The Use of Kiparsky's Lexical Morphology Model in Teaching Syllable Stress Rules to

Non–Native Speakers of English

The Use of Kiparsky's Lexical Morphology Model in Teaching Syllable Stress Rules to Non–Native Speakers of English

عنوان البحث باللغة العربية: استخدام نموذج كييارسكي لمورفولوجيا المفردات في تدريس قواعد النبر للكلمات لغير المتحدث الأصلي للغة الإنجليزية

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Abstract

Determining the primary stress in a word is one of the major challenges that face foreign learners of English. This research aims at using Kiparsky's lexical morphology model in teaching syllable stress rules to non- native speakers of English. This model is applied on a tutorial video that teaches primary stress rules in English. The present paper attempts to prove the significance of using Kiparsky's model in teaching stress and accounts for the explanation of primary stress rules.

Key words: primary stress rules, lexical morphology, Kiparsky's model, syllable stress

ملخص البحث باللغة العربية

يعد تحديد ظاهرة النبر في الكلمات واحدا من أهم التحديات التي تواجه غير المتحدث الأصلي للغة الإنجليزية, ويهدف هذا البحث إلى استخدام نموذج كيبارسكي لمورفولوجيا المفردات في تدريس قواعد النبر لغير المتحدثين الأصليين للغة الإنجليزية, وتم تطبيق هذا النموذج على فيديو تعليمي لتدريس قواعد تحديد النبر في اللغة الإنجليزية, كما تلقي هذه الورقة البحثية الضوء على أهمية استخدام نموذج كيبارسكي في تدريس ظاهرة النبر وإثبات فعاليته في شرح قواعد النبر في كلمات اللغة الإنجليزية.

الكلمات الرئيسة: قواعد النبر, مورفولوجيا المفردات, نموذج كيبارسكي, تحديد النبر في كلمات اللغة الإنجليزية

Introduction

1. Statement of the Problem

Syllable stress is one of the challenging topics for non-native learners of English. Determining the primary stress in a word may be difficult for learners as only one syllable in a word carries the primary stress unlike other languages that emphasize the pronunciation of each syllable. Thus, the availability of a fixed tool or model for both non-native teachers and learners is needed in order to facilitate the determination of the primary stress in a word in English.

2. Objectives of the Research

This research aims at using Kiparsky's lexical morphology model in teaching primary stress rules to foreign language learners of English. Second, it emphasizes that morphological rules are linked to a specific set of phonological rules that indicate how the structure built by the morphology is to be pronounced. In other words, there is a relationship between the rules that build the morphological structure of a given word and the phonological rules responsible for its pronunciation. Third, it shows the importance of knowing this model for English teachers in general and voice and accent trainers in particular.

3. <u>Scope of the Research</u>

This study is confined to the application of Kiparsky's lexical morphology model in pronouncing English words, and particularly teaching stress rules to foreign language learners. It does not tackle any other models of lexical morphology.

4. <u>Methods of Research</u>

This research adopts a qualitative approach. It analyzes the application of Kiparsky's lexical morphology model on a tutorial video about teaching stress rules to foreign language learners. The video is entitled "Speaking Clearly–Word Stress" and found on the YouTube on https://www.youtube.com/watch?v=SNmEeNmIxNI.

<u>Literature Review</u>

1. <u>The Lexical Phonology and Morphology Model</u>

In this model, the word, rather than the morpheme, is considered the key unit of morphological analysis. Kiparsky(1982) proposes that lexical rules are arranged at hierarchical levels or layers in the lexicon called strata[1]. Each

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[1] Kiparsky, Paul. (1982). 'Lexical Phonology and Morphology' in: The Linguistic Society of Korea (ed.) *Linguistics in the Morning Calm*. Seoul: Hanshim Publishing Company, 3–91

stratum of the lexicon has associated with it a set of morphological rules that form the word building. These morphological rules are linked to a specific set of phonological rules that indicate how the structure built by the morphology is to be pronounced. In other words, there is a relationship between the rules that build the morphological structure of a word and the phonological rules responsible for its pronunciation.

English affixes can be classified into two main categories according to their phonological behaviour: neutral and non-neutral. Neutral affixes have no phonological effect on the base they are attached to. However, non-neutral ones affect to some extent the consonant or vowel segments, or the location of stress in the base they are attached to.

First, –ness and –less are neutral suffixes as they have no effect on neither the consonant or vowel segments nor the location of stress in the base they are attached to. Some examples are:

a. 'happy   'happi–ness

b.   'home   'home–less   'serious   'serious–ness 'help 'help–less

In the above examples, ⟨'⟩ is called the primary stress mark which if placed before a syllable indicates that this syllable receives the main stress, i.e the most prominent syllable in a word. It is clear that the location of stress in the above bases does not change regardless of the presence of –ness or –less suffixes.

Second, –ic and –ee are non neutral suffixes as they affect the location of stress. The –ic is a pre-accenting suffix. Therefore, stress falls on the syllable immediately preceding it. On the other hand, –ette is an accenting or auto– stressed suffix. This means that the suffix takes the stress from the base onto itself. This is shown in the following examples:

a. 'strategy   stra'tegic

b. ci'gar   cigar'ette 'photograph   photo'graphic 'launder   launder'ette

Besides affecting stress, non–neutral suffixes cause changes in the shape of the vowels or consonants of the base they are attached to. The presence of the non–neutral suffix –ic induces the replacement of the vowel /æ/ of strategy /'strætədʒi/ with /ə/ in strategic /strə'tiːdʒɪk/.

1.1. <u>Derivation in Lexical Morphology</u>

Siegel (1974) illustrates that the ordering of strata in the lexicon reflects the order of word–formation processes[2]. Non–neutral affixes are added first at stratum1 while neutral affixes are attached at stratum2. Thus, stratum1 takes the root as the base to which non–neutral affixes are attached. Then stratum2 takes the root–plus stratum1 affixes as its input. As a result of ordering the strata in the lexicon in this way is that stratum1 affixes are closer to the root of the word, and neutral affixes are attached on the outside as an outer layer:

a. [root]

b. [stratum1 prefix – root – stratum1 suffix]

c. [stratum2 prefix – stratum1 prefix – root – stratum1 suffix – stratum2 suffix]

The following are some examples containing the derivational suffixes –(i)an and –ism:

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[2] Siegel, Dorothy (1974). 'Topics in English Morphology' Doctoral dissertation. (Retrieved from MIT website <http://dspace.mit.edu/handle/1721.1/13022> on 25/06/2009)

a. [r]	b. [[r]s1]
Mendel /ˈmendəl/	Mendel–ian / menˈdiːljən/
Italy /ˈɪtəli/	Itali–an /ɪˈtæljən/
Egypt /ˈiːdʒɪpt/	Egypt–ian /ɪˈdʒɪpʃən/
c. [[[r]s1]s2]	d. [[[r]s2]s1]
Mendel–ian–ism	*Mendel–ism–ian
Itali–an–ism	*Itali–ism–ian
Egypt–ian–ism	*Egypt–ism–ian

In the above examples, the words in [a.] are stressed on the first syllable. The suffix –ian is non–neutral because it shifts the stress to the syllable immediately before it. It affects the segmental phonology of the root to which it is added in all examples. On the other hand, the suffix –ism is neutral because it does not affect either the stress placement or the segmental phonology of the root to which it is attached. So, the non–neutral suffix –ian is on stratum1 and comes immediately after the root. However, the neutral suffix –ism is on stratum2 and appears on the outer layer. If stratum2 –ism precedes stratum1 –ian, the result is an ill–formed unacceptable word in the English language.

2. <u>Highlights of Lexical Morphology Model</u>

In Lexical Morphology, words are regarded the key elements of morphological analysis. All words must be independently meaningful but morphemes do not have to. Moreover, there are morphological processes whose input is word and not a morpheme. These include the following:

(i) **compounding** where words like *ice* and *cream* are the constituent elements to the rule that produces *ice cream*.

(ii) **affixation** processes that have words as their input such as the rule of the prefix re– (meaning 'again') and the rule of the suffix –ly:

open→ re–open   slow→ slowly

write→ re–write   happy→ happily

(iii) **conversion** which changes the word class of a word without any change in its shape:

swim (v)→ swim (N)

staff (N) → staff (v)

2.1. <u>Stratum Ordering Reflecting Morpheme Sequencing</u>

Giegerich (1999) holds that the theory of lexical morphology offers insights in the principles that determine the sequence in which affixes are attached to roots[3]. The morphological and phonological rules found in the lexicon (i.e. lexical rules) are arranged in hierarchical strata. Rules applying to the same stratum show morphological and phonological similarities. Moreover, lexical rules are cyclic. That is to say, the application of a morphological rule leads to the application of associated phonological rules. So, all affixes at stratum 1 are closer to the root than stratum 2 ones. Finally, derivational affixes are nearer to the root than inflectional affixes.

2.2. <u>Stratum Ordering and Productivity</u>

Katamba (1993) states that the theory of lexical morphology predicts that the hierarchical order of strata reflects the degree of generality of word–formation processes[4]. Concerning meaning, stratum 1 affixes tend to have less regular predictable meanings than stratum 2 ones. By contrasting the meanings of stratum 1 and stratum 2

[3] Giegerich, Heinz (1999). *Lexical Strata in English*. Cambridge: Cambridge University Press.

[4] Katamba, Francis. (1993). *Morphology*. New York: Palgrave.

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adjective–forming suffixes –ous and–less respectively, the stratum 2 suffix –less has a regular predictable meaning 'without':X–less means 'without X'

helpless   hopeless   shameless   joyless

On the other hand, the precise meaning of stratum 1 suffix –ous is unpredictable. It seems to depend somehow on the base to which it is attached. The OED lists these among its meaning:

–ous

'abounding in, full of, characterized by, of the nature of'

Moreover, it is not always clear which of the meanings listed by the OED is applicable in a particular word:

dangerous   curious courageous   rebellious

2.3   Stratum Ordering and Conversion

In conversion, nouns are formed from verbs, and verbs are formed from nouns. McMahon (2000) states that lexical morphology theory suggests that the conversion of verbs into nouns takes place at stratum 1 whereas the conversion of

nouns into verbs takes place at stratum 2[5]. The proofs of these claims come from stress placement.

The conversion of verbs into nouns at stratum 1 is non–neutral. Morphological conversion feeds the derived nouns to the stratum 1 phonological rule that marks stress on the first syllable in nouns:

Verb → Noun

sur'vey   'survey

tor'ment   'torment

pro'test   'protest

However, the conversion of nouns into verbs at stratum 2 is neutral. The stress placement remains the same:

Noun → Verb

'pattern   'pattern

'advocate 'advocate

'report   'report

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5 McMahon, April M.S. (2000). *Lexical Phonology and the History of English*.
    United Kingdom: Cambridge University Press.

McMahon (2006) accounts that the assumption of the conversion of nouns into verbs happen at stratum 2 and is supported by the treatment of irregular verb inflection[6]. Verbs which are formed from conversion fail to undergo ablaut in the past tense. They form their past tense by adding –ed instead of the /ɪ/→ /æ/ ablaut:

Noun→ Verb → Past tense

link   link   linked (*lank)

Since denominal verbs are created at stratum 2, they can not apply the ablaut rule which only takes place at stratum 1. They only receive the regular –ed inflection which occurs at stratum 2. This means that historical remnants such as ablaut have no effect on new forms entering the language formed by the application of productive rules such as conversion which takes place at stratum 2.

Discussion and Findings

The video chosen to apply Kiparsky's lexical morphology model on is found on the YouTube and entitled 'Speaking

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[6] Bermúdez, Otero, and McMahon, April M.S. (2006). 'English Phonology and Morphology' in: Bas Aarts and April McMahon (eds.) *The Handbook of English Linguistics*. Oxford: Blackwell, 382–410.

Clearly – Word Stress'[7]. It is shown with subtitles to help viewers if they miss anything said to find it on the screen. This video belongs to the category of education and is offered on behalf of Academic Skills Department at the University of Melbourne. The speaker in the video is pronouncing words using Received Pronunciation (RP) which is known to be the standard British accent. It starts by offering a quick definition on syllable stress and gives two main rules to help learners of English identify the position of primary stress in a word.

1. <u>The First Rule in the Video</u>

The first rule states that some word-endings decides and determines the main stress. He offers some word- endings provided by examples and shows how these word-endings affect the primary stress position in a word. A vertical stick up (ˈ) before the stressed syllable is used to mark the primary stress. This is shown as follows:

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[7] https://www.youtube.com/watch?v=SNmEeNmIxNI.

Word–Endings	Examples	The Effect of word–endings on Primary Stress Position in a Word
'–ic'	Fan'tastic photo'graphic	The primary stress falls on the syllable before '–ic'
'–ical'	Eco'nomical 'Critical Alpha'betical Bio'logical	The primary stress falls on the syllable before '–ical'
'–able'	Su'stainable Re'newable	The primary stress falls on the syllable before '–able'
'–ary'	'Stationary 'Dictionary	The primary stress falls two syllables before '–ary'

1.1 <u>Analyzing the First Rule Using Kiparsky's Model</u>

All the word–endings offered in the video are derivational suffixes. According to Kiparsky's lexical morphology model, the ordering of strata in the lexicon reflects the order of

word-formation processes. Non-neutral affixes are added first at stratum1 while neutral affixes are attached at stratum2. Non neutral suffixes affect the location of the primary stress, and may cause changes in the shape of the vowels or consonants of the base they are attached to. On the other hand, neutral suffixes have no effect on neither the consonant or vowel segments nor the location of stress in the base they are attached to. Thus, stratum1 takes the root as the base to which non-neutral affixes are attached. Then stratum2 takes the root-plus stratum1 affixes as its input. As a result of ordering the strata in the lexicon in this way is that stratum1 affixes are closer to the root of the word, and neutral affixes are attached on the outside as an outer layer:

a. [root]

b. [root – stratum1 suffix]

c. [root –stratum1 suffix – stratum2 suffix]

Derivational Suffixes Offered in the Video	Example Words Offered in the Video	[Root]	[Root – Stratum1 non–neutral suffix]	[Root – Stratum1 non–neutral suffix – stratum2 neutral suffix]
'–ic"			**non–neutral suffix '–ic'**	_____
	Fantastic	Fantasy /ˈfæn.tə.si/	Fantastic /fænˈtæs.tɪk/	_____
	Photographic	Photograph /ˈfəʊ.tə.grɑːf/	Photographic /ˌfəʊ.təˈgræf.ɪk/	
'–ical'			**non–neutral suffix '–ic'**	**neutral suffix '–al'**
	Economical	Economy /ɪˈkɒn.ə.mi/	Economic /iː.kəˈnɒm.ɪk/	Economical /ˌiː.kəˈnɒm.ɪ.kəl/
	Alphabetical	Alphabet /ˈæl.fə.bet/	Alphabetic /ˌæl.fəˈbet.ɪ.k /	Alphabetical /ˌæl.fəˈbet.ɪ.kəl/
	Biological	Biology /baɪˈɒl.ə.dʒi/	Biologic /ˌbaɪ.əˈlɒdʒ.ɪ.k/	Biological /ˌbaɪ.əˈlɒdʒ.ɪ.kəl/
'–able'			_____	**neutral suffix '–able'**
	Sustainable	Sustain /səˈsteɪn/	_____	Sustainable /səˈsteɪ.nə.bl/
	Renewable	Renew /rɪˈnjuː/		Renewable /rɪˈnjuː.ə.bl/
'–ary'			_____	**neutral suffix '–ary'**
	Dictionary	Diction /ˈdɪk.ʃən/		Dictionary /ˈdɪk.ʃən. ər.i/

2. The Second Rule in the Video

The rule states that: for some words, particularly word–class pairs, if they are nouns, the primary stress falls on the first syllable, and if they are verbs, the second syllable carries the primary stress. Some examples are as follows:

Nouns   Verbs

ˈRecord   Reˈcord

ˈDesert   Deˈsert

ˈObject   Obˈject

2.1   Analyzing the Second Rule Using Kiparsky's Model

Based on stratum ordering and conversion in Kiparsky's model, lexical morphology theory suggests that the conversion of verbs into nouns takes place at stratum1 whereas the conversion of nouns into verbs takes place at stratum2. The conversion of verbs into nouns at stratum1 is non–neutral as the primary stress position shifts from the second syllable to the first one:

Verbs   →   Nouns

Reˈcord   ˈRecord

Deˈsert   ˈDesert

Obˈject   ˈObject

Peˈrmit   ˈPermit

However, the video used in the research does not provide any examples on the second type of conversion which is converting nouns into verbs. This conversion occurs at stratum2 as it is neutral. In other words, the stress placement remains the same:

Noun → Verb

'pattern   'pattern

'comment   'comment

'report   'report

Conclusion

Kiparsky's lexical morphology model is widely used in morphological studies. It helps in understanding the relationship between the morphological rules that build the structure of words and the phonological rules used to pronounce them. This research attempts to prove the effectiveness of using Kiparsky's model in teaching primary stress rules to non-native learners of English. It negates the idea that primary stress position in English is chaotic and makes it more predictable. Based on Kiparsky's model, English teachers in general, and voice and accent trainers in particular, can account for the primary stress rules offered in tutorial videos and give more examples to facilitate teaching syllable stress rules to foreign learners of English.