STRESS IN POLISH — WITH SOME COMPARISONS TO ENGLISH STRESS*

JAMES L. FIDELHOLTZ

Maria Curie-Skłodowska University, Lublin

In discussions of languages with fixed stress, one will find Polish given prominent position. It is taken as exemplary of languages with penultimate stress.[1] Indeed, there are numerous alternations in stress, such as *język, języka, językámi*, which seem to show that regardless of how many syllables are added to the stem, it is always the penult which gets the stress. I will try to demonstrate that stress in Polish is more complicated than may at first sight appear, and has some interesting parallels with English stress rules.

The most obvious rule which one might suggest for assigning stress in Polish is rule (1):

1) $V \longrightarrow$ [1stress]$/ - C_0 \, V \, C_0 \, \#$.

It is immediately apparent that rule (1) must be modified to account for normal monosyllabic words in Polish, such as *piés, być*, etc., which are not stressless, but rather receive stress on their only vowel. Thus, we must allow rule (1) to stress word-final syllables as well:

1') $V \longrightarrow$ [1stress]$/ - C_0 \, (V \, C_0) \, \#$.

There are a small number of foreign words in Polish which are stressed on the antepenultimate syllable, such as *matemátyka, prézydent, státua, rýzyko, káliko, régula*, and *ópera*. In every such case of a foreign word stressed on the

antepenult, it is also possible for the word to be stressed on the penult (at least in some circles or circumstances), indicating the strong attraction of stress to the penult in Polish, and of course the tendency for languages to regularize exceptions. There are an even smaller number of native words antepenulti-mately stressed: *óg[u]lem, szczég[u]ly, okólica*. In order to accomodate such words, we further modify rule (1') as follows:

1'') $V \longrightarrow [1\text{stress}]/ — C_0((V\ C_0)\ V\ C_0)\#$.

With respect to the innermost parentheses in rule (1''), we should observe that in nearly all foreign words which permit stress to skip over the penult, the penult is weak; that is, it is a vowel followed by a single consonant (vowel) sequences are normally not permitted phonetically in Polish.

Such rare examples as *Wászyngton* (often *Waszýngton*) are in many var-ieties of Polish felt to be virtually pronounced in English, and reinforce this pointed: they are like English words such as *partérre* pronounced with a uvular (French-like) *r* which are considered to be pronounced as in French, even if the other segments in the word are English-like and un-French; likewise English *Bach* pronounced with [x]. In those varieties of Polish where *Wászyngton* is the normal pronunciation, we must account for the stress on these words: perhaps the restriction of rule (2a) below to a single consonant after the penul-timate vowel is too strong; nevertheless, words like *Wászyngton*) are clearly exceptional. More examples must be examined, however, before a principled decision can be made on this issue.

Thus, we can modify rule (1) once more, as follows:

2) MSR $\quad V \longrightarrow [1\text{stress}]/ — C_0((VC)\ VC_0)\#$.

Rule (2) (what we will call the Main Stress Rule) is an abbreviation for the following three ordered rules (which are, of course, mutually exclusive — cf., the discussion of disjunctive ordering in Chomsky and Halle 1968):

2') a) $V \longrightarrow [1\text{stress}] / — C_0VCVC_0\#$
 b) $V \longrightarrow [1\text{stress}] / — C_0 \quad VC_0\#$
 c) $V \longrightarrow [1\text{stress}] / — C_0 \qquad \#$.

Rule (2a) is of course a minor rule — that is, only those exceptional words in Polish which are marked to undergo rule (2a) do in fact undergo it. Rule (2c), with the exception of a very few interjections (e.g. *akurát, galóp* — see below) applies only to monosyllables. Note that even these finally-stressed words can only be so stressed when used as interjections — cf., below, and *patatáj* 'the noise produced by a galloping horse', etc.

In order for rules (2) to apply properly, we need various formal mechanisms. Chomsky and Halle (1968 : 173) give conventions for marking words to undergo or not undergo rules. As noted in Levy and Fidelholtz (1971 : 64ff) and elsewhere, these conventions must be modified for minor rules, such as (2a). That is, SPE convention 1 marking all words as [+rule *n*] must be modified to do so for all major rules *n*, but for a minor rule *m*, all words must be marked

[—rule *m*]. Then, by their convention 2 (appropriately modified), all markings on words are correctly changed to reflect the lexical (i.e. idiosyncratic) phono-logical properties of words. Thus, effectively, all vowels in each word undergo rule (3) (i.e. SPE Convention 1):

3) $V \longrightarrow [—\text{rule (2a)}]$

and those few words which do undergo (2a) then copy their lexical mark [+rule (2a)] onto the word by SPE Convention 2, thus superseding rule (3). (In some cases, as below, the lexical marking [+Rule (2a)] is supplied by a lexical redundancy rule). Irregular words of the type *akurát* must simply be marked [—Rule (2b)], and they will then automatically undergo rule (2c).

Nearly all foreign words ending in +*yka* or +*ika* are (or may be) antepenultimately stressed: *Áfryka, akústyka, klínika, gráfika*, etc. But compare *motýka* 'hoe' [**mótyka], *spotýka* 'he meets', *mantýka* 'bore' [*mántyka]. Therefore, we have the redundancy rule (4). The morpheme boundary is to keep the rule from applying to *Kòstarýka* 'Costa Rica'.

4) $V \longrightarrow [—\text{rule (3)}] / [\underline{+\text{Foreign}}]\ C_0+[i,y]\ ka$.

Normally in Polish, such vowel sequences as *au, eu* are pronounced with a glided final element [aw], [ew]. The rule turning underlying [u] into [w] — ie [u̯] — must come before the stress rule (2), for we find such foreign words as *terapéutyka, propedéutyka* [—éwtyka]. Note that the glide-formation is optional in some cases, and especially so where it would tend to make the stress more regular. E. g. *fáuna — [fáwna]* or *faúna — [faúna]*. While we do occasionally find the pronunciation (?) *propedeútyka*, it is decidedly rarer than *faúna*, since the former is no more regular than *propedéutyka* (i.e., stress is still antepen-ultimate). Note the 'peeking' quality of the glide formation rule in this case, indicating that such phenomena should be looked into more carefully. As mentioned above, all such antepenultimately-stressed words may colloquially or nonstandardly (at least) have a variant stressed on the penult. But the instability of the antepenultimate stress is also clearly seen in the phenom-enon that frequently-used (i.e., more common and less foreign) words tend towards the variant with pre-final stress (cf., Fidelholtz (1975) for a discussion of word frequency effects in English). A clear example of this is the word *polityka*. In the meaning 'politics' it is usually stressed *polítyka*. But in the more 'common' or 'folksy' meaning '(practical) policy' there is a strong tendency for it to be stressed *politýka*. Indeed, even the newspaper *Po-lityka* (presumably the former meaning) is quite often referred to as *Po-litýka*, doubtless under the influence of its commonness or frequency. The same holds for such pronunciations as *matematýka*, etc.[2]

---

[2] Note that our account of words like *matemátyka* also suggests a partial explana-tion for the regular behaviour of forms like *matematykámi*. The stem *a* is in the correct environment and gets marked ultimately [+rule (2a)]. Nevertheless, since it is in the

It has not always been noted in discussions of Polish stress that Standard Polish words of four or more syllables always have a secondary stress on the initial syllable (but cf. Dłuska (1976 : 26f) and Wierzchowska (1971 : 217ff)). Thus we have *autóbus*, but *àutobusówy*, never **autòbusówy*. Therefore, it appears that we need an initial stress rule

5) INITIAL STRESS $V \rightarrow$ [1stress] / # C_0 ___.

Cf. Halle (1973b), where it is argued that stress subordination — i.e., lowering of stress on other stressed syllables in a word — occurs only for rules reassigning [1stress] to a vowel which already has [1stress]. Note that rule (5) could be combined with rule (2) (MSR) only in an iterative format. That is, rule (2) applied iteratively (from the end of the word or from any stressed syllable) would always eventually stress the first vowel in the word. This implies that long words in Polish have several stresses. While there is some evidence that this is so (cf. Dłuska (1976 : 27) and the words *Kònstantýnopolitànczýkiewicz[ú]wna* and *chlòrowinỳlodwuchlòroarsýna*), it seems by no means clear (note that the stress pattern of the examples suggests that they

fourth syllable from the end, the structural description of (2a) is not met and it does not apply. Something similar may be going on in some oblique cases of such words as *rzeczpospólita* 'republic', *uniwérsytet* 'university', etc. Still, the problem is an important one to look at, and we have only a partial solution of such cases at best. Note also that words derivationally related to irregularly-stressed words are always regularly stressed: *èkonomiczny*, etc.

Another possible way to handle such cases would be to postulate a word boundary (#) after the *k* of the *-yk#a*. Of course, then the stress would automatically fall on the 'antepenult' (second syllable before the #). A redundancy rule for certain declension cases would then eliminate the #. With our present understanding of Polish stress, this is merely an ad hoc solution, but note that the *-a* ending does seem to be discrete from the stem in general in Polish: *dziewczyna*, but *dziewczynka*, where independent evidence (cf. Gussmann 1973) suggests a # *r* ___ boundary before the diminutive ending. Note that the *-a* follows the diminutive: **dziewczynak*. Of course, there seem to be no plausible boundaries in such words as *uniwérsytet*, and native words like *kobiéta* show that the feminine *-a* cannot normally be preceded by a word boundary.

The words ending in *-yka/-ika* have yet another peculiarity which bears commenting upon, and is doubtless related to the foreign flavor they have. This is namely the distribution of the endings *-ika/-yka*, which is quite regular: *-ika* occurs after velars (*lógika*, *psýchika*, etc. (but no examples with *-kika*)), labials (*sylábika*, *dynámika*, *épika*, *gráfika*, etc.), vowels (*prozáika*, *heróika*, etc.) and the sonorants *n* and *l* (*bazýlika*, *harmónika*); while *-yka* occurs after dental obstruents (*akústyka*, *semántyka* (cf. *mantýka*), *fizyka*, *Kórsyka*, *melódyka*) and *r* (*retóryka*, *Améryka*). While this distribution is perfectly regular, it is quite peculiar. The principle seems to be: a) make the word as much as possible like the pronunciation of the word in the donor language, but b) without violating the sound pattern of Polish. This boils down to saying: add *-ika*, unless the i-dental palatalization (cf. Gussmann 1978) would effect one of its more spectacular changes (to wit: $r \rightarrow \dot{z}$, $s \rightarrow \dot{s}$, $z \rightarrow \dot{z}$, $t \rightarrow \acute{c}$, $d \rightarrow d\dot{z}$). This 'output condition' is not characteristic of foreign words in general, but of this ending in particular. Thus, we find such words as *sinus*, *Zambézi*, *bátik*, *bútik*, *dintójra* 'bloody revenge', etc. This curious output condition is likely to prove fruitful for further study.

are stressed like several shorter words, rather than iteratively), so we have preferred the separate formulation of rules (2) and (5). Note that the relative order of the two rules as formulated is indeterminate. Such compounds as *dalèkobiéżny* 'long-distance' (cf. Ozga 1974: 133) should be analyzed as *daleko-# #bieżny*, in contradistinction to the single # separating clitics from stems (see below).

After MSR and INITIAL STRESS have applied, rule (6) (what we will call the Nuclear Stress Rule (lowers all the stresses in the word except the last one:

6) NSR   [1stress] $\longrightarrow$ [1stress] / ___ [-stress]$_0$ #.

Note that rule (6) can be extended to sentential contexts, much like the English Nuclear Stress Rule (cf. Ozga 1976b). Wierzchowska ((1971 : 219ff), cited in Ozga (1974 : 133)) suggests that current Polish tends to reverse the positions of the stronger and weaker stresses, e.g. *jęzýkoznàwstwo*. In such a case, we would have to modify the NSR, either to stress the first syllable:

6') [1stress] $\longrightarrow$ [1stress] / # C_0 ___

or to stress the penultimate stressed syllable:

6'') [1stress] $\longrightarrow$ [1stress] / ___ [-stress]$_0$ [1stress] [-stress]$_0$ #.

(6') is obviously a more likely rule than (6''), but one would have to examine how words with two secondary stresses are pronounced in these varieties of Polish before deciding. Note that the environment of (6') is, in effect, the mirror image of the environment of (6).

We must also have rule (7) (DESTRESS) to eliminate stress on syllables occurring immediately before stressed syllables:

7) DESTRESS $V \longrightarrow$ [−stress]/ ___ C_0[+stress]

This rule accounts for the difference in stress in the first syllable of *autóbus* and that of *àutobusówy*; likewise *Nałécz[u]w/Nàłęczowiánka*.[3]

Such a treatment, including a rule like (5) (INITIAL STRESS), also accounts for Polish dialects which have initial stress only (cf. Mańczak 1975 : 24): Mańczak suggests this as a step—both historical and geographical—between the 'free stress' dialects like Kaschubian and 'Standard Polish'. Thus, rule (5) seems to be historically prior to the MSR. As mentioned above, rule (5) synchronically could just as well come before the MSR. It is of interest that Mańczak, after noting these dialectal facts, fails to point out that INITIAL STRESS operates even in modern Standard Polish (cf. Dłuska 1976).

All of the stress rules we have discussed must come very late in the rule ordering, after most consonantal changes, vowel deletions and epentheses, etc. Thus *pieséczek* but *pièseczkámi*; *bezé mnie* (see below), etc.

---

[3] Words like *àutobusówy* are also a strong argument against a stress cycle below the word level in Polish, since we would have severe problems in eliminating the stress on the second syllable remaining from a putative earlier cycle on *autóbus*.

In addition to the words like *Améryka* and *akurát* discussed above, there are a number of other real and apparent exceptions which bear comment.

One little-discussed class of exceptions includes some interjections, such as *patatáj, galóp; akurát, korékt; (h)ohó, ahá* ([ahà] or [āhā̃]), *ojéj* 'shucks!', *mhm̀* ([ʔmhm̀]) 'yes'. The last can be quite variable in both Polish and English. If N represents any nasal or nasalized segment (*m, n,* nasalized vowel, even-at least in English—*ŋ* or *l*!), then the sequence: glottal stop — syllabic N — voiceless N — stressed syllabic N represents an instance of the positive interjection. If the voiceless N is changed to another glottal stop, and the intonation appropriately modified, the negative interjection will result. Some segments like *m, n,* and shwa are more natural in this context, but any nasalized segment will work. Interjections in all languages may and often do violate the phonological principles of the language. While such violations are the norm and thus to be expected, as the interjections get removed further from their original emotive function and more integrated into the system of the language, their phonology tends to get regularized. Thus, while they remain interjections, we would expect no pressure from the MSR on them to regularize their stress. But if we were to coin a verb *ahać* 'to say *ahá*!', surely it would be stressed *áhać*, and not **ahá́ć*. Observe as well that in such a verb, the irregular nasal vowel would be denasalized: *áhać*, not **[āhā̃ć]*. In this connection, it is interesting to note some uncertainty among native speakers as to the correct form of the noun for *ahá*:

8) Ona powiedziała dużo áhów 'she said a lot of *ahá*'s' (also: 'a lot of *ach's*')

but

9) ?Jest dużo ahá w tekście 'there are a lot of *ahá*'s in the text'.

Another class of apparent exceptions consist of the forms like (10):

10) a) pracowáłabym 'I would work'
    b) pracowáliśmy 'we worked'
    c) pracowáliście 'you worked'
    d) popracowáliby 'they'd better work'
    e) (po)pracówałbyś 'you'd better work'

Forms (10a, b, and c) are especially bad because they violate the condition in rule (2) that only a 'weak cluster' may be skipped over by the rule in the exceptional words. Indeed, in some similar forms, stress may even be on the fourth syllable from the end:

11) popracowálibyście. 'Why don't you (pl.) do some work?'

Several methods might be suggested to handle these cases: i) a redundancy rule to mark such cases as irregularly undergoing (2a); ii) a word boundary before the offending ending; or iii) that the *i* of the ending is phonologically |j|, which is neutral to stress, and later changes to [i]. Suggestion (i) is quite weak in that it cannot account for the pre antepenultimate stress in (11).

(iii) could in any case only handle some of the exceptions, since (10a) has no [i] in the ending; it would also derive incorrect stress in such forms as *pracowáli*. Therefore, we suggest that there is a word boundary before the ending. There is a good bit of syntactic evidence to support this analysis. E.g., corresponding to (10), we find in (12) (with the same meaning in each case):

12) a) ja bym pracowáła
    b) myśmy pracowáli
    c) wyście pracowáli, or (archaic) wy żeście pracowáli
    d) oni by popracowáli
    e) ty byś (po)pracówał

and corresponding to (11):

13) może byście popracowáli.

These facts clearly show that syntactically the elements in question are independent, and that therefore we have every justification for positing a word boundary before them (cf. Ozga 1974 : 132).

The usually archaic particle *żeś* does show up in contexts like (14):

14) co żeś mu powiedział że taki smutny? 'What have you told him to make him so sad?'.

It is again interesting that despite the syntactically well-motivated word boundary present in these cases, there is still a strong tendency to regularize them phonetically with 'penultimate' stress. In the light of our comments on rule (2a) above, it is noteworthy that this attraction of stress to the phonetic penult is strongest when that penult ends in two or more consonants, as in e.g. *pracowaliśmy*. In fact, **pracowałábym* is nearly impossible, where the penult ends in but a single consonant. Likewise, the particle- *byś* does not change the position of stress in the word to which it is attached:

15) a) poprácuj 'you'd better work'
    b) popracówałbyś 'you'd better work' cf: popracówał 'he worked'
    c) popracowáłabyś 'you'd better work' cf: popracowáła 'she worked'

Marek[4] has noted that the regularization of stress is as well dependent on rhythmic position. Thus we normally find

16) uniewinníliście go 'you exonerated him'

but often

17) uniewinniliście {tamtégo / óbu} 'you exonerated {that guy / both of them}'.

Another instance of the dependence of stress on rhythmic position is seen in the saying

18) Uczył márcin màrcína, a sam głupi jak świnia 'the blind leading the blind' [lit.: 'a marten taught a marten, and he himself was stupid as a pig']

---

[4] Observations due to Dr. B. Marek (personal communication).

Here we can see that under the influence of the trochaic rhythm given the saying by the first two words:

19) Uczył márcin...,

we expect stress on the initial syllable of the third word *marcina*. Under this expectation, in most performances of this saying, we find secondary stress on the first syllable: *màrcina*, rather than the expected lack of stress: *marcina*, which we find in normal contexts. That is, under the rhythmic influence, the application of DESTRESS (rule (7)) is impeded.

Stress may also be altered in songs to fit the meter. Thus in the song with the first line 'Gdzie jest ta ulica', the dactylic rhythm of the song line │♩♪♪│♩♪♪│ imposes main stress on the first syllable of *úlica*, rather than its normal pronunciation *ulíca*.

We have not quite handled the examples of (10)—(15). While the stress is in the correct position, we have not yet accounted for the lack of stress on the added particles. Clearly, either they must be kept from receiving stress, or else their vowels must be destressed by a minor rule to precede the NSR, possibly an extension of DESTRESS.

A similar set of examples is found among the numbers: *cztérysta* 'four hundred', *siédemset* 'seven hundred', *ósiemset* 'eight hundred', *dziéwięćset* 'nine hundred'. Just as above, we want to postulate a word boundary before # *set* (or # *sta*)—i.e., it is a clitic. While this suffix (in these shapes) is not a free form in the same meaning, several facts point to its being a 'word'. Firstly, the forms of a putative neuter noun *sto* 'hundred' are exactly what we find after the appropriate numerals (except for the irregular *dwieście* 'two hundred'). Similarly, the first portion can be declined appropriately, independently of of destressing -*set*.[5] Cf also 4

20) a) Nie mam pięciuset złotych 'I don't have 500 zloties'

    b) Nie mam pięciu set   'I don't have 5 'hundreds''

Note that such clitic destressing rules, irregularly applied, can account for the sporadic counting behavior:

21) ..., dziésięć, jédenaście, dwánaście, trzýnaście, etc.

    'ten, eleven, twelve, thirteen, etc.'

It appears that lone monosyllabic pronouns not under contrast cannot bear stress: *zá #mnie* 'for me', etc. (But cf., *nie tú*, under contrast). Likewise, there is evidence that one word boundary before the pronoun is deleted (cf. *bezé #mnie* 'without me', with epenthesis, but *bez # #mnożenia* 'without multiplication'). The pronouns, then, behave like the 'particles' discussed above in (10)—(15), and -*set*/-*sta*. In each case, they appear to act like words in being effectively neutral with respect to stress placement on other words, and yet to be something less than words in not taking stress themselves. We can

_____
[5] But again note that we will have to allow 'correct' penultimate stress in e.g., *siedemsétny*.

thus assume that that they are separated from the words they are attached to by a single #, rather than by the double # # which normally separates words one from another (cf. *dalèko # #biéżny*). We may then keep such clitics from being stressed by restricting the stress rules (i.e., MSR and INITIAL STRESS) to the environment # #X__. This seems the most appropriate way of handling such examples. Nevertheless, we must explain why we get *siédem # set*, but *sièdem # #dziésiąt*. 'Clitics' (i.e., those words which lose a preceding word boundary) are seemingly restricted to monosyllables (cf. Ozga 1976a). This would suggest that the stressless bisyllable -*byście* in (11) is actually #*by #ście*, and this is indeed quite plausible, and has a good deal of syntactic justification. Ozga (1976a : 133), following Topolińska (1961), points out that in certain 'set phrases' consisting of a preposition and a monosyllabic noun, the noun does not bear stress, e.g., *dó snu* 'ready for bed', *ná d[ŭ]ł* 'down'. Since these are clearly common, frequent collocations, which types in other instances evidence weakened boundaries, the analysis with # rather than # # is thereby provided further support. Note that the exceptionality of *zá mnié*, in this interpretation, lies in *mnie* and not in *za*. Thus we get *za psá* 'for a dog' from *zá psá* quite regularly by DESTRESS (Note that rule (7) (DESTRESS) must therefore permit a word boundary to intervene between the two syllables). Monosyllabic verbs behave similarly: *nié gra* 'doesn't play', *nié ma* 'doesn't have', but *nie mámy* 'we don't have'.

Gaertner et al. (1968 : 88) provide some examples indicating that prefix boundaries (cf. *zá #mnie*) may only be skipped over if the prefix is nonforeign (or, possibly, only if it ends in a vowel and is monosyllabic):

22) *arcy #léń* 'a very lazy person', *arcy #łótr* 'arch-villain', *arcy #mistrz* 'a master', *eks #mąż* 'ex-husband', *wice #kr[ú]l* 'viceroy', *wice #mistrz* 'runner-up'.

So we should appropriately modify the clitic rule discussed above to account for these cases. There are many further complications in these phenomena which cannot be gone into here. (Note that Polish also has proclitics—eg *ŏ łzý*—cf. Szober (1962 : 24). Note also the cautions in Zwicky (1977) that clitic phonology is very often irregular).

Of the examples considered in this paper, rule (7) only applies to delete stresses which have been applied by rule (5) (INITIAL STRESS). Unless other examples can be found demonstrating the necessity for rule (7) in other environments (e.g., if cliticization is to be handled by an extension of rule (7)), it might be preferable to eliminate rule (7) and place a condition on rule (5) that it only applies before an unstressed syllable in the same word. In that case, we could have rule (5) assign [2 stress] directly, and also eliminate rule (6) (NSR). This would as well require the MSR rule (2) to be ordered before rule (5), to keep the revised rule (5) from applying in immediate prestress

syllables. Note that a rule very like (6) is necessary in any case above the word level (see below). Eliminating DESTRESS would also make it much more difficult to handle the rhythmic stress phenomena discussed above within this framework, which may after all be correct. Another use we have made of rule (7) is to destress cliticized monosyllables. Zwicky (1977), however, gives evidence that in general, it seems universally correct, not that cliticized words are destressed, but rather that unstressed words are cliticized.

All things considered, then, it seems appropriate to modify rules (2) and (5) and to eliminate rules (6) and (7) (although we will need a rule similar to (6) in any case—see below). But further research is necessary to confirm or modify this decision. The rules we have discussed, then, are the following (rules (4) and (3) are lexical—or morphological—rules):

23) 4) $V \to$ [-rule (3)]/[+ Foreign] C_0+[i, y] ka

     3) $V \to$ [-rule (2a)]

     2) *Main Stress Rule* (MSR)

         $V \to$ [1stress]/# #X__C_0 ((V C) V C_0)#

     5) *INITIAL STRESS*

$$V \to [2\ \text{stress}]/\#\ \#\ C_0\_\_C_0 \begin{bmatrix} V \\ -\text{stress} \end{bmatrix}$$

There will also be a kind of 'Nuclear Stress Rule' to derive the contours of phrases. This will be essentially rule (6) above, but applied on a higher cycle. I have not examined this rule beyond the word level, so there may be other complications which will arise.

One further rule which bears little comment will have to come after all other stress rules. This is the 'contrastive stress' rule which permits stress on any syllable whatsoever, and indeed even sometimes on consonants:

24) a przýsłòwie, nie przésłòwie

     b ksiàżká, nie książkę

     c kŕwí, nie ni kŕwi ni kréwi.

Some derivations with the rules of (23):

25) RULE	języ/koznawstwo	kod	rzeczpospolita [6] [-rule (3)]	matematyka
(4)	———	———	———	[-rule (3)]
(3)	[-2a]	[-2a]	———	
(2)	1	1	1	1
(5)	2	———	2	2
	jęzýkoznáwstwo	kód	rzèczpospólita	màtemátyka
	autobus	autobusowy	siedem #set	daleko # #bieżny

* Szober (1962 : 23) suggests, not implausibly, that *rzeczypospólita*, although ostensibly a native word, is actually coined on the analogy of Latin *res publica*, and thereby is by analogy antepenultimately stressed.

RULE						
(4)	———	———	———	———		
(3)	[-2a]	[-2a]	[-2a]	[-2a]		
(2)	1	1	1	———	1	1
(5)	———	2	——— ———	——— ———	
Nuclear Stress	———	———	———	2	1
	autóbus	àutobusówy	siédemset	dalèkobiéżny

SOME COMPARISONS WITH ENGLISH

It will be immediately apparent to anyone familiar with the workings of the English stress rules that there are striking parallels between and English stress rules. (This is hopefully the result of an unbiased analysis). The most striking resemblance is in the Main Stress Rule, where Polish resembles English even down to the weak cluster in the rule! The Polish rule, of course, is rather less complex than that for English, and case (a) applies only exceptionally. The similarity in the Main Stress rules of the two languages, then, seems to an extent fortuitous. Also, English stress is iterative (or quasi-iterative), whereas Polish stress appears not to be.

Rules (6) and (7), however, provide close parallels to English. Rule (6)—appropriately extended—is very like the English Nuclear Stress Rule, and the effects are quite similar. This causes the broad intonation patterns of the two languages to be generally similar. The DESTRESS Rule (7) (or the restriction on rule (5)) is parallel to the Auxiliary Reduction Rule I of English (cf. SPE), which leads ultimately to the reduction of a wide variety of vowels in pre-stress position. While reduction of vowels in Polish is often claimed to be a rare phenomenon, Rubach (1977) and others have pointed out that it is by no means unusual. And in fact, Polish reduction may occur (with a variety of restrictions—cf. Rubach 1977) in the environments where rule (7) applies.

CONCLUSION

The stress rule for Polish, formally stated, bears a striking resemblance to the Main Stress Rule for English (cf. SPE). But this ostensible similarity masks the fact that, whereas in English the stress can truly fall on any of the last three syllables, in Polish stress is penultimate so predominantly that exceptions to penultimate stress strongly tend to get regularized. Indeed, exceptions to penultimate stress in Polish are of basically only two types: (1) Foreign words with a weak penult stressed on the antepenult (with perhaps three or four native words so stressed, and even some of these—eg.

óg[u]lu, szczég[u]lu—may have a sort of phonetic partial explanation); and (2)[7] interjections stressed on the final syllable. With the exception of monosyllabic words, I know of no noninterjections with final stress. This seeming noncompatibility of very similar rules in different languages has been discussed before. Cf. Fidelholtz (1973: 90f) for a Spanish/English example, and Gussmann (1975 : 121) for a different Polish/English example.

The integration of secondary stress phenomena into the description of Polish stress allows us to account for a wide range of facts about Polish stress. The distribution of dialects with free stress and those with initial stress can be readily explained with such an integrated description. The treatment of clitics and clitic-like monosyllables can be simply treated as an example of stress deletion. Likewise, we can account for many of the facts discussed in Dogil (forthcoming) by merely assuming that contrast tends to wipe out the normal main stress, or at least subordinate it to that of the contrasted syllable.

It appears to be a problem for linguistic theory that there is nothing in the formal description of Polish stress which would indicate that Polish is a 'penultimate-stress' language, as compared with the similar rules in English, which is essentially a free-stress language, in the sense in which that term has been used in Slavic studies. Resolution of this problem may likewise shed light on the historical relation of Polish stress to that of the other Slavic languages generally. Cf. in this regard the analysis of Russian stress in Halle (1973a), and more generally Kiparsky (1973).

There are many further stress phenomena which we have not examined, especially in the stressing of phrases. But if I have been able to indicate that Polish stress is an interesting area of study, I will have accomplished my purpose.

APPENDIX

Example words and affixes in the article:

	page		page
Afryka	49	arcymistrz	55
aha ahać	52	autobus	50, 51, 51n, 56
akurat	48, 49, 51, 52	autobusowy	50, 51, 51n, 56
akustyka	49, 50n	batik	50n
Ameryka	50n, 52	bazylika	50n
arcyleń	55	beze mnie	51, 54
arcyłotr	55	butik	50n

---

[7] Biedrzycki (personal communication) points out that in vocatives a stress (or better: intonation) peak may be found on the final syllable, with certain attitudinal meaning.

	page		page
(—) by	52, 53, 55	melodyka	50n
być	47	mhm	52
(—) bym byś byście	52, 53, 55	mnie	51, 54, 55
chlorowinylodwuchloroarsyna	50	mnożenie	54
czterysta	54	motyka	49
dalekobieżny	51, 55, 56	myśmy	53
dintojra	50n	na dół	55
do snu	55	Nałęczowianka, Nałęczów	51
dół	55	nie ma	55
dwanaście	54	nie tu	54
dwieście	54	obu	53
dynamika	50n	ogółem, ogółu	48, 58
dziesięć	54	oho	52
dziewczyna	50n	ojej	52
dziewczynka	50n	okolica	48
dziewięćset	54	o łzy	55
ekonomiczny	50n	opera	47
eks-mąż	55	osiemset	54
epika	50n	patataj	48, 52
fauna	49	pies	47, 55
fizyka	50n	pieseczek	51
galop	48, 52	pięćset	54
go	53	polityka	49
grać	55	pracować	52-53
grafika	49, 50n	prezydent	47
harmonika	50n	propedeutyka	49
heroika	50n	prozaika	50n
hoho	50n	przysłowie	57
-ika	49, 50n	psychika	50n
jedenaście	54	reguła	47
język	47	retoryka	50n
językoznawstwo	51, 56	ryzyko	47
kaliko	47	rzeczpospolita	50n, 56, 56n
klinika	49	semantyka	50n
kobieta	50n	-set	54
kod	56	siedemdziesiąt	55
Konstantynopolitańczykiewiczówna	50	siedemset	54, 55, 56
korekt	52	siedemsetny	54n
Korsyka	50n	sinus	50n
Kostaryka	49	snu	55
krew	57	spotykać	49
książka	57	-sta	54
logika	50n	statua	47, 60n
łzy	55	sto	54
ma	55	sylabika	50n
mantyka	49, 50n	szczegółu, szczegóły	48, 58
marcina	53, 54	-śmy	52, 53
matematyka	47, 49n, 56	tamtego	53
		terapeutyka	48

REFERENCES

Chomsky, N. and M. Halle. 1968. *The sound pattern of English*. New York: Harper and Row.

Comrie, B. 1972 "Lexicalized irregular stress in Polish". Unpublished mimeo.

Comrie, B. 1976. "Irregular stress in Polish and Macedonian". *IRSL* 1:2-3. 227-240.

Dłuska, M. 1976². *Prozodia języka polskiego*. Warszawa: PWN.

Dogil, G. 1979. "Some remarks on the stability of lexical stress in Polish and English". This volume.

Fidelholtz, J. L. 1973. "The methodology and motivation of transformational grammar". In Shuy, R. W. (ed.). 1973. 82 - 94.

Fidelholtz, J. L. 1975. "Word frequency and vowel reduction in English". *CLS 11*. 200 - 213.

Gaertner, H., A. Passendorfer and W. Kochański. 1962. *Poradnik gramatyczny...* Warszawa: PWN

Gussmann, E. 1973. A phonology of consonantal alternations in English and Polish. Unpublished Ph. D. dissertation, Maria Curie-Skłodowska University, Lublin.

Gussmann, E. 1975. "How do phonological rules compare?". *PSiCL 3*. 113 - 123.

Gussmann, E. 1978. *Contrastive Polish—English phonology*. Warszawa: PWN.

Halle, M. 1973a. "The accentuation of Russian words". *Language 49*. 312 - 348.

Halle, M. 1973b. "Stress rules in English: a new version". *Linguistic inquiry 4*. 451 - 464.

Kiparsky, P. 1973. "Inflectional accent in Indo-European". *Language 49*. 794 - 849.

Lehr-Spławiński, T. and R. Kubiński. 1952. *Gramatyka języka polskiego...* Wrocław: Ossolineum.

Levy, M. and Fidelholtz, J. L. 1971. "Arabic broken plurals, rule features, and lexical features". *Glossa 5*. 57 - 70.

Mańczak, W. 1970. *Z zagadnień językoznawstwa ogólnego*. Wrocław: Ossolineum.

Mańczak, W. 1975. *Polska fonetyka i morfologia historyczna*. Warszawa: PWN.

Ozga, J. 1974. "Stress in English and Polish — an introduction to a contrastive analysis". *PSiCL 2*. 123 - 135.

Ozga, J. 1976. "Clitics in English and Polish". *PSiCL 4*. 127 - 140.

Ozga, J. 1977. "Stress and word order in English and Polish". *PSiCL 5*. 47 - 63.

Romportl, M. 1973. *Studies in phonetics*. Prague: Academia.

Rubach, J. 1977. *changes of consonants in English and Polish. A generative account* Wrocław: Ossolineum.

Shuy, R. W. (ed.). 1973. *Some new directions in linguistics*. Washington, D. C.: Georgetown University Press.

Szober, S. 1962. *Gramatyka języka polskiego*. Warszawa: PWN.

Topolińska, Z. 1961. *Z historii akcentu polskiego od wieku XVI do dziś*. (Komitet językoznawczy PAN. Prace językoznawcze 27). Wrocław: Ossolineum.

Wierzchowska, B. 1971. *Wymowa polska*. Warszawa: PZWS.

Zwicky, A. M. 1977. "On clitics". *Phonologica 1976*. (Ed. by by W. V. Dressler and O. Pfeiffer, 29-39. Innsbruck: Innsbrucker Beiträge zur Sprachwissenschaft.

---

[s] Since submitting the paper I have consulted Comrie (1976) at first hand. He handles exceptions by making e.g. the *y* of — *yka* lexically — stressable, which throws stress onto the antepenult. While his analogue to rule (2) comes somewhat closer to capturing the penultimate nature of Polish stress than mine, the problem still remains.

Several more words like Waszyngton have come to my attention: Luksemburg, Amsterdam, etc. The restriction to 'c' in rule (2) may be too strong. We should perhaps substitute C_0 for the innermost 'c' in rule (a) (cf. also 'státe').