticeable differences in

grammar, vocabulary and spelling, pronunciation appears to cause the least difficulties in communication after training.

Many distinctive phonetic features of modern American English can be traced back to the British Isles, as standard American English is reminiscent of an older period of English (Darragh, 2000). Cook (2007) adds that American pronunciation is a mix of all languages and their speakers that added to American English. Before continuing with specific pronunciation features in further detail, there is one feature distinguishing BBA and GA/NA accents – rhoticity. This feature is the one that most learners of English recognise and hear first and its training is one of the first thing a learner of the accents of English must acquire.

Rhoticity is a feature based on the use and distribution of phoneme /r/ in the accents. In the BBC accent, the sound /r/ is never pronounced before another consonant, whether in the middle or at the end of words. The only exception is the linking /r/ sound pronounced at the end of English words ending in the letter “r” and the following word beginning with a vowel (e.g. Air Asia) or between two words ending and beginning with a vowel (e.g. *Korea Air*). Accents similar to BBC English are called non-rhotic. Other traditional non-rhotic accents are Australian English, Welsh English, New Zealand English, and the traditional accents of the American South (e.g. Georgia) or New England (Boston, Baltimore). These areas were traditionally inhabited by the English colonists from the 17th century. However, due to globalisation and great accessibility of the GA/NA texts in these areas, the opposite trend has been observed – the traditional accents have disappeared among younger speakers.

Another feature of American pronunciation is the lack of articulation (Cook 2007) and active participation of the tongue, that makes the language sound very hard, containing many voiced consonants.

Pavlík (2000) and Celce-Murcia (2010) provide an overview of GA phonemes, claiming that the consonant phonemes display the least difference from BBC phonemes in number and type; however, the inventory of vowels and diphthongs provide greater variety in pronunciation.

### **GA vowels**

The GA phonemic inventory has only 10 vowels – the BBC vowel sound /ɒ/ is absent.

From the inventory of diphthongs, all centring diphthongs, i.e. /ɪə/, /eə/ and /ʊə/ are absent due to the rhoticity of the GA accent. In the Cambridge dictionary online, the sequence of phonemes does exist in the GA accent, but is divided into two syllables by a symbol /./, therefore, not fulfilling the condition of realisation within a single syllable. If these diphthongs are looked for in their traditional BBC position in the word final position (vowel letter + the letter “r”), e.g. tear, tear, tour; these words are pronounced in the GA as /tɪr/, /tɛr/ and /tʊr/.

However, the comparison of BBC English and GA/NA allophones displays a great difference in the number and quality of sounds. To emphasise the difference between the two sets of phonemes, BBC English/NA vowels are recorded by Celce-Murcia et al. (2010) in transcription, Appendix 3.

In addition to the acoustic difference of the vowel phonemes, their distribution is also different. Generally speaking, the orthography and pronunciation of GA vowels correspond less than in BBC English.

*/ɒ/ → /ɑ:/ – e. g. colleague, contrary, wash, dialogue, pond, concrete, copper, cop, tropical, pot, chocolate, bother, controversial, drop, honour, pop, modest, softly, composition, promise, common, bomb, call, clock, column, honest, confident, pocket, comment, solid, shock, spot, democracy, odd, o'clock, strongly, cross, object, volume, profit, proper, everybody, coffee, concept, confidence, possibility, dog, box, hot, responsibility, doctor, college, sorry, product, contract, loss, property, modern, model, cost, quality, job, economic, policy, lot, want, from*

*/ɑ:/ → /æ/, e.g. ask, answer, plant, cast, laugh, fast, path, grass, dance, branch, demand, can't, half, last, castle, vast, pass, contrast, plastic, sample, command, fast, draft, bath, classroom, chapel, nasty, stance, enhance, basket, after, blast, plaster, passport, grasp, daft, dancer, draught, glance, gasp, trance, mascara, Tara, transplant*

*/ɒ/ → /ɑ:/, e.g. not, lot, hot, top, dog, hot, pot, hostile, contrary, hypothesis, monopoly, wash, objective, pond, chronic, doctrine, dialogue, concrete, deposit, plot, common, shop, tropical, fraud, lock, compare, oxygen, solve, product, controversy, biological, chocolate, horror, dollar, fortune, belong, bother, drop, lawyer, phenomenon, pop*

*/u/ preceded by the /t/, /d/, /n/ in addition to /l/, /s/, /z/ before letters "u" "ew" or "eu" → /uw/, in the GA the typical pronunciation is without the /j/, e. g. mule, mute, mutual, cube, butane, Houston – seduce, muse, nutrition, vernacular, mural, salutary, superstitious, dune, lurid, resolute, populace, ducal, mule, duress, lure, mute, illuminate, deduce, occupant, suicidal, latitude, tubular, tunic, dew, singularity, nude, regularity, solitude, tuna, durable, intuitive, renew, consume, presume, muscular, costume, numerical, graduate, illusion, manual, popularity*

An alveolar consonant followed by "u" becomes transsibilated, e.g. *illusory, punctuation, textual, tuba, residue, pursue, intuitive, tuition, perpetual, substitute, ritual, costume, gratitude, graduate, virtual, dual, statute, salute, tissue, mutual, constitutional, gradual, duty, eventually, due*

*/3:/ → /3r/, e.g. return, career, employer, everywhere, altogether, beer, affair, tower, circle, restaurant, beard, writer, refer, compare, error, reader, yours, square, sharp, moreover, rare, temperature, afford, surprise, professor, murder, major, minor, driver, enter, reform, southern, party, correct, offer, eastern, favour, pair, user, star, aircraft, proper, target, cultural, far, fairly, farm, require, corner, winter, large*

## GA consonants

The inventory of American consonants corresponds to a high degree to the inventory of BBC English consonants. They are theoretically described and also classified to a large extent by Akmajian et al. (2001) within the same categories discussed in Chapter XX of this publication (e.g. manner – plosive (stops), fricatives, nasals, etc.; place – labial, alveolar, palatal, etc.; voicing – voiced or voiceless). The category of semivowels (Roach 2009) comprising the sounds /w/ and /j/ are called “glides” due to their continuous articulation. In addition, the inventory of the GA glides also contains the sound /ɹ/ corresponding to the first sound of the word “red”. This sound is pronounced with the tongue blade raised toward the alveolar ridge, or with the tip of the tongue against the lower gum, or with a prominent lip rounding.

Another distinctive sound in the GA is the flapped allophone of the phoneme /t/ pronounced in words between two vowels. It is usually clear and it may either be pronounced like a /d/. This pronunciation difference lies in the quick tap of the tip of the tongue on the alveolar ridge rapidly. It may be found in words like *bitter, latter, shutter, water, waiting, writing* in the GA sounds the same as *writer/rider, latter/ladder* in the GA (Celce-Murcia, 2010), also in words like *autumn, bottle, battle, artist, guilty, beauty, external, martin, bottom, winter, latter, waiter, title, peter, water, little*.

In addition, the phoneme /t/ also has an alveopalatal allophone. It is a sound pronounced in a position behind the alveolar ridge, similar to the articulatory place of the phoneme /tʃ/, immediately followed by the phoneme /r/. This allophone sound may be found in words like “true”, “trust”, “track”, etc. The phonetic symbol for this allophone is /t̪/.

The sound /t/ also disappears after nasals /m/, /n/, and /ŋ/ – e.g. *dentist, twenty, understand, intercontinental, mental, dental, winter, identity, apparently*.

## Word stress in GA

Word stress placement in GA also differs from stress placement in BBC English. There are several main categories of differences:

- Words of French origin are different in British and American – *adult, address, ballet, buffet, café, cigarette, detail, garage, limousine, magazine, moustache, nonchalant, sachet, etc.*
- Verbs ending in “-ate” are stressed on the suffix, but in GA the stress is on the root, e.g. *dictate, fixate, rotate, vibrate, zonate, ventilate, vaccinate, triplicate, enumerate,*

*resonate, predate, marinate, irritate, impersonate, emancipate, dislocate, demarcate, capitulate, aspirate, amputate, abbreviate, saturate*

- In BBC English stressed on the first syllable, in GA on the second – *composite, subaltern, aristocrat, primarily*
- Secondary stress in words ending in “-ily” – mostly five-syllable words are stressed on the first syllable in BBC English, but in GA the stress is on the third syllable. In BBC English, the third syllable is reduced or dropped, resulting in a different number of syllables in the words, e.g. *customarily, momentarily, necessarily, ordinarily, voluntarily, arbitrarily, auditorily, bloodthirstily, contradictorily, contemporarily, disciplinarily, discriminatorily, extraordinarily, hereditarily, involuntarily, legendarily, mandatorily, obligatorily*
- Words ending in –“ary”, “-ery”, “-ory” and “-mony” in GA are stressed on the penultimate syllable that is reduced in the BBC English, e.g. *necessary, territory, customary, dictionary, ordinary, category, monastery, cemetery, testimony, matrimony, legendary, ordinary, vocabulary, secondary, secretary, necessary, imaginary, dictionary, satisfactory, introductory, rectory, accessory, mandatory, sensory, contradictory, predatory, territory, nursery, cemetery, jewellery, misery, flattery, robbery, mystery, battery, machinery, monastery, matrimony, acrimony, homogeny, harmony, ceremony, testimony, palimony*

## Intonation in GA

BBC English has a specific set of tones with their specific functions. American intonation contours are slightly different with a different acoustic effect on the listener. BBC English speakers use a great pitch range from the highest to the lowest, whereas GA uses mostly flat or mid-level tones, with a clear difference in the intonation function.

The typical description of GA intonation is the so-called “staircase intonation” (Cook 2007), that relates to the way GA words are stretched in length in comparison to the clipped BBC pronunciation and the way that different parts of the word are pronounced in different pitches, typically falling from a higher to a lower pitch.

BBC no GA no  
ou

This is also apparent in the pronunciation of words ending in voiceless, fortis consonants – these vowels are shorter and pronounced on one pitch. This effect is also called pre-fortis clipping (Roach 2009). The voiced, lenis consonants are preceded by a longer vowel.

seat            see  
                    eed

The staircase intonation is also based on the formation of longer words, instead of pronunciation of individual words.

For longer sequences, such as sentences or phrases, Cook (2007) provides the following examples of several staircases in a single sentence:

We go up and down stair cases

In sentences, the first element starts the first staircase and a new staircase typically starts with a noun

here is my dogs chase cats

In rhetorical or emotional questions, the staircase does not have to go down (falling intonation), but can go up (rising intonation):

where is my ar? why? is it än?

Similar principles can also be found in the description of BBC English; however, the differences in pitch are generally more noticeable and important for overall intelligibility in the GA.

**Differences in Phonetic Transcription between BBC English and GA**

Users of English, whether native speakers or foreign learners, occasionally encounter words, the pronunciation of which is not known to them. A pronunciation guide is provided in many dictionaries and textbooks (e.g. Volín, 2003), the most authoritative is the Cambridge English Pronouncing Dictionary edited by Daniel Jones (2011) which provides the pronunciation of both main accents, BBC and GA, using standard IPA symbols. However, in American lexicographical practice, different pronunciation transcription is provided to users. The Merriam-Webster dictionary (available online), a dictionary authority for American English, uses the so-called diacritic transcription. As the name suggests, the transcription benefits from the use of diacritics. The transcription key to the GA is in Appendix 3.

## 4.2 The academic variety of English – an exercise on vocabulary pronunciation

The English lexicon comprises all words of the English language. The words are of different origin with their specific pronunciation qualities and specific use in various contexts. English words can be divided into different categories – some words are typically used in poetry, different words are technical, and other words are used in everyday speech. In this section, close attention will be paid to the pronunciation of one particular group of words: those used in the specific genre of scientific and academic texts; i.e. vocabulary typically used in textbooks, academic journals or in lectures delivered by lecturers in classrooms or by speakers at conferences. These words are not in daily use for the majority of English speakers and their correct pronunciation is relevant for successful communication in the academic environment. An advanced speaker of English should know a sufficient number of vocabulary items to communicate successfully in different contexts.

Academic English is often of Greek or Latin origin (Corson, 1997). These words, and their regional variants adapted from Greek or Latin, are universally used and found in many modern European languages and users of academic English are familiar with them from their own mother tongue. Each language has adopted pronunciation of this vocabulary with regards to the pronunciation typical for that language. Equally, in English, the words more or less follow the majority of pronunciation rules governing other vocabulary of English, such as stress placement and phoneme alternations, as well as forming the words derived from them. English learners studying at university are usually introduced to them in academic texts they read or listen to, and then they use this vocabulary for writing their own academic texts. In class, students usually use these words in monologues, such as presentations or during defence of their final theses. Pronunciation of the words may be challenging for some Slovak learners of English. Possibly because they only know the words from written texts or from the Slovak lexicon and therefore they apply principles of Slovak pronunciation to the English words.

The use of this vocabulary is limited to specific texts that are in fact rarely written or read outside the academic world; its command is a skill which is unique to people in academia. Many users of academic language may not be active speakers of English – they are able to understand texts written in academic English, but they never have the opportunity to hear them or pay particular attention to their pronunciation. This may lead to incorrect pronunciation influenced by the pronunciation of their mother tongue or another foreign language they may speak. Hincks (2003) identifies two mistakes in the pronunciation of English academic vocabulary – the phoneme substitutions or incorrect placement of word stress that may be rooted in the “presumed ignorance of the word’s pronunciation, caused by unfamiliarity or difficult spelling”.

Hincks (2003) indicates, that a good ability to pronounce English sounds may be the result of an early start with learning English through communicative activities, frequent contact with

English outside the class, such as in the media, and – in some languages – a similar linguistic background between English and the mother tongue.

Firstly, there is a group of derivate words with suffixes not changing stress placement and vowel quality:

*apparent* /ə'pær.ənt/                      *apparently* /ə'pær.ənt.li/

The second group of words contains suffixes moving stress within the root of the word. There are noticeable changes in vowel quality under the stress (from full vowel to one of the weak vowel sounds) and the shift of primary stress to secondary stress. Secondary stress in these words always precedes primary stress; primary stress towards the end of longer words (longer than three syllables) must be preceded by secondary stress.

*advantage* /əd'vɑ:n.tɪdʒ/                      *advantageous* /,æd.væn'teɪ.dʒəs/

*explain* /ɪk'spleɪn/                              *explanation* /,ek.splə'nei.jən/

*identify* /aɪ'den.tɪ.faɪ/                        *identification* /aɪ.den.tɪ.fɪ'keɪ.jən/

*valid* /'vælɪd/                                    *validity* /və'lɪdɪ.ti/

*origin* /'ɒr.ɪ.dʒɪn/                               *original* /ə'rɪdʒ.ən.əl/

*provoke* /prə'vʊk/                               *provocation* /,prɒv.ə'keɪ.jən/

Some derivate words may change stress placement, however, vowel quality remains the same.

*accident* /'æk.sɪ.dənt/                        *accidental* /,æk.sɪ'den.təl/

*accommodate* /ə'kɒm.ə.deɪt/                *accommodation* /ə,kɒm.ə'deɪ.jən/

*clarify* /'klær.ɪ.faɪ/                            *clarification* /,klær.ɪ.fɪ'keɪ.jən/

Finally, the third group of derivate words contains a suffix carrying primary stress.

*grammar* /'græm.ə/                            *grammarese* /,græm.ər'i:z/

*train* /treɪn/                                       *trainee* /,treɪ'ni:/

*human* /'hju:.mən/                            *humanesque* /,hju:.mən'esk/

*scrutiny* /'skru:.tɪ.ni/                        *scrutineer* /,skru:.tɪ'nɪə/



There are also derivate words with changes in root vowels without the obvious change in stress placement. The change is from one full vowel sound to another full vowel sound and there is no vowel reduction.

*induce* /ɪnˈdʒuːs/                      *induction* /ɪnˈdʌk.jən/  
*nature* /ˈneɪ.tʃə/                      *natural* /ˈnætʃ.ər.əl/

Some words can function as both nouns and verbs, without the change in orthography. They are called word class pairs (Roach 2009). Changes, however, may appear in stress placement in words like *survey* n. /ˈsɜː.veɪ/ and *survey* v. /səˈveɪ/ consistently to other words of different word classes. Some words may not change their stress placement and pronunciation, e.g. *research* n. /rɪˈsɜːtʃ/ and *research* v. /rɪˈsɜːtʃ/.

In this part, the focus was placed on pronunciation of individual words; pronunciation of longer monologues and speeches is governed by the rules of the suprasegmental phonology and the use of aspects of connected speech. The rhythm and tempo of speech should be even, the sentence stress should lie on the new information or the logical focus of the utterance with excellent overall comprehensibility and intelligibility. The voice should be loud and clear and the articulation of individual phonemes should not be compromised. The tone of the speech should be respectful to the speakers and the situation the speech is made in.

As seen in this chapter, the pronunciation of English complex, not only due to the English approach to phoneme production and the use of suprasegmental features and aspects of connected speech, but also due to regional and social differences among native speakers. Understanding the complexity of English pronunciation is not a simple task to master, but knowledge about pronunciation issues can help learners to improve in a meaningful way.

#### TASKS:

1. Try to think of an example based on Labov’s experiment in Slovak. Are specific groups of Slovak speakers proud of their accent and rarely change it?
2. Look up authentic examples of different social accents (e.g. on youtube.com). Compare the speaking style of news reading, a reality show, a chat show, a political speech, etc.)
3. Rewrite the following transcribed words from the Merriam Webster dictionary and transcribe them into BBC English pronunciation using the standard IPA symbols. Note that the words in the first column follow the American pronunciation.

Merriam-Webster Dictionary	Orthography	Cambridge Dictionary
\ 'ərb\	.....	.....

\ 'la-b(ə)rə-,tɔr-ē\	.....	.....
\ 'ä-tē\	.....	.....
\ 'väs\	.....	.....
\ 'nē- <u>th</u> ər\	.....	.....
\ 'fi-gyər\	.....	.....
\ 'ske-(,)jül\	.....	.....
\ tə-'mā-(,)tō\	.....	.....
\ 'lē-zhər\	.....	.....
\ 'prä-,ses\	.....	.....
\ lü-'te-nənt\	.....	.....
\ 'vī-tə-mən\	.....	.....

4. Look up authentic examples of different regional accents and dialogue (e.g. on youtube.com). Look for pronunciation differences, as well as for vocabulary and grammatical differences from standard British pronunciation.

5. Rules related to pronunciation of English regular plural are also applied to the following vocabulary. Transcribe the singular and plural forms of the following nouns used in academic style:

Example: achive – archives /'ɑ:.kɑ:vz/

analysis	.....	analyses	.....
hypothesis	.....	hypotheses	.....
thesis	.....	theses	.....
Index	.....	indices	.....

6. Complete the table. Make derivate or base words from the word given. Transcribe and practice pronunciation of these words. Check the transcription in a dictionary. Which

of these words display stress placement change? In which words is there a difference in a vowel or a consonant?

<b>Noun</b>	<b>Verb</b>	<b>Adjective</b>
analysis		
	calculate	
	characterise	
		comparative
conclusion		
	define	
		descriptive
	discuss	
	emphasise	
evidence		
		exclusive
focus		
		formal
hypothesis		
	identify	
	imply	
inclusion		
introduction		
	investigate	
method		
		numerous
	object	

		particular
phenomenon		
	practise	
quantity		
research		
	subject	
survey		
		valid
	vary	
		virtual
technique		
terminology		
		theoretical
	value	

## 5 GLOSSARY

**Accent** /'æk.sənt/ – a variety of standard language (e.g. English) that is based on pronunciation different from the standard form. It may be regional or social (influenced by age group, education, sex, occupation, etc.). However, some authors use the word accent as a synonym of the word stress or emphasis (see accentual)

**Accentual** /ək'sen.tʃu.əl/ – an adjective describing pronunciation features based on stress (e.g. the accentual function of intonation stresses emphasises some parts of the utterance to highlight the most important information)

**Allophone** /'æl.ə.fəʊn/ – a speech sound made in concrete speech under specific conditions, e.g. the sound /i/ in the word deodorant /di'əʊ.dər.ənt/ is an allophone of the phoneme /ɪ/ because it is used as part of a weak syllable

**Articulation** /ɑː.tɪk.jə'leɪ.fən/ – the process of moving articulation organs to make speech sounds

**Aspects of connected speech** /'æs.pekts əv kə'nektɪd 'spi:tʃ/ – rapidly pronounced pronunciation features occurring in longer texts that do not change the meaning of words (see assimilation, elision, linking).

**Aspiration** /,æs.pɪ'reɪ.fən/ – an additional puff of air pronounced after voiceless plosives preceded and followed by vowels. Acoustically, it sounds like /h/ following consonants or like /p/, /t/ and /k/ when preceded and followed by vowels or silence

**Assimilation** /ə,ʃɪm.ɪ'leɪ.fən/ – a gain or loss of some qualities in consonants caused by pronunciation features of the preceding or following consonant

**Coarticulation** /,kəʊ.ɑːtɪk.jə'leɪ.fən/ – pronouncing two different phonemes as one

**Coda** /'kəʊ.də/ – consonant(s) or silence following a syllable centre

**Consonant** /'kɒn.sə.nənt/ – a sound made with an obstruction placed on the air stream typically used as a syllable edge

**Dialect** /'daɪ.ə.lekt/ – a variety of standard language (e.g. English) that is different from it in vocabulary, pronunciation and grammar, mostly based on the geographical use of the language (e.g. British and American dialects of English)

**Diphthong** /'dɪf.θɒŋ/ – two vowel sounds performed without interruption within a single syllable

**Elision** /ɪ'liːʒ.ən/ – omission of certain vowel or consonant letters in reading words

**Foot** /fʊt/ – the smallest unit of rhythm usually longer than one syllable, beginning with a stressed syllable and containing all unstressed syllables (up to four) following it up to the next stressed syllable

**Homonym** /'hɒm.ə.nɪm/ – a semantic relation between two words based on their formal similarity. This similarity may be acoustic (homophony) or orthographic (homography)

**Intonation** /,ɪn.tə'neɪ.ʃən/ – a consciously used melody of utterance caused by changes in pitch

**Linking** /'lɪŋkɪŋ/ – pronouncing words as one caused by adding a consonant sound between vowels at word edges

**Onset** /'ɒn.set/ – consonant(s) or silence preceding the centre of the syllable

**Phoneme** /'fəʊ.ni:m/ – the smallest sound able to change the meaning of words or constitute new words

**Phonetics** /fə'net.ɪks/ – a linguistic discipline dealing with concrete speech sounds, their production, transmission and perception in their respective sub-disciplines – articulatory, acoustic and auditory phonetics

**Phonology** /fə'nɒl.ə.dʒi/ – a linguistic discipline dealing with sounds (phonemes and suprasegmental features) changing the meaning of utterances

**Pitch** /pɪtʃ/ – an inborne height of voice that cannot be changed

**Rhoticity** /rəʊ'tɪsəti/ – a pronunciation feature of some accents of English based on pronouncing the consonant /r/ at the end of words or syllables

**Rhythm** /'rɪð.əm/ – a noticeable and regular occurrence of stressed syllables in speech

**Weak forms** /,wi:k fɔ:mz/ – monosyllabic function words (prepositions, pronouns, articles, etc.) that peak in a weak vowel (schwa, /i/ or /u/) in fluent casual speech. They are read with a full vowel in isolation and are then called strong forms

**Weak syllables** /,wi:k 'sɪl.ə.bəlz/ – syllables peaking in weak vowels (schwa, /i/ or /u/), therefore they cannot be stressed. They are typically found in prefixes re-, de-, pre-, in words ending in /i/ and all syllables containing schwa

**Stress** /stres/ – the relative degree of prominence of a syllable or word caused by the difference in pitch height, vowel quantity, vowel quality and strength in comparison to other syllables or words

**Suprasegmental features** /,su:.prə.seg'men.təl 'fi:tʃəz/ – pronunciation features appearing predictably and systematically in utterances longer than one sound and which change the meaning of the utterance (see stress, intonation and rhythm)

**Syllable** /'sɪl.ə.bəl/ – a minimal rhythmical unit consisting of a centre and optionally containing an onset or a coda

**Syllable centre** /,sɪl.ə.bəl 'sen.tə/ – an obligatory element of syllables usually formed by vowels, diphthongs or triphthongs or possibly a syllabic consonant

**Transcription** /træn 'skrɪp.jən/ – the system of recording speech into written symbols, that can be either narrow (detailed) or broad (focusing on the most prominent pronunciation features)

**Triphthong** /'trɪf.θɒŋ/ – a sequence of three vowels made of closing diphthongs and schwa

**Vowel** /vəʊəl/ – a pure sound made without obstruction to the air flow used as a syllable centre

**Tone** /təʊn/ – a height of voice selected to convey specific information (ask a question, express attitude, etc.)

**Tone unit** /'təʊn ,ju:nɪt/ – the smallest unit of intonation that must contain the tonic syllable carrying tone and possibly containing the head: from the first stressed syllable up to the tonic syllable, pre-head (all unstressed syllables up to the head) and tail (all syllables following the tonic syllable).

## KEY TO THE EXERCISES

### Chapter 1

#### homophones

- |                 |                   |
|-----------------|-------------------|
| a) wail/whale   | i) bear/bare      |
| b) waste/waist  | j) muscle/mussel  |
| c) aunt/aren't  | k) weak/week      |
| d) male/mail    | l) pair/pear      |
| e) heir/air     | m) made/maid      |
| f) aural/oral   | n) lead/led       |
| g) flower/flour | o) dessert/desert |
| h) peel/peal    | p) great/grate    |

#### homographs

- a) /baʊ/ – /bəʊ/
- b) /waɪnd/ – /waɪnd/
- c) /'rəʊ.lɪʃ/ – /'rɒl.ɪʃ/
- d) /led/ – /li:d/
- e) /bæs/ – /beɪs/
- f) /maɪ'nju:t/ – /'mɪn.ɪt/
- g) /rəʊ/ – /rəʊ/
- h) /kləʊs/ – /kləʊz/
- i) /tɪə/ – /teə/
- j) /wu:nd/ – /waʊnd/

### Chapter 2 Segmental level

#### Auditory check 1

strut /ʌ/	China /ɑɪ, ə/	rain /eɪ/
real /ɪə/	poor /ɔ:/	cruel /ʊə/
hurt /ɜ:/	hot /ɒ/	boil /ɔɪ/
beat /i:/	heaven /e, ə/	snow /əʊ/
bear /eə/	hat /æ/	crown /aʊ/
food /u:/	calm /ɑ:/	
foot /ʊ/	list /ɪ/	

#### Auditory check 2

banana /ə/	Utah /ɑ:/	stiletto /əʊ/
bomb /m/	bikini /i/	horsewhip /p/
toxic /k/	the Raj /dʒ/	tranq /k/
send /k/	counterattack /k/	unclear /ɪə/
oblique /k/	professional /l/	stress /s/
waterproof /f/	airstream /m/	sent /t/
jogging /ŋ/	autumn /m/	impromptu /u:/



leitmotiv /f/  
window /əʊ/

retroflex /s/  
sympathy /i/

quartz /s/

### Auditory check 3

stair /eə/  
bathe /ð/  
hurrah /ɑ/  
America /ə/

superstar /ɑː/  
sophisticate /t/  
debutante /t/  
straw /ɔː/

bath /θ/  
cloth /θ/  
text /t/  
sent /t/

voiced consonant: bathe

voiceless consonant: sophisticate, debutante, bath, cloth, text, sent

vowel sound: stair, hurrah, America, superstar, straw

## Chapter 3 Suprasegmental level

### Stress

A white 'lie  
, A weak 'moment  
A vexed 'question  
An, unknown 'quantity  
Uncle 'Sam  
Wishful 'thinking  
A 'turf war  
, top 'dog

A, silver 'tongue  
Every 'time  
A tight 'squeeze  
A, tall 'order  
A 'status symbol  
A, sporting 'chance  
A, split 'second  
A, spare 'tyre

Sound a 'sleep  
'snail mail  
A, shrinking 'violet  
, second 'sight  
Satu'ration point  
A, good Sa'maritan

### Rhythm

year, in, year 'out  
, year after 'year  
'yes and, no  
, win or 'lose  
, wheel and 'deal  
'well and, truly  
, week by 'week  
sur, prise, sur 'prise

'tit for, tat  
, trick or 'treat  
the, sooner the 'better  
by the 'way  
in, short 'order  
in 'theory  
in 'vain  
in 'writing

out of this 'world  
in the 'works  
your, word of 'honour  
the thin, end of the 'wedge  
not out of this 'world  
, a waste of 'space  
a, window of oppor'tunity

### Metrical feet

**trochee** – standard, able, final, present, social, current, royal, so-called, fellow, empty, hopeless, model, picture, system, nature, idea, event, surprise, offer, service, signal, study, finish, access, marry, argue, cancel

**iamb** – throughout, abroad, o'clock, behind, per se, a lot, again, diverse, because, gorgeous, idea, career, display, belief, advice, mistake, police, appeal, account, relief, address, attack, success, effect, affair, escape

**dactyl** – similar, personal, separate, senior, positive, cultural, minimum, musical, visible, violent, ultimate, absolute, muscular, property, industry, hospital, management, family, telephone, monitor, interview, exercise, justify

**amphibrach** – regardless, moreover, directly, immensely, discretely, verbatim, col legno, proviso quod, wherever, directly, desire, tradition, approval, professor, importance, material, museum, republic, resistance

### Linking

/w/ nephew and niece

used to aim

value of money

tissue of muscles

eyebrow arch

now or never

lowbrow entertainment

hello again

/j/ by accident

high adrenaline

untie a tie

simplify answer

sky is falling

rely on science

qualify automatically

codify English

yesterday evening

tomorrow is another day

takeaway ice-cream

century of progress

free advertisement

sea animal

employee of the month

/r/ occur everywhere

prefer English

law and order

grandma and grandpa

repertoire of songs

schwa is never stressed

flower arrangement

lure in

tower of London

before evening

core exercise

### Rhythm and feet

Don't | tell me.

It's the |thought that |counts.

Make a |silk | purse |out of |sow's |ear.

One |swallow |doesn't |make a |summer.

Out of |sight | out of |mind.

Spare the |rod and |spoil the |child.

Still |waters |run |deep.

Think a |gain.

Two can |play at |that |game.

Two |heads are |better than |one.

Two |wrongs |don't |make a |right.

Use a |sledgehammer to |crack a |nut.

Variety is the |spice of |life.

Virtue is its |own re|ward.

Walls have |ears.

### Intonation

A trouble /shared is a trouble \halved.

A watched pot never \boils.

If wishes were /horses, beggars would \ride.

It went from /bad to \worse.

Let /sleeping dogs \lie.

That's all she \wrote  
 That's the way the cookie \crumbles.  
 The streets are paved with \gold.  
 These \things are sent to 'try us.  
 What is the world \coming to?  
 Where there's a \will there's a 'way.  
 You wear your \heart on your \sleeve.  
 You can't go \wrong.  
 You're only young \once

## Chapter 4

### American English

Merriam-Webster Dictionary Orthography Cambridge Dictionary

\ 'ərb\	herb	/hɜ:b/ us /ə:b/
\ 'la-b(ə)rə-ˌtɔr-ē\	laboratory	/lə'brɔr.ətɔr.i/ us /'læb.rə.tɔ:r.i/
\ 'ä-tē\	ate	/et/ /eɪt/ us /et/ /eɪt/
\ 'vās\	vase	/vɑ:z/ us /veɪs/
\ 'nē- <u>thər</u> \	neither	/'naɪ.ðə/ /'ni:.ðə/ us /'naɪ.ðə/ /'ni:.ðə/
\ 'fi-gyər\	figure	/'fɪg.ə/ us /'fɪg.jə/
\ 'ske-(,)jü\	figure	/'ʃedʒ.u:l/ us /'skedʒ.u:l/
\ tə-'mā-(,)tō\	tomato	/tə'mɑ:.təʊ/ us /tə'meɪ.təʊ/
\ 'lē-zhər\	leisure	/'leɜ.ə/ us /'li:.zə/
\ 'prä-,ses\	process	/'prəʊ.ses/ us /'prɑ:.ses/
\ lü-'te-nənt\	lieutenant	/lef'ten.ənt/ us /lu:'ten.ənt/
\ 'vī-tə-mən\	vitamin	/'vɪt.ə.mɪn/ us /'vaɪ.tə-/

## Academic English

Noun	Verb	Adjective
analysis /ə' næl.ə.sɪs/ /-si:z/	analyse /' æn.əl.aɪz/	analytical /, æn.ə' lɪt.ɪ.kəl/
calculation /, kæl.kjə' leɪ.fən/	calculate /' kæl.kjə.leɪt/	calculated ' kæl.kjə.leɪ.tɪd/
characteristics /, kær.ək.tə' rɪs.tɪks/	characterise /' kær.ək.tə.raɪz/	characteristic /, kær.ək.tə' rɪs.tɪk/
comparison /kəm' pær.ɪ.sən/	compare /kəm' peə/	comparative /kəm' pær.ə.tɪv/
conclusion /kən' klu: .zən/	conclude /kən' klu:d/	conclusive /kən' klu: .sɪv/
definition /, def.ɪ' nɪf.ən/	define /dɪ' faɪn/	definite /' def.ɪ.nət/
description /dɪ' skrɪp.fən/	describe /dɪ' skraɪb/	descriptive /dɪ' skrɪp.tɪv/
discussion /dɪ' skʌf.ən/	discuss /dɪ' skʌs/	discussed /dɪ' skʌst/
emphasis /' em.fə.sɪs/	emphasise /' em.fə.saɪz/	emphatic /em' fæt.ɪk/
evidence /' ev.ɪ.dəns/	-	evident /' ev.ɪ.dənt/
exclusion /ɪk' sklu: .zən/	exclude /ɪk' sklu:d/	exclusive /ɪk' sklu: .sɪv/
focus /' fəʊ.kəs/	focus /' fəʊ.kəs/	focal /' fəʊ.kəl/
formality /fɔ: ' mæl.ə.ti/ / form /fɔ: m/	form /fɔ: m/	formal /' fɔ: .məl/
hypothesis /haɪ' pəθ.ə.sɪs/	hypothesise /haɪ' pəθ.ə.saɪz/	hypothetical /, haɪ.pə' θet.ɪ.kəl/
identification /aɪ' den.tɪ.fɪ' keɪ.fən/	identify /aɪ' den.tɪ.faɪ/	identical /aɪ' den.tɪ.kəl/
implication /, ɪm.plɪ' keɪ.fən/	imply /ɪm' plɑɪ/	implied /ɪm' plɑɪd/
inclusion /ɪn' klu: .zən/	include /ɪn' klu:d/	inclusive /ɪn' klu: .sɪv/
introduction /, ɪn.trə' dʌk.fən/	introduce /, ɪn.trə' dʒu:s/	introductory /, ɪn.trə' dʌk.tər.i/
investigation /ɪn' ves.tɪ' geɪ.fən/	investigate /ɪn' ves.tɪ.geɪt/	investigated /ɪn' ves.tɪ.gertɪd/
methodology /, meθ.ə' dɒl.ə.dʒi/	-	methodological /, meθ.ə.dəl' ɒdʒ.ɪ.kəl/
number /' nʌm.bər/	enumerate /' ɪnju: .mə.reɪt/	numerous /' nju: .mə.rəs/

object /'ɒb.dʒɪkt/ objective /əb'dʒek.tɪv/	object /əb'dʒekt/	objective /əb'dʒek.tɪv/
part /pɑ:t/	part /pɑ:t/	particular /pə'tɪk.jə.lə/
phenomenon /fə'nɒm.i.nən/	-	phenomenal /fə'nɒm.i.nəl/
practice /'præk.tɪs/	practise /'præk.tɪs/	practical /'præk.tɪ.kəl/
quantity /'kwɒn.tə.ti/	quantify /'kwɒn.tɪ.faɪ/	quantitative /'kwɒn.tɪ.tə.tɪv/
research /rɪ'sɜ:tʃ/ /'ri:.sɜ:tʃ/	research /rɪ'sɜ:tʃ/	
subject /'sʌb.dʒekt/	subject /səb'dʒekt/	subjective /səb'dʒek.tɪv/
survey /'sɜ:.veɪ/	survey /sə'veɪ/ /'sɜ:.veɪ/	
validity /və'lɪd.ə.ti/	validate /'væl.ɪ.deɪt/	valid /'væl.ɪd/
variation /ˌveə.ri'eɪ.jən/	vary /'veə.ri/	various /'veə.ri.əs/
virtue /'vɜ:.tʃu:/	-	virtual /'vɜ:.tʃu.əl/
technique /tek'ni:k/		technical /'tek.nɪ.kəl/
terminology /ˌtɜ:.mɪ'nɒl.ə.dʒɪ/	-	terminological /ˌtɜ:.mɪ.nə'lɒdʒ.ɪ.kəl/
theory /'θɪə.ri/	theorise /'θɪə.raɪz/	theoretical /θɪə'ret.ɪ.kəl/
evaluation /ɪˌvælju'eɪʃən/	evaluate /ɪ'væl.ju.eɪt/	evaluated /ɪ'væl.ju.eɪt ɪd/

Phoneme change (only nouns will be listed): analysis, calculation, conclusion, definition, description, implication, introduce, number, object, part, subject, survey, validity, variation, terminology

Stress change: analysis, calculation, characteristics, definition, description, emphasise, formality, hypothesis, implication, investigation, number, object, part, subject, survey, validity, variation, terminology, theory

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## Appendix 2 International Phonetic Alphabet (simplified)

<b>i:</b> fleece sea machine	<b>ɪ</b> bid hymn minute	<b>ʊ</b> foot put good	<b>u:</b> goose two blue	<b>e</b> bed head many
<b>ə</b> about common butter	<b>ɜ:</b> stir learn refer	<b>æ</b> trap stamp bad	<b>ɒ</b> lot odd wash	<b>ɔ:</b> thought north war
<b>ɑ:</b> father start hard	<b>ʌ</b> strut love blood	<b>ɪə</b> near here weary	<b>eɪ</b> face day break	<b>ʊə</b> tour jury
<b>ɔɪ</b> choice boy boiler	<b>əʊ</b> goat show no	<b>aɪ</b> price high try	<b>aʊ</b> mouth now fowl	<b>eə</b> square fair various
<b>p</b> pen copy happen	<b>b</b> back baby job	<b>t</b> tea tight button	<b>d</b> day ladder odd	<b>tʃ</b> church match nature
<b>dʒ</b> judge age soldier	<b>k</b> key clock school	<b>g</b> get giggle ghost	<b>f</b> coffee rough photo	<b>v</b> view heavy move
<b>θ</b> thing author path	<b>ð</b> this other smooth	<b>s</b> soon cease sister	<b>z</b> zero music roses	<b>ʃ</b> ship sure national
<b>ʒ</b> pleasure leisure vision	<b>m</b> more hammer sum	<b>n</b> nice know funny sun	<b>ŋ</b> ring anger thanks	<b>h</b> hot whole ahead
<b>l</b> light valley feel	<b>r</b> right wrong sorry arrange	<b>w</b> wet one when queen	<b>j</b> yet use beauty few	' primary stress symbol , secondary stress symbol • syllable division symbol

## Appendix 3

### The General American Phonemic Inventory (simplified)

\ ə \	\ 'ə ,ə \	\ ə \	\ ə r \	\ a \
<b>a</b> in about, banana	<b>u</b> in about, humdrum	<b>e</b> in kitten, prisme	<b>ur/er</b> in further, merger	<b>a</b> in ash, map
\ ā \	\ ä \	\ aú \	\ b \	\ ch \
<b>a</b> in ace, day	<b>o</b> in mop, cot	<b>ou</b> in out, now	<b>b</b> in baby, rib	<b>ch</b> in chin, cheese
\ d \	\ e \	\ 'ē ,ē \	\ ē \	\ f \
<b>d</b> in did, adder	<b>e</b> in bet, peck	<b>ea</b> in easy, beat	<b>y</b> in easy, mealy	<b>f</b> in fifty, cuff
\ g \	\ h \	\ i \	\ ī \	\ j \
<b>g</b> in go, big	<b>h</b> in hat, ahead	<b>i</b> in hit, tip	<b>i</b> in ice, side	<b>j</b> in job, join
\ k \	\ k̄ \	\ l \	\ m \	\ n \
<b>k</b> in kin, cook	<b>ch</b> in Buch (German)	<b>l</b> in lily, pool	<b>m</b> in murmur, dim	<b>n</b> in own, no
\ ŋ \	\ ō \	\ ó \	\ ó i \	\ p \
<b>ng</b> in sing, finger	<b>o</b> in go, bone	<b>aw</b> in law, gnaw	<b>oy</b> in boy, destroy	<b>p</b> in pepper, lip
\ r \	\ s \	\ sh \	\ t \	\ th \
<b>r</b> in red, rarity	<b>s</b> in less, source	<b>sh</b> in shy, shoe	<b>t</b> in tie, attack	<b>th</b> in thin, ether
\ <u>th</u> \	\ ü \	\ ú \	\ v \	\ w \
<b>th</b> in then, either	<b>oo</b> in loot, shoot	<b>oo</b> in foot, book	<b>v</b> in vivid, give	<b>w</b> in away, we
\ y \	\ yü \	\ yú \	\ z \	\ zh \
<b>y</b> in yet, yard	<b>you</b> in youth, you	<b>u</b> in curable, cure	<b>z</b> in zone, zest	<b>si</b> in television

Based on: <https://www.merriam-webster.com/help/pronunciation-key>

