

PRELIMINARIES TO THE STUDY OF ENGLISH WORD-STRESS

JAN CYGAN

University of Wrocław

The term "stress" is used in linguistics in a broad or in a narrow sense. In the broader sense "stress" is the term denoting a general morphological feature of a word (or, more exactly, of a stress group): it differentiates syllables so that one of them becomes a rhythmical centre. The stressed syllable is constitutive: full monosyllabic words are to be identified with stressed syllables of polysyllables. This is striking in English (and Germanic languages in general): the vowel system of monosyllables in Germanic is identical with that of the stressed syllables of polysyllabic words; certain vowels, e.g., the reduced vowel /ə/ in English, cannot phonetically appear in monosyllables.

In the narrower sense "stress" is opposed to tone (pitch, accent). By "stressed" syllable is understood the strongest syllable of a word; by "accented" syllable — the one with highest pitch. Normally the two things go together, that is to say the strongest syllable is at the same time the highest in pitch, but this need not necessarily be so: the stressed syllable need not be the highest.

But those are physical differences, differences in substance, which are of interest to phoneticians rather than linguists. For the linguist the important thing is the function. Whether pitch or strength is more important in a given language, i.e., whether that language has musical "accent" or intensity "stress" in the narrower sense, depends on the system of that language. Functionally (phonologically) a language has stress if its syllables are differentiated as to their structure; if the syllable structure is always the same the language is said to have a pitch "accent". The difference follows from an objective analysis of linguistic data. In Polish, for example, any syllable may potentially form a monosyllabic word, as far as its structure goes, cf. e.g. *pokaże* (cf. *po, ka, że*). Not so in English. In a word like *enmity* we have to distinguish at least two classes of syllables: *en-* is a syllable of one class, *-mi-* and *-ty* are syllables of a different class. We say that English has stress, while Polish has

accent. It is of no consequence that the second *o* in the Polish word *potomek* is physically stronger: the point is that this fact is not reflected in syllable structure. In the English *Potomac* /pə'toʊmæk/ we have to distinguish two classes of syllables, since syllables like /pə/ or /mæk/ are of a reduced type, incapable of bearing stress. In Polish there are no restrictions of this sort. There is, however, a reduction of the vowel system of the unstressed syllables in Russian: only three vowel-tambers /a, i/y, u/ appear in unstressed syllables, as against five vowels under stress /a, e, i/y, o, u/.

The functions of stress (in the broad sense) may be morphological, physiological and psychological.

The psychological function consists in emphasizing a contrast, e.g. *anti-pathetic*, not *sympathetic*; *émigration*, not *immigration*, etc.

The physiological function comes to play only if it does not collide with the morphological function: there is a tendency for rhythmical alternation of syllables where physiological stress supplements the morphological stress of words, which, incidentally, makes syllabic poetry possible, e.g.,

My cápabilites of love (Tennyson).

But it is the morphological function of stress that interests us most. Morphological stress plays a part in languages with *free* stress only. We can distinguish languages with free or fixed stress or accent, viz.

- (1) languages with accent
 - (a) fixed, e.g. Polish
 - (b) free, e.g. Greek
- (2) languages with stress
 - (a) fixed, e.g. French
 - (b) free, e.g. English.

There are, of course, further complications, e.g. a free accent may be limited (e.g. to the last three syllables in Greek); fixed stress or accent may be only relatively fixed (e.g. in Latin or Polish), and so on, but this is not important here.

There is always, if only a small, sphere of function for morphological stress, e.g. Greek *tómos* "cut" vs. *tomós* "cutting", Russian *zamók* "castle" vs. *zámok* "lock", in English the difference between verbs and nouns (e.g. *impórt* vs. *import*), etc.

What is the nature of morphological stress in English? It was said that an English word could have syllables of Class I and Class II, e.g.

<i>en-mi-ty</i>	I+II+II
<i>tom-a-hawk</i>	I+II+I
<i>mo-hawk</i>	I+I

There must be at least one syllable of Class I in a word: there may be only syllables of Class I (*mohawk*). But then a Class I syllable may be stressed or not. This provides a link between languages with stress and languages with accent:

the difference between the two syllables of *mohawk* is one of pitch only. In other words, 'stress' with reference to Class I syllables is nothing else but pitch (tone). In *tomahawk* the difference between *tom* and *a* is one of stress (*a* is reduced); the difference between *tom* and *hawk* is one of pitch. That is to say,

<i>tom-</i>	has stress <i>and</i> tone,
<i>-a-</i>	has neither stress nor tone,
<i>-hawk</i>	has stress but not tone.

In languages with fixed stress the function of stress is delimitative (Trubetzkoy's "Grenzsignal"). The stress signals the beginning of a word (as e.g. in Czech or Hungarian), or the end (as e.g. in French), or approaching the end (as e.g. in Polish). This might be compared to the meanings of the green, red, and amber traffic lights respectively. It is worth noting in this connection, too, that no language is known to stress e.g., the second syllable from the beginning — which would be a belated signal, as pointless functionally, as e.g. traffic light past an intersection.

How can stress be classified morphologically? It may of course be classified only in languages with free stress. The number of syllables on which stress may fall may be two, three (Greek) or theoretically unlimited (e.g. English, Russian). These theoretically unlimited possibilities cannot be reduced to binary oppositions. But it is possible to reduce to binary oppositions the *movements* of stress ("to the left" or "to the right"). Such movements may be observed e.g. in Russian, in paradigms of alternating (mobile) stress. There are in Russian e.g. nouns with stress alternating between the initial syllable of the word and (the initial syllable of) the desinence, cf.

		<i>górod</i> 'town'	<i>póle</i> 'field'
	gen. sg.	<i>góroda</i>	<i>pólja</i>
but	nom. pl.	<i>gorodá</i>	<i>poljá</i>
	instr. pl.	<i>gorodámi</i>	<i>poljámi</i>

as well as nouns with stress alternating between the desinence and the last syllable of the stem, cf.

		<i>polotnó</i> 'linen'	<i>oknó</i> 'window'
	gen. sg.	<i>polotná</i>	<i>okná</i>
but	nom. pl.	<i>polótna</i>	<i>ókna</i>
	instr. pl.	<i>polótнами</i>	<i>ókнами</i>

But here we are leaving purely phonological grounds, and embark on morphology: we specify that e.g. (in the latter examples) Russian neuters in -o, stressed on the last syllable in nom. sg., form plurals with stress on the penult.

In English there are no mobile stress paradigms, but English and Russian may be compared in another respect, which is the problem of stress in derived forms, i.e. the relation between the stress of the base and that of the derivative.

Let us take the example of Russian adjectives derived from nouns. Their

stress is known to fall either (1) on the stem, or (2) on a certain syllable of the suffix, or finally (3) on the desinence, e.g.

- (1) *lúkovyj* 'oniony', *lípovyj* 'of linden tree';
- (2) *slonóvyj* 'elephantine', *stolóvyj* 'of the table'
- (3) *rjadóvoj* 'ordinary', *polevóvj* 'of the field'.

Here one and the same suffix appears in three forms: unstressed *-ovyj*, stressed on its first syllable *-óvyj*, and stressed on its last syllable (or desinence) *-ovój* (*-evój*).

In bases of the first type the stress falls in all forms of the paradigm on (the last syllable of) the stem (*luk* 'onion', *lúka*, *lúki*, *lúkami*), and it remains on the stem in the derivative.

In bases of the second type it falls on the *first* syllable of the desinence in all forms of the paradigm (*stól* 'table', *stolá*, *stolý*, *stolámi*), and it falls on the *first* syllable of the suffix in the derived word.

In the case of a mobile base paradigm (*rjad* 'row', *rjáda*, but *rjadý*, *rjadámi*), the derived form is stressed on the last syllable of the suffix, that is to say neither on the stem, nor on the first syllable of the suffix, but on the desinence.

In other words, we have the unstressed suffix *-ovyj* with barytonic bases, the suffix *-óvyj* with oxytonic bases, and the suffix *-ovój* with alternating stress bases.

An identical distribution is found with the suffix *-anyj/-janyj*, e.g. *kóžanyj* 'of leather', *konopljányj* 'of hemp', *vodžanój* 'aquatic'.

In the case of suffixes *-nój/-nyj* and *-skój/-skij*, which unlike *-ovój* and *-janój* begin with consonants, that circumstance has consequences for stress placement. There is no difference with the barytones (e.g. *júžnyj* 'southern', *répnaj* 'of turnip') or the mobile stress bases (e.g. *cvetnój* 'colourful', *zubnój* 'dental'), but with the oxytones the difference in comparison with *-ovyj* consists in the fact that the stress does not fall on the initial vowel of the suffix (because there is not any), but on the last syllable of the stem (e.g. *konéčnyj* 'final', *trúdnyj* 'difficult'). The same with *-skój/-skij* (*sovét* 'council': *sovétskij*, *móre* 'sea': *morskój*, but *rybák* 'fisherman': *rybáckij*).

To sum up, in Russian derivation there are the following possibilities of stress placement:

- (1) preservation of the stem stress,
- (2) stress on the suffix,
- (3) stress on the first syllable of the word,
- (4) stress on the presuffixal syllable.

The above possibilities form a complete system of oppositions in terms of stress movements with reference to different morphemes of a word (Kuryłowicz 1945):

The neutral (0) member is the zero movement, or preservation of the stress of the base word.

The positive (+) member is the movement to the right (stress on the suffix).

The negative (−) movement is the movement to the left: stress on the beginning of a word is the *polarization* of stress on any syllable of the suffix or desinence.

The stressing of a presuffixal syllable is the complex (±) member, combining both directions: the stress is, as it were, first pulled 'to the right' onto the suffix, then pushed one syllable back 'to the left'.

Similar phenomena can be observed in English derivatives.

Some derivatives retain the stress of the base, e.g.

kítténish; *amátéúrish*;
beáutíful, *pówerful*; *delíghtful*, *succéssful*;
bóttomless, *mótionless*; *regárdless*; *rémédíless*;
mártýrdóm; *offícialdóm*;
búrdensome; *delíghtsome*.

Some positively stress the suffix, e.g.

arábésque, *pícturésque*;
kítchenétte, *leátherétte*, *úsherétte*.

Some stress the presuffixal syllable, e.g.

dramátic, *magnétic*, *sympbólic*;
solídify, *persónify*.

Sometimes there is recessive stress on the initial (or antepenult?) syllable, e.g.

ádvocate, *córrélate*, *óbstínate*;
cátalogue, *pátriarch*, *métaphor*
 (cf. Gk. *katálogos*, *patriárches*, *metaphorá*)

Existing descriptions of English word-stress are for the most part quite complicated due to faulty approaches.

Danielsson (1948) e.g., speaks of the stress on the fifth, sixth, etc. syllable from the end. Counting of this sort is meaningless in morphology: the position of stress should be described either absolutely: on the first or last syllable of an element (word, stem, suffix, desinence) or relatively: as preceding or following such an element.

Kingdom (1958) counts stress positions from the beginning of his suffixes, thereby obscuring the picture. He specifies, for instance, that

- (a) words in *-aic*, *-astic*, *-eic*, *-oeic*, *-ionic*, *-istic(s)*, *-oic*, *-ostic*, *-otic*, *-uric* are stressed on the first syllable of the suffix;
- (b) words in *-ialistic*, *-ionistic*, *-omatic* — on the second;
- (c) words in *-ionalistic* — on the third;
- (d) words in *-ic*, *-ics* — one syllable before the suffix.

Obviously, the last statement subsumes all the others, and it also takes care

of such other combined suffixes as *-ical*, *-ically*, *-icize*, *-icism*, *-ican*, *-icanism*, *-icanize*, *-icon*.

Being free, word stress in English has a morphological function, and its position must be specified in morphological terms, not in terms of mechanical counting. Mechanical counting of syllables is in order in languages with fixed stress, thus not morphological. The difference between the Russian and Polish paradigms like

Russian	Polish
<i>Púškin</i>	<i>Púszkin</i>
<i>Púškina</i>	<i>Puszkína</i>
<i>Púškinymi</i>	<i>Puszkínámi</i>

is that in both of them the stress is fixed; but in the Russian paradigm it is morphologically fixed on the same syllable of the stem in each case; in Polish it always falls phonologically on the penultimate syllable of each form. To describe the above Russian paradigm as mobile, because the stress falls on the second, third, or fourth syllable from the end would be to apply Polish (phonological) criteria to Russian. And, vice versa, to describe the Polish paradigm as mobile because of the movements of stress from the first syllable of the stem to the last or to the desinence, would likewise be a wrong application of Russian (morphological) criteria to Polish stress.

Consequently, such two identical forms as Polish *zimámi* ('winter' instr. pl.) and its corresponding Russian equivalent *zimámi* differ in that the Polish form is stressed on the *penultimate* syllable of the *word*, while the Russian form is stressed on the *first* syllable of the *desinence*. Describing the position of stress in Russian we must first determine which morpheme of the word is stressed, and only then specify the syllable within that morpheme (as first, last, etc.).

Waldo (1968) maintains that stress in English is entirely dependent on the graphic shape of the word, but the complicated rules and the number of exceptions make his scheme rather doubtful. However, the approach is not absolutely nonsensical, since English orthography is to a very large extent morphological.

Chomsky and Halle (1968) and Halle and Keyser (1971) postulate a number of complicated cyclical rules of accentuation, but recent attempts by other transformational phonologists (e.g. Ross, Schane, Settera) propose a simpler, non-cyclical explanation of accentual phenomena.

The present writer shares the latter opinion that the non-cyclic explanation of English word stress is desirable and possible, within the framework of morphological categories such as parts of speech, and various types of affixes, including their relative positions, mutual order, number and phonological structure.

The practical importance of the right stress placement in English, particu-

larly for speakers of languages with fixed stress (e.g. Polish, Czech, Hungarian) can hardly be exaggerated in view of its decisive importance for the general phonetic shape of English words.

REFERENCES

- Chomsky, N. and Halle, M. 1968. *The sound pattern of English*, New York: Harper and Row.
- Danielsson, B. 1948. *Studies on the accentuation of polysyllabic Latin, Greek, and Romance loan-words in English*. Stockholm: Almqvist and Wiksell.
- Halle, M. and Keyser, S. J. 1971. *English stress*. New York: Harper and Row.
- Kingdon, R. 1958. *The groundwork of English stress*. London: Longmans, Green and Co.
- Kurylowicz, J. 1946. "Sistema russkogo udarenija", *Naukovi zapysky L'vivs'koho Deržavnoho Universytetu imeni Iv. Franka*: Serija filolohična III. 2.
- Waldo, G. S. 1968. *Stress the right syllable*. Edmonton (mimeographed).