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# SUPRASEGMENTÁLNÍ ASPEKTY V PŘIROZENÉ ŘEČI

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Anglický jazyk se zaměřením na vzdělání

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# SUPRASEGMENTAL ASPECTS IN NATURAL SPEECH

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English Language in Education

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Prohlašuji, že jsem bakalářskou práci vypracovala samostatně s použitím uvedené literatury a zdrojů informací.
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# 2 Abstract

This bachelor's thesis will deal with suprasegmental aspects of English in natural speech. The purpose of the thesis is to analyse and compare different samples of natural speech regarding the suprasegmental aspects and their connection with various communicative functions. In the theoretical part terms such as stress, intonation, rhythm, tone and pitch will be described. Disorders of communication, e.g. parasite words and repetition will be discussed. In the practical part, the introduced theoretical knowledge will be used to analyse selected recordings from different genres of speech such as political speech, conversation between a parent and a child, conversation between two adults or lecture at the university. Transcription of the recordings, analysis and interpretation will be provided.

**Key words:** suprasegmental phonology, stress, intonation, pitch, tone, rhythm, speech, utterance, tone-unit, foot, syllable, phoneme, rise, fall, level, rise-fall, fall-rise

# 3 Introduction

I decided to write my bachelor's paper on suprasegmental aspects because phonetics and phonology are topics that I was interested in and I intended to discover more points of views on that topic. The materials I read in the course of my studies were mostly theoretical knowledge and I never found any statistics on rations of particular suprasegmental features being used in various stylistic genres. With time, this became the focus of my research.

In the following, I would like to make an attempt to compare speech samples from different spoken genres as to their suprasegmental characteristics. Detailed and transparent analysis of these genres will be provided focusing mainly on stress and intonation. Quantitative measures such as calculating the ratios of stressed and unstressed syllables and of the different intonational patterns will be combined with qualitative evaluation which considers possible characteristics and intentions of the speakers as well as the characteristics of the different genres. Some possible tendencies will be deduced based on the analysis although the samples were of a small range so we have to be careful with generalisations.

Key words: suprasegmental phonology, stress, intonation, pitch, tone, rhythm, speech, utterance, tone-unit, foot, syllable, phoneme, rise, fall, level, rise-fall, fall-rise

# 4 Suprasegmental phonology

Suprasegmental aspects are studied in the fields of phonetics and phonology. The study of sound in general is the science of acoustics, the study of sound in human language is called phonetics and the study of the selection and patterns of sounds in a single language is called phonology. Both phonetics and phonology are important components of linguistics, the science that deals with the general study of language. [Collins, B., & Mees, I. M. (2003)]

[Collins, B., & Mees, I. M. (2003)] define suprasegmental phonology as a study of phonetic phenomena which cover an extent greater than the individual segment – possibly a syllable<sup>1</sup>, a complete word or phrase, whole sentences or even more. [Crystal, D. (2008)] describes suprasegmental aspects as a vocal effect which extends over more than one sound segment in an utterance, such as a pitch, stress or juncture pattern. The following illustration shows the different levels of suprasegmental elements.

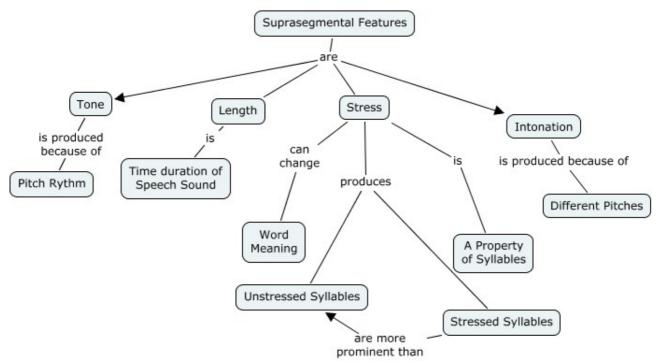


Illustration 4.1: Suprasegmental features [Barrios, J.D.]

<sup>1</sup> The syllable is a unit difficult to define but [Collins, B., & Mees, I. M. (2003)] loosely describe it as a unit potentially larger than the phoneme but smaller than the word.

Prosody is a term often interchanged for suprasegmental phonology and refers collectively to variations in pitch, loudness, tempo, rhythm which are the suprasegmental features, the remaining suprasegmental features are termed paralinguistic. [Crystal, D. (2008)] states that according to J.R. Firth, a phonematic unit is a segmental unit such as phonemes, consonants or vowels, on the other hand prosodies extend over stretches of utterance. That means that pitch, stress and juncture patterns would be categorised under the heading of prosody.

In the following section stress, intonation, accent, rhythm, tone, pitch and juncture pattern will be discussed.

# 4.1 Stress and rhythm

Sentential stress marks the prominence of certain units in the sentence while rhythm marks regularity of this stress in the same sentence.[Crystal, D. (2008)]

## **4.1.1** Stress

Stress refers to the degree of force used in producing a syllable. According to the level of stress, syllables are divided into stressed and unstressed syllables where the stressed ones are more prominent and marked in a transcription with ['] in front of the syllable that the stress relates to. The prominence is usually caused by an increase in loudness of the stressed syllable but an increase in length and pitch may as well contribute to the impression of prominence. Stress is often equated with a notion of emphasis or strength. [Crystal, D. (2008)]

### 4.1.2 Sentence stress

The main function of stress from the phonological point of view is to provide a means of distinguishing degrees of emphasis or contrast in sentences. [Crystal, D. (2008)] The following section deals with stress within connected speech, called sentence stress. There are two kinds of words in a sentence, firstly function words, e.g. articles, auxiliary verbs, the verb be,

prepositions, pronouns and conjunctions; secondly content words, e.g. nouns, main verbs, adjectives, most adverbs. Function words convey relatively little information and tend to lose their stress completely within a sentence. Content words on the other hand carry much information and are stressed normally. Let us introduce an example of a sentence, where F represents function words and C represents content words. Only the content words bear stress.

I' ve 'heard that 'Jack and 'Jane 'spent their 'holidays in Ja 'maica.
FFCFCFCFCFC

That is the general pattern but it has its exceptions that will be discussed now. Two sets of function words receive stress because they add significant information or provide contrast. Firstly *wh-words* when they form questions, e.g. *where, why, how*; secondly demonstratives, e.g. *this, that, these, those*. Another exception is a group of function words that indicate a contrast, e.g. *I said give 'her kiss, not 'him; I know little a'bout jazz, I prefer classical music;* lastly with rapid tempo, the number of unstressed syllables increases even within lexical words. Our example would look like this with a rapid tempo: *I've heard that 'Jack and 'Jane spent their holidays in Ja'maica.* [Collins, B., & Mees, I. M. (2003)]

In sentence stress, the most prominent syllable is the tonic syllable which is usually new information and it typically appears at the end of a sentence. If the tonic syllable is placed elsewhere, importance of the stressed unit is highlighted and it is given the prominence, e.g. the sentence: *Sophie adored her gorgeous new motorbike*. Any of the units may be stressed and it gives us a slight change in the semantic meaning with each different placement of the tonic syllable which will be discused later in this paper. [Collins, B., & Mees, I. M. (2003)]

# 4.1.3 Rhythm

Rhythm refers to the perceived regularity of prominent units in speech. We can distinguish these regularities among stressed and unstressed syllables; syllable length – whether the syllable is long or short; pitch – whether it is high or low or some combinations of those above. [Crystal, D. (2008)]

# 4.1.4 Stress-timing vs. syllable-timing theory

In stressed timed languages, stressed syllables have the tendency to occur at roughly equal intervals of time, that is called stress-timing. The pronunciation of languages displays a particular type of rhythm which will be discussed later on. Stress-timing is used in some Germanic languages. [Crystal, D. (2008)]. Let us look at a few examples by [Collins, B., & Mees, I. M. (2003)] of stress-timing. Stressed syllables are indicated by \_\_\_\_ and unstressed syllables by •.

'Ji	mmy's	'bought	а	'house	near	'Glas	gow
	•		•		•		•

'Sa	lly's	been	'try	ing	to	'send	you	an	'e-	mail
	•	•		•	•		•	•		•

Stress-timing is contrast to syllable-timing which has a tendency to equal syllable length and each syllable appears to have approximately equal time value, except for the final one of each group, which is extended. Syllable-timing is used in some Roman languages. [Collins, B., & Mees, I. M. (2003)]

In addition each English speaker speaks differently and uses different rhythms. We can speak either rhythmically which is typical for public speaking (and will be analysed in the practical part of this paper) or arhythmically (understand – without rhythm) which is typical when the speaker is nervous or hesitant. Stress-timed rhythm is thus perhaps characteristic of one style of speaking, not of English speech as a whole.

English speakers always speak with some degree of rhythmicality which may vary between a minimal value, i.e. arhythmical; and a maximum value, i.e. completely stress-timed rhythm. However people tend the hear speech as more rhythmical than it actually is. [Roach, P. (1998)] Mentions an auditory analysis of English rhythm was carried out and the results suggest that the evidence for the existence of stress-timed rhythm is not strong. Measurement of the time intervals by laboratory techniques has not shown the expected regularity. The same measuring techniques were used on different languages and proved impossible to indicate a real differences between stress-timed and syllable-timed languages. [Roach, P. (1998)]

## 4.2 Pitch, tone and intonation

There is a particular hierarchical relationship among the units in speech. Speech consists of a number of utterances, each utterance consists of one or more tone-units, each tone unit consists of one or more feet, each foot consists of one or more syllables, each syllable consists of one or more phonemes (see the table below). [Roach, P. (1998)]

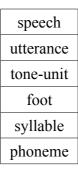


Table 4.1: Phonological units

#### 4.2.1 Pitch

A variation in speech melody is an essential component of human speech, otherwise the speech would be robot-like. Pitch refers to human perception. The sound may be perceived high or low. The most important physical factor of determining pitch is the frequency which is also referred to as the speed of vibration of the vocal folds. Generally, the higher the frequency, the higher the perceived pitch and vice versa. Pitch can be rising  $\nearrow$ , level  $\rightarrow$  and falling  $\searrow$ . [Collins, B., & Mees, I. M. (2003)]

Each speaker has a different scale of normal pitch range. A top level is the highest pitch and the bottom level is the lowest pitch used by the speaker. In ordinary speech, the pitch is placed between the top and bottom level but in extraordinary situations extra pitch height is added. [Roach, P. (1998)]

Pitch adds additional meaning to the meaning conveyed by segmental phonemes. Pitch functions in two significant ways, firstly in (lexical) tone and secondly in intonation. If it is possible to use pitch differences to distinguish the dictionary meaning of words, the function of pitch is therefore known as tone and languages having this feature are called tone languages. These

languages may use different numbers of pitch levels, either two levels (high and low), or three levels (high, mid and low). The tones of tone languages may be analysed in a way comparable to the segmental phonemes, tonemes and allotones. [Collins, B., & Mees, I. M. (2003)] Tonemes are contrastive tones and allotones their variants. [Crystal, D. (2008)]

### 4.2.2 Tone

The unit bearing the tone, e.g. syllable, is called the tone-bearing unit. The study of the forms and uses of tone in a language is referred to as tonology. The study of phonetic properties of tone is sometimes referred to as tonetics in the most general sense. Tonemics deal with contrastive tones, called tonemes. In acoustic phonetics, a tone is a sound with sufficient regularity of vibration to provide sensation of pitch. We may distinguish between pure tone, noise and complex tone. Pure tone is produced as a waveform, its vibration repeats itself at a constant rate, and is usually produced by electronic sources or tuning forks. Noise is a sound which lacks regularity of vibration and therefore a pitch. Complex tone is a result of combination of two or more tones that have different frequencies. Most speech sounds involve complex tones with different periodic patterns. Distinctive feature theories of phonology classify features of tone as high, low and mid. If tones vary in pitch range, they are called contour, kinetic or dynamic tones, the tones of this group may be rising or falling. If tones do not vary in pitch range, they are called static or level tones. [Crystal, D. (2008)]

In many languages a tone of the word is important to the meaning of that word, it is called a lexical tone, e.g. the word *ma* in Beijing Mandarin Chinese can mean *mother* or *horse* depending on the tone. The languages, where word meaning or grammatical categories depend on pitch level are called tone languages. English language is therefore not a tone language. [Crystal, D. (2008)]

As English is not a tone language and to define the function of tone is very difficult. Tone refers to the distinctive pitch level of a syllable. In the study of intonation, a sequence of tones comprises a contour or tone unit. The most prominent tone in a tone unit is called a nuclear tone. Apart from already mentioned simple tones that can be used on one-syllable utterances (level, fall, rise), we may use more complex tones, such as fall rise  $\checkmark$  where the pitch falls and rises again; and rise fall  $\nearrow$  where the pitch rises and falls again. [Roach, P. (1998)]

Tone	Symbol
Level	$\rightarrow$
Falling	7
Rising	7
Fall-rise	\sqrt{7}
Rise-fall	75

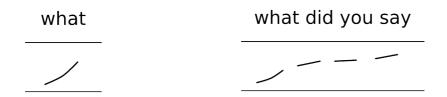
Table 4.2: Tones and their symbols

Tones can be represented by marks placed in front of syllables, e.g. level tone – \_yes, \_no, falling tone – yes, no, rising tone – yes, no. When distinguishing between high level and low level, we use the following signs: \_yes, \_no for high level and \_yes, \_no for low level. In English the tone or pitch level do not influence the meaning of the word as mentioned above. [Roach, P. (1998)]

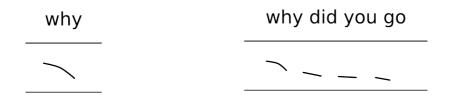
# 4.2.3 Pitch possibilities in the simple tone-unit

Tone is carried by the tonic syllable and intonation is carried by the tone unit. That means that tone is only on one syllable whereas intonation is on each unit of the utterance including unstressed syllables. See examples in illustrations bellow. If the tonic syllable takes the final position in the tone-unit, the tone does not really differ whether the tone unit has one syllable or more. If there is a tail following the tonic syllable, the pitch movement of the tone does not end on the tonic syllable but continues in the tail. If the tail follows a tonic syllable with a rising tone, the following syllable or syllables are moving upwards along with the tonic syllable, e.g. the word <a href="what">what</a> with a rising tone. If <a href="what">what</a> appears with a tail <a href="what">what</a> did you say, the pitch of the syllables in the tail is getting progressively higher. The pitch movement of

the tone begins on the tonic syllable and is completed over the tail. See the diagrams:

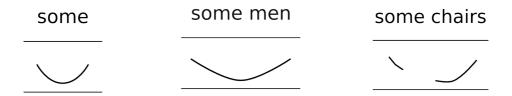


The same rule applies to a falling tone. If the tail follows a tonic syllable with a falling tone, the following syllable or syllables are moving downward along with the tonic syllable, e.g. the word why with the falling tone. If why appears with a tail why did you go, the pitch of the syllables in the tail is getting progressively lower. The pitch movement of the tone begins on the tonic syllable and is completed over the tail. See the diagrams:



The same rules apply to a level tone but it is very rare in English and it will not be examined in this paper. More difficult situation occurs with a tail following a fall-rise tone or rise-fall tone because fall-rise and rise-fall tones can be difficult to recognise when they are extended over the tails.

Their characteristic pitch movements may be broken up or distorted the structure of syllables they occur on, e.g. the word <code>\_some</code>. If we add one syllable, the fall tone occurs on the first syllable and the rising tone on the second syllable. If there are no voiceless medial consonants to cause a break in the voicing, the result is a continuous pitch movement similar to the one-syllable example mentioned above. <code>\_Some</code> ·men. On the other hand if the continuity of the voicing is broken, the pitch pattern would change as follows: <code>\_some</code> ·chairs



We can say that there is a falling tone on the word *some* and rising tone on the word *chairs*. Most English speakers claim that the pitch movement is the same as the examples of fall-rise tones above.

If the tail consists of two or more syllables, the pitch falls on the tonic syllable and remains low until the last stressed syllable of the tail where the pitch rises and keeps rising to the end of the tone unit. If there is no stressed syllable in the tail, the rise comes on the final syllable. See examples:

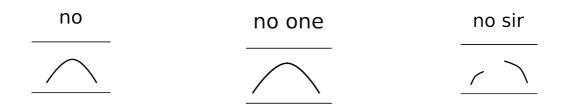
Fall-rise tone with a stressed syllable in the tail:  $I \text{\_} \underline{might} \cdot buy it. I \text{\_} \underline{might}$  have  $\cdot thought \ of \cdot buying it.$ 

I might buy it	I might have thought of buy	ying it

Fall-rise tone without a stressed syllable in the tail: <u>most</u> of them, <u>most</u> of it was for them

most of them	most of it was for them
	<u> </u>

Similar rules apply to a rise-fall tone. In case of one syllable following the tonic syllable, the rising tone occurs on the first syllable and the falling tone on the second syllable. Examples: <u>no</u>, <u>no</u> one <u>no</u> sir



If the tail consists of two or more syllables, the syllable immediately following the tonic syllable is always higher and the following syllables are low. See examples: <u>beautiful</u>, <u>all</u> of them went, <u>thats</u> a nice way to speak to your mother [Roach, P. (1998)]

beaut i ful	all of them went
Thats a nice way	y to speak to your mother
ノ <sup>-</sup>	

# 4.2.4 High and low heads

We asked if it had come

As defined above, head is the part of tone-unit that extends from the first syllable up to, but not including, the tonic syllable. We can find two different pitch possibilities in the head – high head and low head. With the high head, the first and beginning syllable of the head is high in pitch, typically higher than the beginning pitch of the tone on the tonic syllable. On the other hand with the low head, the first and the beginning syllable is low in the pitch, typically lower than the beginning pitch of the tone on the tonic syllable. See examples:

5)			
High head	l: The 'bus was <u>late</u>	and Is 'that the <u>end</u>	
The bus	was late	Is that the end	
_			
Low head	: The ˌbus was <u>ੑlate</u> a	and <i>Is <sub>i</sub>that the <u>end</u></i>	
The bus v	vas late	Is that the end	
		ノ	
		d syllables to continue See examples with high a	ne
High head	l – We 'asked if it had	d <u>come</u>	

Low head - We asked if it had come

We asked if it had come
Even though it is not very common in natural speech, more stressed syllables occur in the head. In case of the high head, stressed syllables step downwards progressively from the first stressed syllable to the beginning of the tone syllable, e.g. <i>The 'rain was 'coming 'down 'fairly hard.</i> On the other hand in case of the low head, there is no upward movement in the head, e.g. <i>Thats not the story you told in court</i>
The rain was co ming down fair ly hard
Thats not the sto ry you told in court
If there is a low head followed by a falling tone, following stressed syllables of the head tend to move upwards towards the beginning pitch of the tone, e.g. , <i>I could have</i> , <i>bought it for</i> , <i>less than a</i> , <i>pound</i> . If there is a high head followed by a rising tone, following stressed syllables of the head tend to move downwards towards the beginning pitch of the tone, e.g. 'Will there be a'nother 'train , <i>lat</i> er [Roach, P. (1998)]
I could have bought it for less than a pound
Will there be a no ther train la ter

#### 4.2.5 Intonation

The study of intonation, also referred to as intonology, is a part of suprasegmental phonology and refers to the distinctive use of patterns of pitch or melody. There is more than one possible point of views on intonation. Firstly the pitch patterns may be described as contours and may be analysed in terms of levels of pitch as pitch phonemes and morphemes. Secondly the patterns are described as tone units or tone groups further analysed as contrasts of nuclear tone and tonicity. The three variables of pitch range, height and direction are generally distinguished. [Crystal, D. (2008)]

Intonation has several functions in language. According to [Crystal, D. (2008)] the most important function of intonation is a signal of grammatical structure. The role of grammatical structure is similar to punctuation in writing but involving far more contrast. Intonation may mark the sentence, clause and other boundaries, and the contrast between some grammatical structures, e.g. questions and statements. Intonation is also used to communicate personal attitude such as sarcasm, puzzlement, anger, etc. by contrast in pitch, along with other prosodic and paralinguistic features.

According to [Collins, B., & Mees, I. M. (2003)] intonation has four important linguistic functions: focusing function, attitudinal function, grammatical function and discourse function.

Let me start with the focusing function. Nucleus or tonic syllable is typically placed at the end of tone-unit. If the nucleus or tonic syllable is placed elsewhere, the speaker highlights its importance by using higher pitch in that particular unit, e.g.

Sophie adored her gorgeous new <u>mo</u>torbike. (neutral)

Sophie adored her gorgeous <u>new</u> motorbike. (Not the old one)

Sophie adored her <u>gorgeous</u> new motorbike. (Not the horrid one)

Sophie adored <u>her</u> gorgeous new motorbike. (Not anybody else's motorbike)

Sophie <u>adored</u> her gorgeous new motorbike. (She did not hate it)

<u>Sophie</u> adored her gorgeous new motorbike. (It was Sophie – not Delia) [Collins, B., & Mees, I. M. (2003)]

[Roach, P. (1998)] calls this function in intonation the accentual function. The speaker may give prominence to a particular syllable by placing a stress on it.

Attitudinal function is one of the most important intonation functions. It allows the speakers to express their attitude on the top of the bare semantic meaning. From this point of view written texts are deficient to the spoken word. Due to the attitudinal function there are various interpretations of written texts. Fall-rise and rise-fall tones are attitudinally marked. We may link a fall-rise tone with doubt, correction, reservation, appealing to the listener to consider whereas rise-fall tone may be linked with impression, arrogance, confidence, self-satisfaction, mocking and putting down. [Collins, B., & Mees, I. M. (2003)]

The third function of intonation is the grammatical function. Speakers may distinguish some syntactic relationships such as clause or phrase boundaries and question vs. statement. It is possible to cover a question in a grammatical statement and vice versa, e.g. *You're "going to Cantenbury. You're "going to Cantenbury?* And "Wouldn't that be ex pensive? "Wouldn't that be wonderful! [Collins, B., & Mees, I. M. (2003)]

The last important function of intonation is the discourse function. It deals with conversation between two or more people and their speaker/listener relationship, signals for turn-taking and new vs. old information. There are two types of nuclear tones that suggest different distribution. Falling tones – high fall, low fall and rise-fall suggest either finality or unloading of information. Rising tones – high rise, low rise and fall-rise suggest either non-finality or information being sought or anticipated. We may broadly categorise sentences into e.g. statements, commands, yes-no questions, wh-questions and non-final clauses. [Collins, B., & Mees, I. M. (2003)] introduce an example on wh-questions where the choice between

rising or falling intonation can make a difference between distant and businesslike and friendly colouring. [Collins, B., & Mees, I. M. (2003)]

Analysing intonation is a very difficult process and the results may differ from speaker to speaker. Each speaker uses different ways to express emotions or attitudes. Any sentence may be pronounced in countless ways and getting reliable results may be very tricky. [Roach, P. (1998)] claims that the best way to analyse intonation is not by asking speakers to pronounce sentences with different emotions but to analyse natural speech. Roach also emphasizes the importance of not overlooking possible variations of speech such as loudness, speed, voice qualities, different pitch movements and keys, paralinguistic suprasegmental aspects such as facial expressions, gestures and body movements. [Roach, P. (1998)] isolates three distinct types of suprasegmental variables: sequential, prosodic and paralinguistic.

# 5 Methodology

#### 5.1 Method

I am using orthographic transcription and not phonetic or phonemic transcription in the practical part due to the focus on suprasegmental elements where IPA is not needed. In the basic transcription and in the analysis of sentence stress I am using standard punctuation rules. In subsequent analyses (tone units and pauses; and intonation) I am not using punctuation The reason for this is that intonation and stress are vocal equivalents of written punctuation, so that when these are transcribed it would be unnecessary or even confusing to include punctuation [Roach, P. (1998)].

# 5.2 Recordings

I have chosen four stylistically different types of recordings; two monologues from which one is a formal political speech and one a university lecture and two dialogues of which one is an informal conversation between adults, a traveller and a questioner; and the other between father and a child. The first three mentioned are downloaded from the internet and the last one was recorded by my British colleague. All recordings are enclosed on a CD at the end of my thesis.

#### 5.3 Process

After collecting the recordings I transcribed all the speeches given. Some of them were already transcribed alongside with the recording but in each of these transcriptions, I found mistakes that I later corrected. Then I created tables divided into three sections. The first section in the first line stands for the transcription divided into syllables. The second section in the second line determines whether the syllable above is stressed or unstressed. From this section rhythm can also be observable due to stressed and unstressed syllables taking turns. Stressed syllables are represented by the following symbol \_\_\_ and unstressed syllables are represented by the symbol •. The third section in the third line, intonation movements are marked by using arrows for each syllable to mark rise, fall, level, rise-fall and fall-rise. I

used a program which can identify intonation and its pitch, intensity a spectrogram, called Praat. [Praat][Praat2] The intonation in Praat is shown by a blue line that determines whether the level of intonation is a rise, fall, level, rise-fall or fall-rise. I indicated the levels with symbols from the theoretical part  $\nearrow$ ,  $\searrow$ ,  $\rightarrow$ ,  $\nearrow$  instead which I have chosen for the sake of simplicity and the possibility of drawing comparisons between the recordings. The program also helped me verify my observations concerning stressed and unstressed syllables.

#### 5.4 Evaluation

First I analysed what could be recognised easily from the table either by my own perception or by observable features. This analysis appears right under the tables for each recording individually and includes stress, pauses and intonation.

# 5.5 Analysis

After my subjective evaluation I counted each unit I was observing (stressed and unstressed syllables; rise, fall, level, rise-fall or fall-rise intonation) and put the result into a tables with precise amount of observed units. This table helped me to create percentage tables which are the objective evaluation. From this table I created a chart or illustration to show the results more clearly then in numbers. I divided the result into two parts: firstly by looking at the problematic altogether and compared different kinds of tones from all recordings and secondly by looking at the recordings individually and evaluating their specific features from the point of view of stress and rhythm and from the point of intonation.

# 6 Data analysis and discussion

# 6.1 Analysis of individual speech samples

# 6.1.1 Recording 1

The first recording is a formal monologue, a political speech from the former century. The speech of the British king George VI.[Rec1] Was broadcast on 3<sup>rd</sup> September 1939 declaring war with Germany. The target audience are peoples of Great Britain and all its colonies which can include millions of recipients. The topic being very serious made the king speaks very slowly in order to be understood well and due to his speech disposition.

# Transcription:

In this grave hour, perhaps the most fateful in our history, I send to every household of my peoples, both at home and overseas, this message, spoken with the same depth of feeling for each one of you as if I were able to cross your threshold and speak to you myself. For the second time in the lives of most of us, we are at war.

In	this	grave	hour,	per	haps	the	most	fate
		_	_		_			_
7	7	7 7	7	7	7	7	<b>→</b>	<b>→</b>
ful	in	our	his	to	ry,	I	send	to
	•			•	•			•
$\rightarrow$	$\rightarrow$	$\rightarrow$	7	$\rightarrow$	7	7	7	$\rightarrow$
ev	ery	house	hold	of	my	peo	ples,	both
_	•	_	•	•	•	_	•	
7	7	$\rightarrow$	7	$\rightarrow$	$\rightarrow$	7	$\rightarrow$	7
at	home	and	ov	er	seas,	this	mes	sage,
	_		•		_	•	_	•
$\rightarrow$	7	$\rightarrow$	$\rightarrow$	$\rightarrow$	7	$\rightarrow$	$\rightarrow$	<b>&gt;</b>

spo	ken	with	the	same	depth	of	fee	ling
_	•	•		_			_	•
7	7	<b>→</b>	<b>→</b>	<b>→</b>	7	<b>→</b>	<b>→</b>	7
for	each	one	of	you	as	if	I	were
	•		•	•	•			•
$\rightarrow$	7	7	$\rightarrow$	7	$\rightarrow$	7	<b>→</b>	<b>→</b>
a	ble	to	cross	your	thres	hold	and	speak
_	•	•	_				•	_
7	$\rightarrow$	$\rightarrow$	$\rightarrow$	7	75	7	$\rightarrow$	7
to	you	my	self.	For	the	sec	ond	time
•	_	•	_	•		_	•	_
7	$\rightarrow$	$\rightarrow$	7	7	7	7	$\rightarrow$	$\rightarrow$
in	the	lives	of	most	of	us,	we	are
•	•	_	•		•			_
7	7	フム	$\rightarrow$	7	7	7	7	7
at	war.							
•								
$\rightarrow$	75							

#### Stress:

The speaker uses many stressed words and comparatively few unstressed words. This might be in order to highlight the importance of single words, due to his concentration or the attempt to demonstrate and perhaps invoke deep feelings due to the seriousness of the topic, e.g. we are at war. Most of the words in this sample are monosyllabic or two-syllable words. It might be due to the speaker's abilities since the speech was written particularly for him. As the speaker tends to speak very slowly, more word are stressed as opposed to faster type of speech. The slower the speaker speaks, the more he divides the speech in shorter units therefore he has time to put stress on more syllables.

#### Pauses:

The speaker uses pauses in unexpected places that do not correspond with syntactical clause/phrase borders, e.g.: In this grave || hour; as if I were able to cross || you threshold || and speak to you || myself. These particular examples of have no syntactic foundation. They may be caused by the speaker's speech disability. The tone units are mostly very short, frequent and have long pauses between them.

#### Intonation:

The speech is divided in short tone-units which usually end with a rising tone as the speaker knows he will keep talking.

# 6.1.2 Recording 2

The second recording is an informal monologue, a lecture as a part of MIT (Massachusetts Institute of Technology)[Rec2] e-learning course given by Aaron Brown that was published on 5<sup>th</sup> June 2015. The target audience are primarily the students in the class and secondary any people with access to internet. At the time of writing this paper, there were about 23 000 people who have watched and heard the lecture. The speaker has very gripping voice which makes the lecture interesting for the listener and easy to learn.

# Transcription

But let's go back to the early eighteen hundreds. The way poker was played was with poker checks. Poker checks were markers. Uhm, often they were made out of clay. People would make little discs out of clay, and they would put a thumb print in it. They would put some identifiable marker. The key thing is that they were identifiable to an individual. You were playing poker with money you created yourself.

But	let's	go	back	to	the	ear	ly	eigh	teen
•		_	_		•	_		_	
<b>→</b>	7	7	7	7	<b>→</b>	<b>→</b>	<b>→</b>	<b>→</b>	7
hun	dreds.	The	way	po	ker	was	played	was	with
		•			•				
7	7	<b>→</b>	7	7	<b>→</b>	7	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	7	7
ро	ker	checks.	Po	ker	checks	were	mar	kers.	Uhm,
		_	_		_		_		
7	$\rightarrow$	<b>→</b>	<b>→</b>	<b>→</b>	7	7	7	7	<b>→</b>
of	ten	they	were	made	out	of	clay.	Peo	ple
		•	•	_	•		_	_	
7	$\rightarrow$	7	7	<b>→</b>	<b>→</b>	$\rightarrow$	7	7	<b>→</b>
would	make	li	ttle	discs	out	of	clay	and	they
•		_	•	_	•		_		
$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	7	<b>→</b>	$\rightarrow$	7	$\rightarrow$	$\rightarrow$
would	put	a	thumb	print	in	it.	They	would	put
		•	_	_	•		•	•	
$\rightarrow$	$\rightarrow$	$\rightarrow$	<b>→</b>	7	7	7	<b>→</b>	$\rightarrow$	$\rightarrow$
some	i	den	ti	fi	a	ble	mar	ker.	The
_	•	•	•	_	•	•		•	
$\rightarrow$	7	7	<b>→</b>	75	<b>→</b>	$\rightarrow$	7	7	$\rightarrow$
key	thing	is	that	they	were	i	den	ti	fi
	_	•	•	•	•		•	•	_
75	7 5	$\rightarrow$	$\rightarrow$	<b>→</b>	<b>→</b>	7	75	$\rightarrow$	$\rightarrow$
a	ble	to	an	in	di	vi	du	al.	You
•	·	•				_	•	•	
$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	7	7	7	7
were	play	ing	po	ker	with	mo	ney	you	cre
•	_	•	_	•	•	_	•	•	
$\rightarrow$	7	75	7	7	7 🗸	7	7	7	7
a	ted	your	self.						
_		_	•						
$\rightarrow$	7	7	7						

The professor is a very experienced speaker. He plays with his voice and stresses new or important information. He uses repetition, e.g. *The way poker was played was with* **poker checks. Poker checks** *were markers.* 

#### Stress:

The speaker puts stress on new information, e.g. *They were made out of* **clay**. The stress can also be found in words that he wants to point out, e.g. *The* **key** *thing is...* 

#### Pauses:

The speaker would be capable of constructing long sentences but he chooses to form short ones to make the text more memorable and easy to take notes. He makes pauses on some places to give the students time to write them down. In the section I am analysing, the speaker uses the parasite<sup>2</sup> sound uhm only once, therefore minutes before that he used it multiple times in a very short period of time. This might be due to the level of knowledge about the topic. In the part I am analysing he sounds very confident about what he is saying. Minutes before that he might have not known his information perfectly.

#### Intonation:

In most of the text, we can see that his intonation is almost regularly falling and rising, e.g. You were playing poker with money you created yourself.

#### 2Discourse markers

Discourse markers, parasite word or filler words all represent the same phenomenon. They all do not bring extra information to the speech and the speaker usually uses them to fill in the pauses or gain more time to think about what he or she wants to say next. Some of discourse markers can be used to start to finish or change the topic of a conversation. Discourse markers do not always have meaning that can be found in a dictionary. They can sometimes be represented para-linguistically, e.g. nod of a head or sounds such as *hm, mm, eh, ee* or linguistically, e.g. *right, OK, you see, kind of, so, anyway* etc. [Cambridge Dictionary]

# 6.1.3 Recording 3

The third recording[Rec3] is an informal dialogue between a man who has hitch-hiked in Australia and a questioner or possibly a reporter that took place on 14<sup>th</sup> August 2007, which was made for purposes of English education. The primary target audience are the people taking part in the conversation itself and secondly all non-native English speakers who wish to improve their English with access to internet which can be about thousands of them.

## Transcription

A: Where did you go in Australia?

B: I was living mostly in Melbourne. Ehm took a few months off as well to travel the whole country.

A: Right. OK. Did you hitch-hike at all?

B: Yes, that was mostly how I got around.

A: Did you have good luck or was any trouble?

B: 'Fantastic luck. Two days out of six months of hitch-hiking that I didn't get a lift. So very friendly people there.

A: That is pretty good luck because I've heard stories of hitch-hikers dying of starvation on the side of the road.

Where	did	you	'go	in	Aus	'tra	li	a?	I
_			_		•	_	•	•	•
$\rightarrow$	<b>→</b>	<b>→</b>	<b>→</b>	<b>→</b>	$\rightarrow$	7	7	7	$\rightarrow$
was	'li	ving	most	ly	in	'Mel	bourne	ehm	'took
			•		•	_	•		_
$\rightarrow$	7	7	<b>→</b>	<b>→</b>	<b>→</b>	7	7	<b>√</b> 7	7
a	few	months	off	as	well	to	'tra	vel	the
•		_	_	•	•	•	_	•	•
$\rightarrow$	7	<b>→</b>	7	<b>→</b>	<b>→</b>	7	7	7	$\rightarrow$

whole	'count	ry	Right	О	K	Did	you	'hitch	hike
•	_				•			_	
$\rightarrow$	<b>→</b>	<b>→</b>	\ <i>7</i>	7	7	<b>→</b>	<b>→</b>	7	7
at	all	Yes	that	was	most	ly	how	I	'got
•		_	•		•	•	•	•	
7	75	75	$\rightarrow$	$\rightarrow$	$\rightarrow$	7	$\rightarrow$	$\rightarrow$	<b>→</b>
a	'round	Did	you	'have	'good	'luck	or	was	a
•		•	•					•	
$\rightarrow$	7	$\rightarrow$	7	7	7	7	7	7	7
ny	'trou	ble?	Fan	tas	tic	luck.	Two	'days	out
•	_	•			•			•	
7	7	7	7	7	7	7	7	$\rightarrow$	7
of	six	'months	of	'hitch	hi	king	that	I	di
•		•	•		•			•	
$\rightarrow$	$\rightarrow$	<b>\</b> 2	$\rightarrow$	7	7	7	$\rightarrow$	7	$\rightarrow$
dn't	get	a	'lift.	So	ve	ry	friend	ly	'peo
•			_		_		•	•	_
$\rightarrow$	<b>→</b>	$\rightarrow$	$\rightarrow$	7	75	7	$\rightarrow$	7	<b>→</b>
ple	there.	That's	pre	tty	good	'luck	be	'cause	I've
•	•	•	•	•	•			_	
7	7	7	$\rightarrow$	<b>\sqrt</b>	7 5	7	7	7	7
'heard	'sto	ries	of	'hitch	hi	kers	'dy	ing	of
-	_	•	•	_	•		_	•	
K	7	7	7	7	7	7	$\rightarrow$	7	<b>→</b>
star	'va	tion	on	the	'side	of	the	'road	
•	_	•	•	•	_	•	•	_	
<b>'</b>	7	7	$\rightarrow$	<b>→</b>	7	<b>→</b>	<b>→</b>	75	

There is some background noise which makes the recording harder to analyse. Here, as opposed to the former monologues, there are two participants of the conversation and sometimes they speak at the same time. I was unable to separate two voices at the same time so I analysed only the text that could be heard. Speaker B sometimes does not build grammatically correct sentences, e.g. *Two days out of six months of hitch-*

hiking that I didn't get a lift. This can be influenced by the will to answer as

quickly as possible or the informal style of speech.

Stress:

Speaker A sometimes puts stress on the first word of a question which

can be due to attracting attention to a new question or pinpointing the word

he is expecting an answer to, e.g. Where did you go in Australia. The word

where is stressed because the speaker A wants to know where exactly

speaker B was, e.g. Where did you go in Australia? Speaker B stresses the

important information, e.g. **Two** days out of **six** months of hitch-hiking that I

didn't get a lift. Due to faster speech there are more words in the tone level

that are unstressed. The speech is divided in large tone-units and the

speaker does not have time to put stress on more words.

Pauses:

Pauses in this text are usually filled with parasite words such as: uhm,

right, ok, so. The turn-taking in this sample is very fast, sometimes both

speakers speak at the same time.

Intonation:

This recording includes many multi-syllable word, even up to four-

syllable words. Most syllables in these long words have fall tone.

6.1.4 **Recording 4** 

The fourth recording is an informal dialogue between a father and a

daughter. The recording was made by my British colleague David Pierce and

his 7-year-old daughter Sophie who is raised bilingually. The target audience

are only the participants of the conversation that was recorded for purposes

of this paper so the audience can also be anybody who has access to it.

Transcription:

Father: What did you do tonight then?

35

Daughter: We was...

F: We were

D: In the shop...in the shop

F: oh...well you went shopping. Did you buy me some peanuts?

D: eh eh, we was not where it's peanuts

F: hh You didn't look?

D: yeah, where it's T-shirts and, and pyjamas

F: Where there were pyjamas, ok.

What	did	you	do	to	night	then?	We	was	We
•	_		_		_				
7	<b>フ</b> '>	7	7	<b>→</b>	7	<b>\</b> 2	$\rightarrow$	$\rightarrow$	7
were	In	the	shop	in	the	shop.	Oh	well	you
	•					_			•
7	$\rightarrow$	$\rightarrow$	75	<b>→</b>	$\rightarrow$	7	75	7	7
went	shop	ping.	Yeah	Did	you	buy	me	some	pea
_	_					_			
7	$\rightarrow$	7	7	7	<b>→</b>	7	<b>→</b>	75	7
nuts?	Eh	<u>eh</u>	we	was	not	where	it's	pea	nuts.
						_	•	_	•
>	75	1	$\rightarrow$	<b>→</b>	7	$\rightarrow$	$\rightarrow$	7	7
hh	You	di	dn't	look?	Yeah,	where	it's	T-	shirts
•	•							_	•
75	>	75	7	75	7	75	$\rightarrow$	7	K
and	and	py	ja	mas.	Well	where	there	were	py
								_	•
$\rightarrow$	>	77	75	7	<b>→</b>	7	75	75	<b>→</b>
ja	mas,	О	K						
_		_							
$\rightarrow$	$\rightarrow$	1	7						

The father from the recording is an English teacher which can be recognised by him correcting his daughter in the sample, e.g. D: We was...F: We were; D: where it's T-shirts and, and pyjamas, F: Where there were

*pyjamas.* The speech is quite slow due to the girl's speech abilities and her father's will for her to understand him.

#### Stress:

He speaks slowly and stresses important words, e.g.: What **did** you do tonight then? When he is correcting her, he is stressing the word he is correcting, e.g. we **were.** The girl used repetition in the place while both of the were speaking so she would be understood.

#### Pauses:

Pauses in this recording are usually filled with parasite words or laughter, e.g. *oh, eh eh, hh.* We can also observe a few silent pauses.

#### Intonation

Intonation of the girl is very interesting because she uses many fall-rises and rise-falls, e.g. **where** *it's T-shirts and and* **pyjamas**. In my opinion this might be why adults think children speech is so cute.

# 6.2 Comparative analysis of the speech samples

An overview of the numbers of stressed and unstressed syllables across the speech samples is shown in Table 6.1.

Syllables	sum	stressed (%)	unstressed (%)
Recording 1	83	31 (37)	52 (63)
Recording 2	104	34 (33)	70 (67)
Recording 3	119	33 (28)	86 (72)
Recording 4	64	20 (31)	44 (69)

*Table 6.1: Number and percentage of stressed and unstressed units* 

The largest number of stressed syllables appears in the first recording and least stressed syllables in the third recording. As a contrast to that the most unstressed syllables appear in the third recording and the least in the first recording. This table helped to create the chart below.

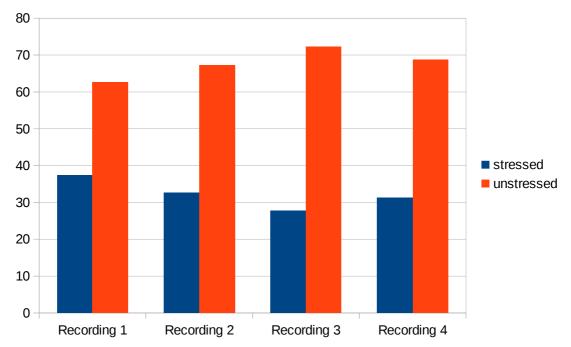


Illustration 6.1: Percentage of occurrences of stressed and unstressed syllables

This chart illustrates the ratio of observed units used in the recordings. In this section I will discuss only the compact point of view.

The common feature for all recordings is that there are more unstressed syllables than stressed syllables and the differences between individual records are not that great.

The most stressed syllables appear in the first recording and least stressed syllables in the third recording. As a contrast to that the most unstressed syllables appear in the third recording and the least in the first recording. The first recording is very slow and divided into small tone-units which means the speaker has time to put stress on more syllables than any other speaker in all remaining recordings. The third recording is very fast and divided into large tone-units which means the speaker does not have tome to put stress on more syllables.

#### Tone and intonation

A comparative analysis of the intonation patterns in the four speech samples is shown in Table 6.2.

Intonation type	rise (%)	fall (%)	level (%)	rise-fall (%)	fall-rise (%)
Recording 1	30 (36)	12 (14)	37 (45)	4 (5)	0
Recording 2	15 (14)	31 (30)	51 (49)	6 (6)	1 (1)
Recording 3	13 (11)	50 (42)	48 (40)	5 (4)	3 (3)
Recording 4	10 (16)	20 (31)	20 (31)	13 (20)	1 (2)

*Table 6.2: Number and percentage of observed units* 

The results reveal that level intonation is most common and mostly used in all four recording samples. The least used tone is fall-rise intonation.

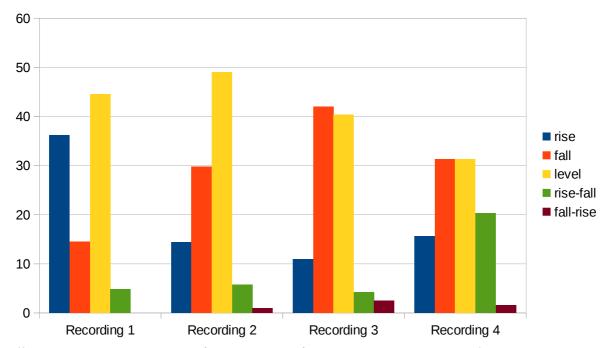


Illustration 6.2: Percentage of occurrences of intonation types per recording

Illustration 6.2 shows precisely the ratio of observed units used in the recordings. In this section I will discuss the results from two points of view. I will discuss the recordings separately and together.

1. If I look at the intonation from all recordings altogether, the results are following:

#### Rise:

Intonational rise was most often found in the first recording (the political speech) and least often in the third recording (informal conversation between two adults). I can see two reasons for this finding. First, the first recording contains most stressed syllables of all recordings and the third recording contains least stressed syllables. From this point of view, it seems that a higher number of stressed syllables co-occurs with more rise tones, whereas a higher number of unstressed syllables results in fewer rise tones. As for the second reason, the first recording is divided in smaller tone-units which are often ended with a rising tone in anticipation of more text coming whilst in the third recording there are longer tone-units that are more compact and often ended with a falling tone.

#### Fall:

Intonational fall was most often found it the third recording in the conversation between two adults and least often found in the first recording in the political speech. I came up with two possible explenations. The first explanation to explanation given for the rise tone above. The same interpretation as to the rise tone can be applied here. The first recording is divided in smaller tone-units which often end with a rising tone in anticipation of more text coming whilst in the second recording there are longer tone-units that are more compact and often end with a falling tone. The second reason might be a number of multi-syllable words used in both recordings. In the first recording there are mostly one and two-syllable words and in the third recording there are up to four-syllable words. In these longer words there is higher occurrence of a falling tone.

#### Level:

Level Intonation is most often found in the second recording in a university lecture and least often found in the fourth recording in conversation between a father and a child. This might be because of speed of the conversation. The recording of the university lecture is 24 seconds long and the conversation between the father and his child is 39 seconds long. The professor manages to say 104 syllables in his time while the family say 64 syllables in longer time. This can be due to turn-taking which makes pauses longer and due to the audience. In the professor's case, his audience are grown-up students who are able to perceive new information quickly. In the father's case, his audience was his little daughter who herself speaks slowly and the father speaks slowly as well to be understood. Therefore the faster the speech is the more level sounds can be found.

#### Rise-fall

Intonational rise-fall is most often found in the fourth recording in the conversation between father and a child and least often found in the third recording in conversation between two adults. This is a good example that illustrates that adults do not use as much voice change as children and people who talk to them. Also the dialogue between two adults is faster than the dialogue between the father and the child. The two adults say 119 syllables in 28 seconds and the family say 64 in 39 seconds. Therefore the combination of speed of speech and the target audience seems to influence the use of rise-fall tones in speech.

# Fall-rise

Intonational fall-rise is the least often tone used in all samples. That is the only relevant information to this paper and it will not be further discussed due to its little occurrence.

## 2. If I look at the recordings one by one:

Recording 1 (political speech)

The mostly used tone is level and the fall-rise tone does not appear here at all. The level tone mostly appears on one-syllable unstressed words. There is a large difference in occurrence between rise and fall tones which might be due to short tone-units that tend to end with a rising tone. As I have mentioned before, it seems that a higher number of stressed syllables co-occurs with more rise tones, whereas a higher number of unstressed syllables results in fewer rise tones. The falling tone appears either on multi-syllable words of function words. The rise-fall always appears on a stressed syllable.

# Recording 2 (university lecture)

The mostly used tone is level. This recording shows the highest occurrence of level tone among all recordings. This might be due to the fast speech. As I have already stated, the faster the speech is, the more level tones can be found. The occurrence of rise and fall tones is average as compared to the other recordings. An information worth mentioning is that most rise tones are followed by a fall tone which is unique among these recordings. I think it is due to the style of the recording. It is a university lecture which is supposed to be interesting and changing voice up and down can help that. Rise-fall tone appears half on stressed words and half on unstressed words. There is only one fall-rise syllable which is stressed and contains a triphthong.

### Recording 3 (dialogue between adults)

The mostly used tone is fall. That is unique among all these recordings. This recording has the largest number of multi-syllable words and in them, most syllables are fall tones. There is not large difference between the number of fall and level tones. Level tone is on the second place which is probably caused by fast speech. As in the first recording, the more stressed syllables there are, the less rise tones can be found and the more unstressed syllables there are, the less rise tone can be found. There are five rise-fall

tones, three of them are stressed and two unstressed. There is also the largest number of fall-rise tones which is three. Two of them are on parasitic words and one is at the end of a tone-unit.

## Recording 4 (dialogue between a father and a child)

The mostly used tones are level and fall which have the same amount of appearances in this recording Level tone usually appears on grammar words or in multi-syllable words. Fall tone usually appears on stressed words or at the end of tone units. There is the highest occurrence of rise-fall tones which is unique among these recordings. As I have stated before children use this tone often and adult speaking to them tend to use it to. It might also be due to the slow speech because the speakers have more time to pronounce the word. My personal theory is that children using rise-fall tone might be the reason why adults think children speech is so cute. There is only one fall-rise rise tone which appears at the end of a sentence.

# 7 Conclusion

This thesis dealt with suprasegmental aspects of English in natural speech. The objective was to compare different samples of natural speech regarding the suprasegmental aspects. I observed intonation, stress, pauses, and tone from four given recordings and proved following:

The common features for all of them proved to be (that) the unstressed syllables always exceed the stressed syllables approximately by the ratio 2:1. Speaking slowly seems to influence both the stress and the intonation. There is the difference between faster and slower speech which results in more level tones with the former and less level tones with the latter. The most common type of intonation is a level, especially on unstressed syllables whereas the least common type is a fall-rise which hardly occurred in the samples. If the speech is slower, it is divided into more tone-units which results in more stressed syllables. I discovered that a higher number of stressed syllables co-occurs with more rise tones, whereas a higher number of unstressed syllables results in fewer rise tones. There is the difference between faster and slower speech which seems to result in more level tones with the former and less level tones with the latter. Fall intonation is highly used in multi-syllable words.

The diverse features proved to be different percentage of each observed unit in all stylistic genres, none were the same. Rise intonation was most common for slow political speech whilst least common for fast informal dialogue. Rise-fall intonation was in comparison to the other recordings most used in the dialogue between the father and a child.

Every single stylistic genre shows that it has impact on suprasegmental aspects because none of them were the same. It would be very interesting to analyse more stylistic genres or more samples of the genres used to objectively confirm my interpretations.

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## Resumé v českém jazyce

Tato bakalářská práce bude řešit suprasegmentální aspekty anglického jazyka v přirozené řeči. Účel této práce je zanalyzovat a porovnat různé vzorky přirozené řeči s ohledem na suprasegmentální aspekty a jejich spojitost s různými komunikačními funkcemi. V teoretické části budou popsány termíny jako přízvuk, intonace, rytmus, tón a výška. Budou diskutovány poruchy komunikace, např. parazirní slova a opakování. V praktické části budou využity teoretické znalosti k analýze zvolených nahrávek z různých odvětví řeči, jako jsou politický proslov, konverzace mezi rodičem a dítětem, konverzace mezi dvěma dospělými a univerzitní přednáška. Bude poskytnuta transkipce nahrávek, analýza a interpretace.

Klíčová slova: suprasegmentální fonologie, přízvuk, intonace, výška, tón, rytmus, výrok, jednotka tónu, části jednootky tónu, slabika, foném, stoupání, klesání, level, stoupání-klesání, klesání-stoupání