

PHONOLOGY

THE DISTRIBUTIONAL CHARACTERISTICS OF ENGLISH AND POLISH VOWELS

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SOME GENERAL REMARKS

The present paper is intended to characterize the vocalic systems of English and Polish from the point of view of the placement of particular vowels either in stressed or unstressed syllables. Thus, the approach adopted in the paper is syllabic. It is also assumed that the syllable is a phonological unit in the sense that it serves as "the most convenient framework for describing the distribution of phonemes" (Haugen 1956 : 216). Moreover, for purposes of the present paper among syllables only those containing simple peaks, i.e., those syllables with simple vowels functioning as nuclei, will be discussed.

As far as stress is concerned we assume that both in English and Polish stress is of the emphatic or dynamic (expiratory) type, i.e., in a given polysyllabic word a stressed syllable is distinguished from unstressed syllables either preceding the stressed one or following it by putting a greater emphasis on its peak (Wierzchowska 1971 : 216-7; Doroszewski 1963). However, some authors also postulate the existence of the tonic or melodic stress, i.e., when the stressed syllable is distinguished from the unstressed one by difference in tone (Jassem : 1962c). Since the existence of tone is impossible without emphasis therefore it seems appropriate to treat the stress as being of the mixed emphatic-tonic nature both for English and Polish.

As far as the inventory of the English vowel phonemes is concerned our analysis will comprise the system of Present-Day Standard British English

vowels as defined by Daniel Jones. It should also be pointed out that no reference will be made to other existing varieties of English.

Thus, we assume that the vocalic system of Standard British English contains the following phonemes: /i:, i, e, æ, ʌ, a:, ə, ɔ:, u, u:, ə:, ə/.

The vocalic system of Polish, in turn, comprises of the following phonemes: /i, i, e, a, o, u/¹.

Moreover, for the purposes of our paper we find it useful to distinguish the following main types of syllables:

1. stressed or tonic syllables /TS/,
2. unstressed syllables /UnS/,

The latter may be further subdivided into:

- 2.1. pre-tonic syllables /PRS/,
- 2.2. post-tonic syllables /PTS/,

Within the pre-tonic type of syllables we may distinguish:

2.1.a. remote preceding syllable /RPS/, i.e., the syllable that is followed by another unstressed syllable preceding the tonic syllable, e.g., *kodifi'keifən*, *kowo'vrotek*;

2.1.b. adjacent preceding syllable /APS/, i.e., the syllable that is immediately adjacent to the tonic syllable, e.g. *fə'giv*, *ka'valer*.

Similarly with the pre-tonic syllables the post-tonic syllables may be further subdivided into:

2.2.a. adjacent following syllable /AFS/, i.e., the syllable that immediately follows the tonic syllable, e.g. *iks'pænsən*, *'krova*;

2.2.b. remote following syllable /RFS/, i.e., the syllable that is either final in the set of post-tonic syllables or is preceded by another unstressed syllable, e.g. *eks'plɔ:rətiv*, *re'torika*.

1. The distributional characteristics of English and Polish vowels functioning as peaks of the tonic syllables /TS/.

English:

/i:/
eat 'i:t
beat 'bi:t

Polish:

/i/
ikra 'ikra
lina 'lina

/i/
idiom 'idiəm
lithic 'liθik

/e/
enter 'entə
ten 'ten

/æ/
act 'ækt
cat 'kæt

/ʌ/
ullage 'ʌlidʒ
brush 'bruʃ

/a:/
artist 'a:tist
bard 'ba:d

/ɔ/
obligant 'ɔbligənt
top 'tɒp

/ɔ:/
order 'ɔ:də
horn 'hɔ:n

/u/
put 'put
foot 'fʊt

/u:/
shoot 'ʃu:t
shoe 'ʃu:

/ə:/
urn 'ɜ:n
turn 'tɜ:n

/i/
łysy 'wisi
żyła 'żiwa

/e/
efekt 'efekt
lewa 'leva

/a/
apel 'apel
kara 'kara

/o/
oko 'oko
łós 'wos

/u/
ukłon 'ukwon
sól 'sul

Below is a diagram representing the occurrence of English and Polish vowels in tonic syllables:

English Vowels	in TS	Polish Vowels	in TS
i:	+	i	+
i	+	i	+
e	+	e	+
æ	+	a	+
ʌ	+	o	+
a:	+	u	+
ɔ	+		
ɔ:	+		
u	+		
u:	+		
ə:	+		
ə	—		

Fig. 1

As follows from the above diagram /ə/ does not function as a peak of the tonic syllables in English.

2. The distributional characteristics of English and Polish vowels functioning as peaks of pre-tonic syllables /RPS and APS/.

¹ Cf. Krzeszowski, T. P. 1970; see also Doroszewski, W. 1963, and Klemensiewicz, Z. 1962, p. 19. It should be pointed out that the so-called nasal vowels (ɛ) and (ɔ) as distinguished, among others, by Doroszewski and Klemensiewicz are interpreted by Jasssem and Krzeszowski as combinations of a vowel plus a subsequent nasal consonant. This point of view is adopted here.

English:	Polish:
/i:/ <i>demonetization</i> di: ,m^ nitai'zeiʃən <i>resection</i> ri(:)'sekʃən	/i/ <i>mitologia</i> mito'logja <i>liczydło</i> li'tʃidwo
/i/ <i>elicitation</i> i ,lisi'teiʃən <i>histology</i> his'tələdʒi	/i/ <i>psychologia</i> psixo'logja <i>tymczasem</i> tim'tʃasem
/e/ <i>epexegetic</i> e ,peksi'dʒetik <i>heptagonal</i> hep'tægənɪ	/e/ <i>Telimena</i> teli'mena <i>tematy</i> te'mati
/æ/ <i>acataleptic</i> æ ,kætə'leptik /æ// ə/ <i>ancillary</i> æn'siləri	/a/ <i>arytmetyka</i> arit'metika <i>maskotka</i> mas'kotka
/ʌ/ <i>unalterability</i> ʌ n ,ə:ltərə'biliti <i>Cullinan</i> kʌ'linən	/o/ <i>ogorzaly</i> ogo'zawi <i>kobyła</i> ko'biwa
/a:/ <i>articulation</i> a: ,tikju'leiʃən <i>carbonic</i> ka:'bɒnik	/u/ <i>sumaryczny</i> suma'ritʃni <i>kultura</i> kul'tura
/ɔ:/ <i>authentication</i> ə: ,θenti'keiʃən <i>torment</i> /v./ tɔ:'ment	
/ə/ <i>volatization</i> vɔ ,lætilai'zeiʃən /ə// ə/ <i>solidity</i> sə'liditi	
/u/ <i>refutability</i> ,refjute'biliti <i>moustache</i> mus'ta:ʃ /u// ə/	
/u:/ <i>municipality</i> mju(:) ,nisi'pælitɪ <i>lucidity</i> lu:'siditi	
/ə:/ <i>personification</i> pə: ,sɒnifi'keiʃən /ə:// ə/ <i>turbidity</i> tə:'biditi	
/ə/ <i>abomination</i> ə ,bɒmi'neiʃən <i>convince</i> kən'vins	

As can be noticed some English vowels in the above unstressed positions are subject to qualitative as well as quantitative changes, viz. /i:/|/i/ (| is to be read as "alternates with"); /æ//|ə/; /ɔ//|ə/; /u//|ə/, and /ə://|ə/.

These changes are due to the fact that in the unstressed syllables vowels tend to lose their original length, i.e., the length attributed to them in the tonic syllables, and are even reduced either to the central neutral vowel /ə/ or to the front short /i/. As far as the Polish vowels are concerned they are not, contrary to English vowels, subject to qualitative changes, although they undergo certain quantitative changes, i.e., their sonority is not as big as is the case in the tonic syllables, their tone is lower as compared with the tone of stressed peaks, and they tend to be shorter.

3. The distributional characteristics of English and Polish vowels functioning as peaks of the post-tonic syllables /AFS and RFS/.

English:	Polish:
/i:/ <i>Banfield</i> 'bænfild <i>acetylene</i> ə'setili:n	/i/ <i>katolik</i> ka'tolik <i>krytyki</i> ² 'kritiki
/i/ <i>baldric</i> 'bɔ:ldrik <i>balcony</i> 'bælkəni	/i/ <i>akustyka</i> a'kustika <i>akustycy</i> a'kustitsi
/e/ <i>godsend</i> 'gɒdsend <i>abdomen</i> 'æbdəmen	/e/ <i>ratlerek</i> ra'tlerek <i>medykiem</i> 'medicem
/æ/ <i>bareback</i> 'bɛəbæk <i>ballyrag</i> 'bæliræg	/a/ <i>droga</i> 'droga <i>mechanika</i> me'xapika
/ʌ/ <i>bankrupt</i> 'bæŋkrʌpt /ʌ// ə/ <i>Gorboduc</i> 'gɔ:bədʌk	/o/ <i>wesolo</i> ve'sowo <i>plastyko</i> 'plastiko
/a:/ <i>grandma</i> 'grænma: <i>addressograph</i> ə'dresəugra:f /a:// æ/	/u/ <i>dachu</i> 'daxu
/ɔ:/ <i>gemshorn</i> 'gemzɔ:n <i>Baltimore</i> 'bɔ:ltimo:	

² It should be mentioned here that as a rule the stress in Polish words falls on the penult. But there are exceptions to this rule, viz. in some loan words, particularly of Greek origin, the stress falls on the third syllable from the end of the word. The words have the following endings: -ika, -yka, -ik, -yk. For some further details see Wiczorkiewicz, B. 1971, pp. 56 - 7.

English:

/ɒ/	
<i>bandbox</i>	'bændbɒks
<i>homologue</i>	'hɒmələg
/u/	
<i>glandular</i>	'glændjʊlə
<i>Hilversum</i>	'hɪlvəsʊm /u/ /ə/
/u:/	
<i>globule</i>	'glɒbjʊ:l
<i>absolute</i>	'æbsəlu:t
/ə:/	
<i>adverb</i>	'ædvə:b
<i>gallows-bird</i>	'gæləʊzbə:d
/ə/	
<i>banner</i>	'bænə
<i>barbican</i>	'bɑ:bɪkən

Also in the post-tonic syllables some English vowels alternate with shorter vowels. Thus, /ʌ/|/ə/, /ɑ:/|/æ/, and /u/|/ə/.

4. Some concluding remarks.

The above short presentation of English and Polish vowels has enabled us to arrive at the following conclusions:

- all English vowels may function as peaks of both pretonic and post-tonic syllables;
- all long vowels of English exhibit the tendency to alternate either with /ə/ or /ɪ/ when occurring in the unstressed syllables;
- the change of the quality of a given long vowel in the unstressed syllable is a characteristic feature distinguishing the unstressed syllables from the unstressed syllables, apart from greater emphasis the peaks of the latter receive;
- the occurrence of English vowels whose quality remains unchanged in the unstressed syllables is restricted to a limited number of words most of which are borrowings. However, there is now a tendency in English to reduce their length and to replace them by the central neutral vowel /ə/;
- the occurrence of /ə/ is limited to unstressed syllables exclusively³;
- no Polish vowels change their quality in unstressed syllables;
- on the other hand, all Polish vowels tend to undergo certain quantitative changes in the unstressed position (cf. section 2).

³ The occurrence of (ə) in the so-called centring diphthong (iə) is not taken into consideration here.

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