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The Role of Affixation in the English Pronunciation

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I hereby declare that this bachelor thesis is completely my own work and that no other sources were used in the preparation of the thesis than those listed on the works cited page.

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Abstract

The aim of this work is to explore and describe the relationship between the processes of affixation and the changes it triggers in the sound system of the English language. The theoretical part presents a classification of inflectional and selected derivational affixes and it scrutinizes the impact they exert on word stress placement and related aspects of pronunciation. The practical part contains a research the goal of which was to collect vocabulary from general English textbooks and to analyse the amassed data using the apparatus established in the theoretical part. The principal objective was to observe to what extent the investigated phenomenon is truly reflected in basic vocabulary and also to suggest which particular sections of the classification system could be beneficially employed in teaching correct pronunciation of English vocabulary.

Key words

affixation, prefix, suffix, word stress placement

Anotace

Cílem této práce je prozkoumat a popsat vztah mezi procesy afixace a změnami, které tyto procesy přinášejí po zvukové stránce anglického jazyka. Teoretická část přednáší klasifikaci inflexních a vybraných derivačních afixů a podrobuje zkoumání jaký dopad mají na umístění slovního přízvuku a na další aspekty výslovnosti. Praktická část zahrnuje výzkum, jehož cílem bylo nashromáždit slovní zásobu z běžných učebnic anglického jazyka a tento vzorek analyzovat aparátem předloženým v teoretické části. Hlavním záměrem bylo zjistit, v jakém rozsahu je zkoumaný jev skutečně reflektován v běžné slovní zásobě a také jestli by nějaké konkrétní oblasti z této klasifikace mohly být výhodně použity při vyučování správné výslovnosti anglických slov.

Klíčová slova

afixace, předpona, přípona, umístění slovního přízvuku

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1 Introduction

There is a universal tendency in teaching English to regard the study of pronunciation as subsidiary and it is often not a subject of systematic teaching, in contrast with e.g. grammar (Gimson 315). The reluctance to focus on teaching pronunciation is perhaps understandable, since English ranks among languages the pronunciation of which is not consistent, for instance, there is no one-to-one correspondence between the written form and the spoken form of words, consequently it is exceedingly difficult to establish a compact system of several patterns that would provide practical guidance on the pronunciation of English. However, studies of Gimson, Fudge, Bauer, Poldauf and others have shown that there are traceable principles that govern the pronunciation of words which are created through the process of affixation and especially the subject of word stress placement is an element of vital importance in the studies of these authors. This thesis is a study of the integration of word formation and pronunciation, in other words, it links together the two linguistic branches of lexicology and phonetics.

A number of aspects of pronunciation are taken into consideration in this thesis, but particular emphasis is put on the placement of primary stress. Not only is correct stress placement a desirable sign of an excellent command of English, it also distinctively increases the intelligibility of one's speech. Since English is a stress-timed language, comprehensibility of speech largely depends on accurate word stress placement (Fudge 4). Furthermore, exact stress placement may be even more important for intelligibility than correct pronunciation of individual phonemes (Field 403). The problem of accurate stress placement is a particularly demanding one for Czech learners, considering Czech is a language where stress is as a rule always placed on the first syllable of a word (Gimson 235).

The fact that affixes influence pronunciation in a predictable fashion could consequently provide a useful tool for learning correct pronunciation during vocabulary acquisition, e.g. learners would be able to estimate where stress is placed in words which contain particular affixes. Nonetheless, it is presumably true that only patterns of some affixes are regular enough to be applied in an efficient way and conversely there are affixes that are probably highly regular, but these may be not frequently used in ordinary speech. The essential purpose of this thesis is to offer a basic insight into this problem and to explore to

what extent this close relationship between word formation and pronunciation could be profitably exploited in teaching. The theoretical part of the thesis presents a system of existing classifications of affixes according to the impact they exert on word stress placement and this categorization constitutes an apparatus for an analysis of affixes encountered in selected textbooks of English. The analysis forms an essential core of the practical part and the principal aim is to determine to what degree the rules for stress placement of affixed words are reflected in authentic vocabulary which learners of English would be confronted with. A major priority is assigned to an observation on which affixes are the most frequent and as a result which patterns are therefore the most valuable ones. Furthermore, functionality of the algorithms devised for affixes is put to an examination and it is demonstrated that certain difficulties are encountered in the process of analysing. The levels of proficiency of the selected textbooks range from elementary to intermediate level, so that the collected data would display instances of commonly used affixes.

2 Organization

The following sections present a brief introductory information about those areas of phonetics and lexicology that are relevant to the topic of this thesis. The focal point of the thesis is the fact that affixes can determine the arrangement of word stress. Several algorithms could be devised and affixes can be classified into categories and this information would consequently provide guidance as to where stress is placed in words. On the whole, it is a highly complicated subject, which could not possibly be covered within the scope of this thesis in its full depth. The actual intention is to explore the subject and create a simplified and comprehensible yet functional system that would be sufficient for non-expert use.

On the basis of information acquired in professional studies on this phenomenon, affixes are classified into categories according to what impact they exert on word stress placement if they are attached, e.g. one category is constituted of suffixes which cause primary stress to be shifted from the stem to the suffix. Suffixes and prefixes are treated separately, since the effect of their being affixed is quite different.

The apparatus which is thus established in the theoretical part is then employed to analyse authentic vocabulary collected from various English textbooks. The instances of the affixes that were encountered in the textbooks are organized in tables with information about

their pronunciation, a number of examples etc. The rules provided for affixes are put to test, especially their validity and practicality.

2.1 Phonetics

Three levels of word stress are usually recognized in English (Roach 87). According to what degree of prominence syllables exhibit, they can be referred to as receiving primary stress, secondary stress or no stress (Roach 87). As can be expected, primary stress is the most important of the three (Gimson 238) and it is therefore the central point of focus of this thesis. Furthermore, secondary stress is also marginally discussed.

Word stress placement in English is an immensely complicated subject. Although primary stress is fixed on a specific syllable of any individual word, it is not fixed in the sense that there is not one universal rule that would determine where the stress falls in a sequence of syllables that form a word (Gimson 235), for illustration e.g. *cre'ation* or *'break* are as a rule stressed as indicated and not e.g. *'creation*, which is in sharp contrast with e.g. Czech, where primary stress always falls on the first syllable of any word (Gimson 235).

It should be emphasized that this work is concerned only with lexical stress of words, that is with pronunciation of words said in isolation. Apart from word stress placement, pronunciation of affixes is included as well.

2.2 Lexicology

Word formation processes serve as a basis for a significant part of this thesis. The branch of word formation can be subdivided into categories of derivation and compounding (Bauer 33). Compounding refers to expressions which were created by joining two or more already existing English words together to form a new lexical unit (Bauer 33). Derivation is performed through the technique of affixation (Bauer 33). English affixes can be further divided into two groups: suffixes and prefixes. The term derivation also includes a phenomenon labeled conversion, which can be described as zero-derivation (Bauer 32), but conversion is not one of the concerns of this work. Apart from those already mentioned, inflection is also a manifestation of affixation (Bauer 33). The impact of processes of inflection on word stress placement is quite an uncomplicated subject in comparison with the complexity of the relationship of word stress placement and derivation. In addition, some authors (Marchard 209) do not even consider inflectional endings to be proper affixes.

Nevertheless, inflectional suffixes have been included for two reasons. Firstly, they quite understandably constitute a significant part of utterances and thus fulfill the criterion of being widely used suffixes. Secondly, although stress placement rules are simple, the same does not apply for pronunciation of individual phonemes of suffixes. Moreover, pronunciation may differ depending on whether the suffix in question is a derivational or inflectional one (e.g. –ed which can function as both) and it was thus thought advisable to discuss inflectional suffixes as well.

The focal point of this thesis is unquestionably occupied by derivational suffixes, the reason being that the impact they exert on stress placement is more predictable and regular than the impact of prefixes (Roach 98). Besides, suffixes have a stronger stress-determining force than prefixes (Poldauf 20).

2.3 Approaches

Different approaches to the subject have been adopted in the past and several ways of handling the problem have been employed. First one, which was pursued by Chomsky and Halle, is concerned with analysis of word stress placement in compounds (Bauer 109) and it is called the generative approach. The general concept is that all words can be analyzed by the technique of dismantling words and a consequent analysis from the innermost element to the whole expression (Bauer 110). The method that they applied resulted in a system that thus does not require special rules for individual groups of affixes, but on the other hand it requires a very complex theoretical knowledge of the problem (Fudge xi).

Another approach to the treatment of affixes, implemented by many other authors, eg. Kingdon, Gimson, Poldauf or Fudge, is that of a classification of affixes into separate categories, which are consequently assigned particular patterns that they display, e.g. one category is constituted of suffixes that force primary stress to be placed on the syllables that directly precede them. The technique adopted in this thesis is the second, taxonomical one.

2.4 Secondary stress

Secondary stress can be defined as a level of stress that is less prominent than primary stress but it is still stronger than unstressed syllables (Roach 87), e.g. the second syllable in *a,ccommo'dation* does not stand out as much as the syllable that bears the primary stress here, yet it is stronger than the first syllable of the word. The concept of secondary stress originates

in the tendency to obtain some alternation of relatively stressed and unstressed syllables in English (Fudge 31).

The subject of secondary stress placement does not receive as much attention as primary stress, which is quite understandable. Several general rules are deemed sufficient. Secondary stress can be assigned to a syllable preceding primary stress and its placement depends on the number of syllables which are present prior to primary stress and syllable weight is crucial in some instances as well (Gimson 242). The rules for secondary stress placement, presented by Fudge (31) and Gimson (242) are as follows:

- If there is only one syllable before the one containing primary stress, it does not take secondary stress, e.g. *con'tain*.
- If there are two preceding syllables, secondary stress is assigned to the first one, e.g. *,unde'niable*.
- If there are more than two syllables present, then if the one that is positioned two syllables from main stress is strong, it is stressed. If not, the one that is three syllables back from main stress receives secondary stress. Examples are: *in,terro'gation* and *,qualifi'cation*.

2.5 Suffixes

2.5.1 Distinguishing a suffix

Before any attempt at classification can be pursued, it is necessary to elaborate on the subject how to recognize a suffix in the first place. It is a challenging task to decide what is and what is not a suffix in English (Roach 96). In some instances it is an easy matter, e.g. words like *childhood*, *personal* or *dirty* undoubtedly contain suffixes –hood, –al and –y and there are recognizable word stems, which remain intact after the separation of the suffixes. Conversely, the word *cottage*, although it ends in a sequence of letters that resembles the suffix –age, it would not probably be considered a clear case of suffixation, since there is no independent stem. In contrast, the word *nominee* (with the suffix –ee) is indeed derived from *nominate* (with –ate omitted) and yet it does not fulfil the criteria for an independent word stem (Bauer 115). Furthermore, there are even less transparent instances of this problem, where it is literally impossible to reach a conclusive decision (Bauer 114).

Notwithstanding the difficulties encountered in attempt to determine what is a suffix, it is crucial to draw such a distinction, because the patterns applicable for genuine suffixes are often not relevant for word endings (which only resemble suffixes), e.g. Fudge always makes

it clear whether a provided rule is to be used for words of free or bound stems. As far as endings are concerned, they could be analysed in similar manner as well, as e.g. Fudge does in his study, but the rules for suffixes usually vary according to the status of a particular suffix in question, e.g. –able is stress neutral if the stem is a free form (and it thus contains a genuine suffix) as in *de'sirable* (desire + able), on the other hand if the ending constitutes an inherent part of the word and there is no independent stem, stress placement corresponds to the pre-stressed category described in the next section, e.g. *'probable* (Fudge 52).

Any decision reached in this area solves some of the problems but it inevitably brings different new ones into existence at the same time, yet a distinction must be made to obtain at least a certain level of consistency. The agreement here is that solely suffixes that could be indisputably labeled as such are taken into consideration. Such a decision may seem vague, but as the previous paragraphs tried to illustrate, the area of suffix discerning is inconsistent. The decision made here is based on the pragmatical factor of the aim of this thesis. The assumption is that learners of English would probably more readily recognize suffixes which are connected to such stems which can obviously function as an English word.

It should be stressed that even free stems can be altered to certain extent when a genuine suffix is attached, e.g. *definite* and *definition* (Gimson 240), where the letter -e- is apparently deleted, or the other way round, there is often an insert, e.g. the suffix -an may be preceded by an inserted -i- (Fudge 73), as in *Argentina* and *Argentinian* (and the letter -a- is deleted) etc.

2.5.2 Classification

Various authors systematize the classification of suffixes differently, nevertheless, their organizations often overlap to a considerable extent. With slight adjustments, three major types of suffixes keep reoccurring throughout the works of Gimson, Bauer, Fudge, Kingdon and others. This fundamental distribution provides a convenient foundation for establishing a core of the suffix classification used in this thesis.

The three primary patterns can be described as follows. Firstly, there are **stress attracting** suffixes. The suffixes that belong into this category cause the stress to fall on the very suffixes when they are added to a word stem, e.g. –ation in *qualifi'cation* (derived from *'qualify*), -ee in *trai'nee* (derived from *'train*). The class of stress attracting suffixes include e.g. –ation, -ee, -eer, -ese, -esque, -een, -ade, -aire and other suffixes (Bauer 122), (Fudge 41).

Second category consists of suffixes that are **stress neutral**, meaning that when a suffix of this particular type is attached to a word, the stress is preserved on the syllable which

carried the stress in the original stem, e.g. –ful in *'beautiful* (derived from *'beauty*), –ly in *con'veniently* (derived from *con'venient*). Suffixes that belong to this class are: –ment, –ness, –less, –ship, –ist, –y, –hood and numerous others (Bauer 122), (Fudge 40).

Third group, from now on referred to as **pre-stressed** category, is by far the most complicated one because the rules that apply here are not so straightforward as in the two previous instances. The general concept is that when a suffix of this category is affixed, primary stress is attracted a precise number of syllables back from the attached suffix. To be more specific, it is usually either **one** or **two syllables back**, e.g. –ite in *'favourite* (two syllables back from the suffix), –ion in *con'clusion* (one syllable back). Examples of suffixes that throw stress one syllable back are: –ion, –ity, –ic (Gimson 241). Suffixes that force stress to be placed two syllables back are rare, e.g. –ate, –ite (Gimson 241), (Fudge 42). Kingdon (60) even distinguishes suffixes that throw primary stress three syllables back and he classifies them as a separate group.

Additionally, the pre-stressed category comprises of suffixes that fluctuate between the two principles stated above in accordance with the **weight** of the syllables of the word stem in question. Gimson comments on this problem briefly (241), whereas Fudge introduces a minutely detailed treatment of the pre-stressed category. It requires the implementation of the concept of weak and strong syllables. Two principles operate here: if the syllable before the suffix is strong than the syllable is stressed (Fudge 42). If this syllable is weak then the syllable preceding this one is stressed (Fudge 42). It should be cleared out what precisely these terms represent: a weak syllable is a syllable with a short vowel peak and no coda, with word-final syllables it is one with a short vowel peak and one consonant for coda (Fudge 21). To give an example, all syllables in the word *similar* are weak. Strong syllables are all that do not fit the definition of a weak syllable (Fudge 22). Instances of these suffixes are: –al, –ent, –ian, –ible (Fudge 42). Therefore the words *homi'cidal* and *o'riginal*, would be analysed as follows: *homicid+al*, the last syllable of the stem is strong and as a result it bears the primary stress (Fudge 42). On the contrary, the syllable before the suffix in the word *origin+al* is weak, therefore the penultimate syllable of the stem is stressed (Fudge 42). The whole classification is summarized in Table 1 below.

It is crucial to realize, regarding the above listed categorizations, that there are two fundamentally different modes of operation in use. Stress attracting and pre-stressed suffixes assign primary stress at various places within words, irrespective of the placement of stress in the former words (before they undergo the process of affixation). It follows that the rules which apply in the case of this suffixes could be immensely helpful once they are mastered,

since they can be used to determine the placement of primary stress in words without information about the former stress arrangement. On the contrary, the ability to utilize the patterns of the stress neutral category presupposes acquaintance with word stress placement in the original word without the suffix.

A question arises whether it is truly beneficial to distinguish all these sub-categories or whether to apply all the methods and to what degree, since the apparatus needed for a correct categorization of a suffix can become a highly sophisticated task. This holds true especially for the suffixes of pre-stressed group, where an accurate analysis depends upon the ability to carry out a meticulous syllable division and a considerable knowledge of the vowel system of English is needed as well.

What is more, even if the complete system is applied, numerous inconsistencies remain. One of the aims of the practical part is to examine this particular problem and to reach a decision which sections of the classification would be suitable for learners.

Several other observations need to be made at this point. Clearly, more than one suffix may be affixed to a word, in such a case, the very last suffix is the one that determines stress placement (Bauer 113). The decision how to analyse a suffix and to what category it should belong is sometimes connected with further linguistic aspects of the word, such as morphological or semantic properties, e.g. one of the sub-classifications of the suffix –ate consists of words where –ate is a noun-forming suffix and the derived words are chemical terms (Fudge 60).

In addition to these nuances there are also abundant exceptions to these rules.

Table 1

Classification of suffixes				
Stress attracting	Stress neutral	Pre-stressed		
		One syllable back	Two syllables back	One or two syllables back
Stress is on the suffix.	Stress is the same as before affixation.	Stress falls on the syllable directly preceding the suffix.	Stress falls two syllables back from the suffix.	Stress falls one or two syllables back according to the weight of the last syllable of the stem

2.5.3 Inflectional suffixes

As have already been stated, inflectional suffixes have limited impact on word stress placement, since all inflectional suffixes are stress neutral (Fudge 40). However, as far as their pronunciation is concerned, individual suffixes are diverse in their pronunciation in different phonetic environments, which is therefore the main focus of this section. Moreover, it is possible for a suffix to act both as derivational and as inflectional suffixes, however, the pronunciation may alternate according to the status of the suffix in question. Inflectional suffixes include: -(e)d, -ing, (e)r, (e)s, (e)st.

-(e)s

Morphologically speaking, three different suffixes are included under this heading, because they have the same pronunciation pattern and can be therefore analysed together. These are: the plural forming suffix, the 3rd person singular suffix and the possessive suffix.

The pronunciation of this suffix depends on the final phoneme of the stem and is the result of progressive assimilation. Dušková describes the pronunciation as follows (37; 88; 166):

1. After voiceless (excluding those at point three below) consonants, the pronunciation is /s/, e.g. *books* /bʊks/, *speaks* /spi:ks/.
2. After either a voiced consonant (excluding those at point three below) or a vowel, the pronunciation is /z/, e.g. *holes* /həʊlz/, *Meg's* /megz/.
3. After /s/, /z/, /ʃ/, /ʒ/, /tʃ/ and /dʒ/, the pronunciation is /ɪz/, e.g. *bushes* /bʊʃɪz/, *watches* /wɒtʃɪz/.

-(e)d

As in the previous case, three groups are recognized, based on the phoneme that precedes the suffix (Dušková 168):

1. After voiceless consonants (excluding /t/) it is pronounced as /t/, e.g. *baked* /beɪkt/.
2. After voiced consonants (excluding /d/) and vowels it is pronounced as /d/, e.g. *loved* /lʌvd/.
3. After /t/ and /d/ it is /ɪd/.

The same rules apply for the derivational counterpart -(e)d (Fudge 65). Nonetheless, there is some discrepancy between the two, several random adjectival forms are pronounced /ɪd/ even though they do not follow stem ending in /t/ or /d/, e.g. *crooked* /'krʊk.ɪd/ or *wicked* /

'wik.ɪd/ (Fudge 66). Nevertheless, not a single example of this particular irregularity was found in the analysed sample of vocabulary.

-(e)r

The comparative suffix –(e)r is pronounced /ə/, e.g. *bigger* /bɪgə/. However, if the adjective ends in /ŋ/ then there is a /g/ inserted, e.g. *strong* /strɒŋ/ and *stronger* /strɒŋgə/. If the adjective ends in silent /r/, it is pronounced under these circumstances, e.g. *near* /nɪə/ and *nearer* /nɪərə/ (Dušková 149).

-(e)st

This suffix is pronounced /ɪst/, or, as in case with the comparative suffix –(e)r, if the adjective ends in /ŋ/ there is also an inserted /g/, e.g. *longest* /lɒŋgɪst/ (Dušková 149).

-ing

The general rule is that it is pronounced /ɪŋ/, e.g. *picking* /pɪkɪŋ/. If the verb ends in silent /r/, it becomes pronounced when inflected, e.g. *lure* /ljʊə/ and *luring* /ljʊərɪŋ/ (Dušková 167).

2.6 Prefixes

2.6.1 Distinguishing a prefix

Again, there is a certain disagreement about what should and what should not be considered a prefix (Bauer 123). It is without doubt that e.g. the word *unkind* contains a negative prefix un-, but also instances like e.g. con- in *confer* (Bauer 123) are taken into account and are studied in e.g. works of Fudge or Kingdon.

This thesis discusses only prefixes that are affixed to independent free stems, similarly as suffixes are approached here, therefore e.g. dis- in *discourage* is included, but con- in *confer* is not. In addition, expressions like inter-, multi-, or hyper- have been excluded as well, since they are usually treated as falling into the word-formation category of compounds, rather than prefixes, as presented e.g. by Fudge (156; 158). Prefixes which have been taken into account are basically those that are covered by Fudge's list of stress neutral suffixes (165).

2.6.2 Classification

Vital information is that prefixes are "irrelevant to the placement of primary stress" and it is therefore the same as in the corresponding non-negative word (Fudge

164), so e.g. the word *un'friendly* is judged as if the prefix was removed and *friendly* is then assigned primary stress in compliance with the characteristics of the suffix *-ly*.

Prefixes can receive certain degree of stress, but opinions on the subject differ, e.g. Marchard actually claims that almost all prefixes have a certain degree of stress (138). According to other authors, prefixes might be assigned stress under various circumstances (Fudge 164), although they do not usually bear primary stress (Bauer 123). In the very specific case that they are emphasized to create contrast with their non-negative counterparts, they can even take primary stress, e.g. *I said 'unhappy, not happy* (Fudge 164). Additionally, they are very often assigned secondary stress in accordance with the principles of **secondary** stress placement (Fudge 164), e.g. *inse 'cure*.

The prefix distinguishing criteria being set as they are in this thesis, one category is sufficient for a classification and it is the category of **stress neutral** prefixes, which is analogous to the stress neutral class of suffixes. Therefore, if a prefix of this group is attached, it does not affect the placement of primary stress. Instances of this class are: *a-*, *de-*, *dis-*, *il-*, *im-*, *in-*, *un-* and others (Fudge 165).

The impact that prefixes exert on word stress placement might prove to be of crucial significance particularly for Czech learners of English, because the system of Czech word stress placement could be a source of potential negative transfer, considering the fact that Czech words are always stressed on the first syllable, which is in sharp contrast with the situation in English, as can be demonstrated by e.g. *'tidy* but *un'tidy*.

3 Analysis

The practical part is composed of a detailed analysis, which was carried out using the apparatus presented in the previous part. The vocabulary which was subjected to the analysis was acquired from various English textbooks listed in the following section. They include samples of ordinary English student's books as well as books that are directly aimed at teaching vocabulary.

Complete vocabulary taught to learners in the textbooks was subjected to a research and the results were registered in tables and they were commented on. All the words were inspected and those which displayed instances of affixation were assembled. The affixes encountered in these words were divided into the categories established in the theoretical part, e.g. there were four instances of words which contained -ness and as -ness is a stress neutral suffix it was registered within the class of stress neutral suffixes. Once they were organized in this manner, the next step was to analyse the words using the rules of their corresponding categories and observe whether the estimation of word stress placement on the ground of these rules was correct, e.g. whether all the words with -ness really follow the patterns of stress neutral suffixes. The objective was to detect which affixes occur in these words, notably the frequency of individual affixes, as well as the relevance and usefulness of the classification instituted in the theoretical part. Furthermore, as has already been mentioned, the whole phenomenon is an extremely problematic one, so it is to be expected that some obstacles and difficulties would emerge during the analysis and these are elaborated on as well. Only derivational affixes were taken into consideration in this section.

Affixes were divided into two separate units, one deals with the vocabulary of elementary level and the second with pre-intermediate and intermediate levels. The motivation for this division was to observe whether there is any divergence between the two.

Apart from the analysis, a peripheral point of interest was to survey whether any information about the relationship of affixation and pronunciation was presented and taught in the textbooks and the outcome of this survey is presented in chapter Survey.

3.1 Sources

Several English textbooks served as a source for the collection of vocabulary. They have been chosen so that there would be representatives of general English textbooks by Oxford University Press and Cambridge University Press and also instances of textbooks that

aim directly at vocabulary teaching were considered desirable source material. One Czech publication one included as well. The levels of the textbooks range from elementary to intermediate, in order to obtain commonly used vocabulary. The following textbooks provided a source for the collection of the vocabulary to be analysed:

Elementary level: face2face Elementary Student's Book (Cambridge University Press, 2005); English File: Elementary Student's Book (Oxford University Press, 2012); English Vocabulary in Use – Elementary (Cambridge University Press, 1999).

Pre-intermediate and Intermediate level: face2face Pre-Intermediate Student's Book (Cambridge University Press, 2005); face2face Intermediate Student's Book (Cambridge University Press, 2006); English File: Pre-Intermediate Student's Book (Oxford University Press, 2012); English File: Intermediate Student's Book (Oxford University Press, 2013); 2000 nejpoužívanějších anglických slov (Computer Press, 2004).

3.2 Suffixes

3.2.1 Elementary level

Collected data are recorded in the tables below. Suffixes are listed in descending order according to the frequency of their occurrence. The column Frequency reports the number of words that contained the particular suffix in question. The column Example provides an instance of a word which follows the prescribed rule. The column labelled Exceptions is for words where the rules do not apply and word stress is not placed according to the estimation. Information about pronunciation of suffixes was obtained from Marchard or Fudge. If the number which states the frequency of occurrence is accompanied by the mark + there is additional information in the section which follows the tables, the same applies for the pronunciation of -ed.

Table 2

Stress neutral suffixes				
Suffix	Pronunciation	Frequency	Exceptions	Example
-ing	ɪŋ	38 +	-	'swimming
-er	ə	36	-	'cooker
-ly	li	28 +	-	'sadly
-ed	-	22	-	'bored
-y	i	20	-	'foggy
-th	θ	11 +	-	'fourth

-ty	ti	9	-	'seventy
-ist	ɪst	7	-	re'ceptionist
-ment	mənt	7	-	a'ppointment
-or	ə	7	-	'sailor
-ful	fəl	5	-	'beautiful
-ant	ənt	5	-	a'ssistant
-ish	ɪʃ	4	-	'selfish
-ness	nəs	4	-	'illness
-less	ləs	4	-	'useless
-ous	əs	3	-	'dangerous
-able	əbəl	3	-	'comfortable
-ism	ɪzəm	3	-	'terrorism
-ess	əs	2	-	'actress
-age	ɪdʒ	2	-	'marriage
-cy	sɪ	2	-	'frequency
-en	ən	2	-	'sharpen
-ery	əri	1	-	'stationery

Table 3

Stress attracting suffixes				
Suffix	Pronunciation	Frequency	Exceptions	Examples
-een	i:n	7	-	four'teen
-ese	i:z	5	-	Japa'nese
-ation	eɪʃən	4	-	infor'mation
-ette	et	2	-	ciga'rette
-ology	ɒlədʒi	1	-	zo'ology
-eer	nɪə	1	-	engi'neer

Table 4

Pre-stressed: one syllable back from the suffix				
Suffix	Pronunciation	Frequency	Exceptions	Examples
-ion	ʃən	23	-	a,ccommo'dation

-ity (-ety)	əti or iti	5	-	natio'nality
-ic	ɪk	5	'Arabic	pe'ssi'mistic

Table 5

Pre-stressed: two syllables back from the suffix				
Suffix	Pronunciation	Frequency	Exceptions	Examples
-ite	ət	2	-	'favourite

Table 6

Pre-stressed: one or two syllables back according to syllable weight				
Suffix	Pronunciation	Frequency	Exceptions	Examples
-an	ən	20	-	I'talian
-al	əl	15	-	hi'storical
-ive	ɪv	6	-	a'ttractive
-ent	ənt	4	-	'different
-ible	ɪbəl	2	-	'horrible
-ence	əns	1	-	'conference

3.2.1.1 Commentary

As can be easily observed, words that contain suffixes are generally plentiful. Stress neutral suffixes are extremely profuse and they undeniably form the largest class. Stress attracting suffixes are less numerous, but still they are quite common. To draw a conclusion about the pre-stressed category is complicated. On one hand, suffixes that force stress to fall one syllable back or two syllables back (Table 4 and 5) are relatively sparse with the striking exception of suffix *-ion*, which is discussed later on in more detail. The suffixes of Table 6 are rather common, especially *-al* and *-an*.

It is probably not surprising that the uppermost lines of Table 2 are occupied by the suffixes *-ing*, *-er*, *-ly* and *-ed*. The pronunciation of the suffix *-ed* is dealt with separately in the chapter Inflectional suffixes. The suffix *-y* was mostly found in words that relate to weather and words that describe scenery, e.g. *sandy* or *foggy*. It might be of interest that *-y* is almost exclusively attached to short words, usually of only one syllable. The suffixes *-th* and *-ty* are quite understandably to be found in words for ordinal numbers and decimals, with the exceptions of *depth*, *warmth* and *royalty*. These suffixes require notable changes to the words

stems, e.g. *thirty* (as opposed to *three*) or *fifth* (as opposed to *five*). Most of the suffixes that follow further in Table 2 are relatively easy to identify and analyse, these are characteristically English suffixes such as -ful, -ness, -less, -ment and others.

There were only two instances that displayed the suffix -age where -age was a genuine suffix that was joined to a free stem, although words that ended in -age were actually quite numerous (9 in total). Providing these were taken into account and analysed in similar fashion using the pattern applicable in case of mere endings, that is pre-stressed (Fudge 54), they would have turned out to be perfectly regular. This example is a wonderful demonstration of the dilemma about how to treat these suffix-like endings, because it would seem valuable to have regular instances like the one just presented covered in the categorization. In this particular case much more valuable than the suffix -age in itself actually, since the suffix was found only in two words altogether.

All the words created using the suffix -een of Table 3 are numerals, similarly, every expression containing the suffix -ese is an adjective of nationality. Bearing in mind the information that -een and -ese are contextually limited, the category of stress attracting suffixes suddenly loses the two most frequent suffixes. It may appear advisable to take into consideration this side of the problem as well. It is true that -th and -ty from Table 2 share this characteristics to a certain extent, but unlike -een and -ese they occurred in semantically different areas (e.g. royalty) as well and they do not constitute the major part of their category of suffixes.

The pre-stressed category is the most diversified one. A special place is held by the suffix -ion, which is exceptionally large in number, for a suffix from other class than the stress neutral one. Moreover, it is entirely regular, even with respect to secondary stress, which is in all the instances placed two syllables before the primary stress, according to the general rule of second stress placement.

Table 5 provides a strong indication of the paucity of the suffixes that place stress two syllables back. Indeed, only the words '*favourite*' and '*opposite*' include a suffix of this class.

As far as the suffixes listed in Table 6 are concerned, they represent the most problematic class by far, with respect to the algorithm that applies in their instance. Nonetheless, they are relatively plentiful and it follows that they certainly deserve serious attention. Almost all the expressions that contain the suffix are terms of nationalities, e.g. *Argen'tinian* or *Ca'nadian*, an exception to this tendency is e.g. *mu'sician*.

It is a matter of profound significance that, with only one exception, the categories of suffixes exhibit absolutely no irregularities to their prescribed word stress placement patterns.

3.2.1.2 Difficulties

As complex a matter as the integration of affixation and word stress placement is, it was inevitable that complications would arise during the analysis.

Firstly, the number of the suffixes -ing, -ed and -ly might be a little misleading in the sense that textbooks often teach learners how to create new expressions using these suffixes on their own, e.g. in *face2face*, which is an uncomplicated task, therefore not all possible utterances that learners would potentially use are necessarily covered by the list. The same applies to the suffix -th, where again the assumption is that students would create new expressions using this suffix.

It was a matter of indecision whether to distinguish the suffix -ation at all, because it could be sufficiently incorporated into the entry of the suffix -ion, in that case, the stress rule would place primary stress one syllable before the suffix -ion, thus making the first syllable of -ation stressed, which corresponds to the classification as it is now. Similarly as with the suffix -age, this represents another possible dilemma concerning what should be classified as a suffix, since there are numerous other cases of suffixes where there are more possibilities where to draw the line. It would arguably be more profitable, at least in this instance, to merge these two, but they were kept separated in order to demonstrate this problem.

The information about the suffix -ology states that it occurs only once, which is true, if judged in line with the criteria for suffix distinction in this thesis. It follows that only *zo'ology* falls under this heading. Nonetheless, -ology is rather recurrent, there are other four instances of words with the same ending (*soci'ology*, *psych'ology*, *bi'ology* and *tech'nology*). These expressions do not fulfill the demand of having a proper free independent stem, as was discussed earlier. Nonetheless, the sequence of letters -ology is can be readily recognized as repeatedly occurring in these words and moreover, the rule for the suffix -ology functions flawlessly when applied to the four examples. A similar situation was already discussed relating to the suffix -age in the previous part. Again, it is open to doubt whether the practicality of the system of classification would benefit from allowing for analogous cases as this one to be included as well.

3.2.2 Pre-intermediate and Intermediate level

The same comments regarding organization apply as in the last section.

Table 7

Stress neutral suffixes				
Suffix	Pronunciation	Frequency	Exception	Example
-ed	below	66	-	a'ccomplished
-ing	ɪŋ	62	-	em'barrasing
-ly	li	60	abso'lutely (vs. 'absolute)	in'stinctively
-er	ə	49	pho'tographer (vs. 'photograph)	be'ginner
-y	i	35	-	'modesty
-ment	ənt	22	'supplement (vs. su'pply) ad'vertisement (vs. 'advertise)	'treatment
-ous	əs	16	lu'xurious (vs. 'luxury)	con'tinuous
-able	əbəl	16	'admirable (vs. ad'mire)	re'spectable
-or	ə	14	-	trans'lator
-ful	fəl	11	-	'peaceful
-ist	ɪst	11	-	psy'chologist
-ant	ənt	10	-	in'habitant
-less	ləs	9	-	'tactless
-ure	tʃə	7	-	'architecture
-ness	nəs	6	-	'happiness
-cy	si	6	de'mocracy (vs. 'democrat)	'agency
-th	θ	5	-	'growth
-age	ɪdʒ	5	-	'package
-en	ən	3	-	'threaten
-dom	dəm	2	-	'freedom
-ty	ti	2	-	'safety
-ess	əs	2	-	'hostess

-hood	hʊd	2	-	'childhood
-ery	ri	2	-	'jewellery
-ish	ɪʃ	1	-	'selfish
-ism	zəm	1	-	'tourism

Table 8

Stress attracting suffixes				
Suffix	Pronunciation	Frequency	Exceptions	Examples
-ation	eɪʃən	21	-	eˌxamiˈnation
-ette	et	2	-	disˈkette
-ade	ɛɪd	1	-	lemoˈnade

Table 9

Pre-stressed suffixes: one syllable back from the suffix				
Suffix	Pronunciation	Frequency	Exceptions	Examples
-ion	ʃən	26	-	concenˈtration
-ity (ety)	əti or iti	20	-	personˈality
-ic	ɪk	15	-	enerˈgetic

Table 10

Pre-stressed suffixes: two syllables back from the suffix				
Suffix	Pronunciation	Frequency	Exceptions	Examples
-ite	ɪt	3	-	ˈopposite
-fy	fai	1	-	ˈclassify

Table 11

Pre-stressed suffixes: one or two syllables back according to syllable weight				
Suffix	Pronunciation	Frequency	Exceptions	Examples
-al	əl	45	-	com'mercial
-ive	ɪv	20	-i'maginative	'relative
-ence	əns	11	-	'reference
-ent	ənt	9	-	re'pellent
-ible	əbl	6	-	'sensible
-an	ən	5	-	'Christian

3.2.2.1 Commentary

It is quite obvious that expressions from this section contain much more cases of irregularities, even suffixes as reliable as –ly and –er display certain amount of discrepancy. Still, a great number of suffixes do indeed follow the algorithms which are applicable in their case.

As can be observed in Table 8, there is an evident decrease in number of stress attracting suffixes. Were it not for the suffix -ation, which could have also been incorporated in the category of pre-stressed suffixes (as discussed earlier), almost no suffixes of this category would have been found, which indicates that the suffixes which were present in the elementary level, e.g. -een or -ese, are in this sense truly contextually bound, occurring in words that are taught at that level.

The suffixes –ation and –ion and also –ic very often take secondary stress, which is understandably triggered by the fact that primary stress in words of this category often falls relatively far from the beginning of the words and it thus leaves sufficient number of syllables that can take secondary stress.

3.2.2.2 Difficulties

No specific types of problems emerged, apart from those already mentioned in the previous unit dealing with elementary vocabulary.

As the suffixes of the Table 11 substantially increased in number, it became more perceptible how demanding it is to analyse expressions which fall into this category. It

requires a constant guidance of a dictionary to carry out a correct syllable division and to judge on syllable weight.

3.3 Summary

It is apparent that only a reasonable amount of exceptions was encountered during the analysis and the provided rules thus can be a helpful tool for an estimation as to where word stress is placed. Almost all the words from elementary level were regular and only a few of pre-intermediate and intermediate level displayed any exceptions to the algorithms.

Interesting fact may be that there are certain suffixes that are usually listed in studies on this topic, but they were extremely sparse in the collected data or they did not occur at all, e.g. -esque, which is mentioned in Bauer (122), Gimson (240) or Roach (97) and yet presumably it is not a suffix that is used often.

Several particular suffixes deserve special attention, e.g. the suffixes -ion (with the possibility of incorporating -ation within), -ity and various suffixes from the stress neutral and stress attracting classes proved to be ones that could definitely be beneficially employed in teaching without serious obstructions. They are numerous, mostly regular and the rules that are applicable in their categories are uncomplicated. There were very few representatives of the category of suffixes that force stress to be placed two syllables back and it would seem unnecessary to establish this particular group. The suffixes of the last category were plentiful and regular, nonetheless the apparatus needed for their classification is so complex that it is open to doubt whether it would not be more profitable to learn the stress placement of each of the words separately.

3.4 Prefixes

The categorization of prefixes is rather different from the one for suffixes, so it follows that the analysed data are organized in an altered manner, since one category of prefixes is sufficient.

The criteria for selection being set as was explained in the preceding sentence, quite a small number of prefixes was actually found in the textbooks.

3.4.1 Elementary level

Table 12

Stress neutral prefixes				
Prefix	Pronunciation	Frequency	Exception	Example
un-	ʌn	9	-	un'healthy
a-	ə	4	-	a'head
ex-	eks	5	-	ˌex-'wife
be-	bɪ	3	-	be'come
in-	ɪn	3	-	in'formal
im-	ɪm	1	-	im'possible
ir-	ɪr	1	-	i'rregular
dis-	dɪs	1	-	di'slike
mis-	mɪs	1	-	mi'stake

3.4.1.1 Commentary

It is striking how few prefixes there are if the data is compared to the number of the collected suffixes, regarding both the diversity of the prefixes and considering the total sum of each of the prefixes. Not surprisingly, the most common prefix was un-.

As was expected, prefixes displayed no irregularities to primary stress placement. On the other hand, there was certain deviation to the secondary stress placement rules in the instance of the prefix ex-, since e.g. ˌex-'wife or ˌex-'husband have secondary stress placed only one syllable before the primary stress. Fudge claims that this is always the case with the prefix ex- (176).

3.4.2 Pre-intermediate and Intermediate level

Table 13

Stress neutral prefixes				
Prefix	Pronunciation	Frequency	Exceptions	Examples
un-	ʌn	48	-	un'friendly
dis-	dɪs	21	ˌdis'satisfaction (vs. ˌsatis'faction)	di'scourage
in-	ɪn	15	'income	ˌincor'rect
a-	ə	11	-	a'sleep

re-	rɪ or ri:	11	-	re'place
im-	ɪm	5	'immigrant	,impo'lite
ex-	eks	4	-	,ex-'husband
be-	bɪ	4	-	be'low
en-	ɪn	3	-	en'able
ir-	ɪr	2	-	,ir'responsible
mis-	mɪs	2	-	,misunder'standing
de-	dɪ	1	dehy'drated vs ('hydrate)	-
il-	ɪl	1	-	i'llegal
co-	kəʊ	1	-	co-'operate

3.4.2.1 Commentary

Several exceptions to secondary stress placement were encountered, e.g. *,un'solved*. The word *,in'doors* represents another deviation to secondary stress placement. In contrast, twelve instances of regular secondary stress placement in the case of the prefix *un-* were found as well as six other examples containing the prefix *in-*, ten more in words that contain *dis-* and so on. Generally, secondary stress is very often to be found and what is more, it is usually placed in accordance with the rules it should follow.

The irregularities of *in-* are due to the fact that the prefix behaves differently according to its morphological and semantical status, meaning that if the prefix is an adverb forming prefix with the meaning 'in' the rules for stress neutral prefixes are not applicable (Fudge 179).

The prefix *im-* demonstrates the fact that if *im-* is not a negative prefix the stress placement does not comply with the rules of stress-neutral category (Fudge 179), e.g. *'immigrant*.

The word *,dis'satisfaction* represents one of the rare exceptions to the primary stress placement, where the prefix is a negative one and yet the stress is not placed accordingly. Another interesting expression is the word *discount*, which is assigned stress according to its morphological status, that is *di'scount* for a verb and *'discount* for a noun, as explained by Bauer (124).

A note needs to be made regarding the prefix *re-*. If the meaning of the prefix is 'again' it is pronounced /ri:/ and takes secondary stress (Fudge 184), here e.g. *re'cycle*. As compared to e.g. *re'move* or *re'turn*, where the prefix does not have any fixed meaning.

3.4.3 Summary

Prefixes are less numerous than suffixes and a very elementary apparatus is sufficient for their classification, in contrast with the one needed for suffixes. Primary stress is generally preserved and the patterns for secondary stress placement apply almost immaculately.

3.5 Survey

The textbooks that were used as a source for gathering of the vocabulary have been subjected to another research the goal of which was to examine whether the phenomena discussed in this thesis are taught in the textbooks and if so, to what degree.

A Czech publication **2000 nejpoužívanějších anglických slovíček** is not actually very thorough, regarding phonetics. Even something as common as transcription is missing, although the book is accompanied with a recording of the vocabulary.

Even though the publication **English Vocabulary in Use** contains two chapters that deal solely with affixes, it is purely on the level of lexicology and the connection with phonetics is not mentioned.

The textbooks of the **face2face** edition only deal with the progressive assimilation of inflectional suffixes.

The textbooks of the **English File** series were by far the ones that were richest in the instances of the phenomena studied here. They dutifully teach the progressive assimilation of inflectional suffixes. Moreover, the textbooks actually illustrate some of the properties of stress placement of derived words. As soon as in elementary level, the learners are notified that the suffix *-ly* does not change word stress placement. Furthermore, learners' attention is drawn to the difference of pronunciation and stress placement in expressions of numbers, that is *-een* and *-ty*. The textbooks also frequently point out solely the pronunciation of individual suffixes, e.g. that *-ian* is pronounced as /ʃən/, or *-er* or *-or* are pronounced as /ə/. Finally, the textbook for intermediate level even draws attention to the fact that the suffixes *-ous*, *-able*, *-ible* and *-ive* are not stressed in words, which is actually a simplification of the subject, but still it is a start and even this information can contribute to correct estimation of

pronunciation. Apart from the suffixes, the textbook also discusses that prefixes un-, in- and im- do not bear primary stress.

4 Conclusion

The thesis has offered one of the possible representations of the integration of the two linguistics branches of phonetics and lexicology. It was not exhaustive in the respect that only selected affixes were taken into consideration, namely such affixes that were supposed to be relatively frequent on the basis of the survey of English textbooks. As early as in the theoretical part, it became apparent that the relationship of affixation and word stress placement is a highly complex subject which displays a great amount of inconsistency, numerous irregularities and it is generally abundant in various difficulties.

However, in spite of the deviations from the provided system of classification, vocabulary that can be correctly analysed with the apparatus presented in the theoretical part constitutes an overwhelming majority.

It became obvious that even with all the guidance provided by the expert studies on the subject it is in some instances an exceedingly demanding task to analyse certain affixes and effectively exploit the knowledge of the classification system. Conversely, a number of specific sections of affixes proved to be easily analysed and they could therefore be of significant help for learning correct pronunciation during vocabulary acquisition. As had been expected, the pre-stressed subcategory of suffixes that employs the principles of syllable weight proved exceptionally troublesome to analyse, whereas a relatively uncomplicated system is sufficient for correct word stress placement of vocabulary from other categories.

The knowledge of the impact which prefixes exert on the pronunciation and especially word stress placement might not be generally considered as profitable as that of suffixes, since prefixes do not normally affect primary stress placement. However, it could be helpful for Czech students in particular, since it might at least raise their awareness of phonetical consequences of prefixation and the impossibility of prefixes bearing primary stress.

Overall, at least certain areas of the investigated phenomenon could definitely be effectively exploited in teaching correct pronunciation. Generalization about pronunciation of affixes can undoubtedly be useful. There is no place for discussion about inflectional suffixes, these should be unquestionably covered in teaching. Regarding word stress placement, in the case of prefixes, it would seem advisable at least for Czech students, because of the potential

negative transfer from their mother tongue. Two subcategories of the pre-stressed class of suffixes should better be omitted, one because of the sparseness of the suffixes that fall into that category and the second one due to the demanding nature of its algorithm. In contrast, the remaining categories could be of immense help for students. The patterns of these suffixes are uncomplicated enough to be mastered and e.g. the information that whenever a word ends in the suffix -ion primary stress almost surely falls on the preceding syllable, could be of great value.

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