

SOME NOTES ON THE NON-CYCLIC ASSIGNMENT OF STRESS CONTOURS IN DI-SYLLABIC VERBS AND NOUNS IN ENGLISH

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0. Some preliminary remarks

Stress may be approached from both the phonological and phonetic point of view. Phonologically, it may be regarded either as (1) a unit of syntagmatic contrast, realized within a shorter or longer sequence of vocalic and consonantal segments flanked, or interrupted, by some boundaries, or as (2) a certain locus within that sequence, i.e., where there is a certain segment which is a potential carrier of primary stress. Phonetically, stress may be analyzed on at least three levels: (1) it may be analyzed acoustically as an interplay of fundamental frequency, amplitude, and duration, (2) it may be analyzed from the articulatory (or physiological) point of view as a result of an increased activity of the subglottal and laryngeal systems (cf. Ohala 1977), and (3) it may be analyzed perceptually as a hierarchy of pitch, loudness, and duration (length), and whose perceptual relevance differs from language to language, producing an over-all impression of relative stress prominence.

The aim of the present paper is to account for the location of primary and tertiary stress in di-syllabic verbs and nouns in English in a non-cyclic fashion, following Schane's (1975) modified version of Chomsky and Halle's *Main Stress Rule*, and to present the various phonetic stress contours that can be arrived at within the limited area of two-syllable words. The analysis is limited to present-day Standard British English and no systematic references to other varieties of English are made.

1.0 Stress in two-syllable verbs

The primary (or heavy) phonetic stress in the verbs listed in column (i) falls on the final syllable:

(i)	abstráct	deféct
	affix	proyéct
	combíne	susπέct
	concérd	transpórt

And, although there are a number of exceptions, such as *cómbat*, *cónvoy*, *préfix*, *préstage*, *púrport*, where the alternative penultimate primary stress occurs, the prevailing majority of verbs have their final syllable nucleus heavily stressed.

The verbs under consideration all exhibit a similar structure, i.e., they are built of a prefix and a base. The prefixes are as follows: *ab-*, *ad-*, *af-*, *col-*, *com-*, *con-*, *de-*, *dic-*, *di-*, *dis-*, *e-*, *en-*, *es-*, *ex-*, *fer-*, *im-*, *in-*, *ob-*, *oc-*, *per-*, *pre-*, *pro-*, *pur-*, *sub-*, *sup-*, *suf-*, *sur-*, *sus-*, and *trans-*. They are all phonetically unstressed in verbs. Thus, the following rule, proposed by Schane and accepted here, accounts for the stress contour of the verbs in (i):

- (1) (Schane's case (e) of the MSR)
 $V \rightarrow [+ \text{stress}] / - C_0 \#$

The rule assigns the phonological value [+ stress] to the final vowel. Next, the low-phonetic *Detail Rule* (henceforth abbreviated *DR*) changes the [+ stress] feature into the phonetic integer [1 stress].

- (2) Detail Rule
 $[+ \text{stress}] \rightarrow \begin{cases} [1 \text{ stress}] / - \dots (VC_0 (y)) \# \\ [3 \text{ stress}] \end{cases}$

Thus, the complete derivation of the phonetic contour in the forms in (i) is as follows:

defect
 + (1)
 1 DR

One may also safely assume that the unstressed vowel receives the phonetic specification [0 stress], and that the final phonetic stress contour is thus 0 1.

1.1 Stress in two-syllable compound verbs

A slightly different stress contour is observed in di-syllabic compound verbs of the type listed in column (ii):

(ii)	forejúdge	outbíd
	freewhéel	outróot
	illtréat	outwít

The above verbs are complex structures consisting of two free monosyllabic morphemes, whose phonetic stress contour differs systematically from the

contour of the verbs in (i) in that the morpheme preceding the heavily stressed one is not totally unstressed, but receives a weaker degree of stress, i.e., [3 stress]. The following rules apply in the derivation of the phonetic contour 3 1:

illtreat
 + (1)

Next, Schane's modified *Alternating Stress Rule* (henceforth abbreviated *ASR*), which is reproduced here for ease of reference, assigns another [+ stress] to the preceding vowel:

- (3) *Alternating Stress Rule*
 $V \rightarrow [+ \text{stress}] / - C_0 (VC_0) \overset{+}{V} C_0 +$
 illtreat
 +
 + ASR

Finally, the *Detail Rule* (2) converts the rightmost [+ stress] into [1 stress], while the other [+ stress] is automatically converted into [3 stress]. The complete derivation is as follows:

illtreat
 + (1)
 + ASR
 3 1 DR

The application of (1) and *ASR* in that order enables one to capture an important phonetic regularity, viz., that in compound and morphologically complex di-syllabic verbs the morpheme which does not receive the primary stress is not left unstressed, with its vowel undergoing reduction, but receives a weaker degree of stress. Furthermore, it should be observed that [3 stress] prevents the vowel of the morpheme from getting reduced.

2.0 Stress in two-syllable nouns

A number of di-syllabic nouns, which are in grammatical contrast with verbs, are stressed on the penultimate syllable, while their final syllable nuclei receive a weaker degree of stress, i.e., [3 stress]. The forms in column (iii) all have the phonetic stress contour 1 3:

(iii)	áccent	prócess
	cómbat	súbject
	cóncert	súspect
	cónvoy	tránsfer
	éscort	tránsport
	incline	

The above stress contour specified for these nouns is again arrived at through the application of rules (1) and *ASR*, and through the application of an additional provision stating that if there are two [+stress] values assigned to the syllable nuclei in di-syllabic nouns, only the first [+stress] will be phonetically realized as [1 stress]. Thus,

combat
 + (1)
 + ASR
 1 3 DR (with the provision)

Notice, the same contour can be attested in such forms as *alcove*, *archive*, *mohair*, etc. Also notice that in *combat* as well as in other nouns whose final vowels are neither back nor diphthongal (or tense) in nature the weaker degree of stress, [3 stress], does not prevent them from undergoing reduction. Whereas in words such as *convoy*, *incline*, *export*, *transport*, *alcove*, where the final vowel is either back or tense, no such reduction occurs.

Forms such as *occult*, *excise* are deviations from the stress contour 1 3 in that their contour is 0 1, i.e., it is identical with that of the verbs of column (i). The above mentioned words are exceptions to the stress contour 1 3, for no *ASR* applies and no additional [+stress] is assigned to the initial syllable. Thus,

occult
 + (1)
 1 DR

Moreover, one should note at this point that the stress contour in *occult* and *excise* speaks very strongly in favour of Chomsky and Halle's strong clusters, which in these forms are strong enough to attract the only [+stress] value.

2.1 Stress in two-syllable compound nouns

The phonetic stress contour in compound nouns of the type presented in column (iv) is identical with that of the nouns in column (iii), i.e., it is 1 3:

(iv) rockplant daytime
 saltspoon seadog
 creamjug greenstone
 airport whitecap

The above listed forms all consist of two free monosyllabic morphemes, and in order to arrive at the stress contour 1 3 the following rules apply:

rockplant
 + (1)
 + ASR
 1 3 DR (with the provision)

The stress contour in (iv) differs from that found in, e.g., *rock plant*, *green stone*, *white house*, etc., where the final vowel is heavily stressed and whose stress contour is 3 1. However, as these collocations do not function as words but as phrases, the problem of stress assignment in them is not pursued here any further.

Forms listed in (v) are distinct exceptions to the stress contour found both in (iii) and (iv) in that their stress contour is identical with that of the forms in (i), i.e., it is 0 1.

(v) antique
 ballóon
 pontóon
 tabóo
 tattóo

As has already been mentioned, the occurrence of such a contour seems to be due to the presence of a strong final syllable in all the forms, which prevents the application of the *Alternating Stress Rule*, and which prevents any further assignment of [+stress]. Thus,

taboo
 + (1)
 1 DR

3.0 Summary

- (i) Only two phonological rules, i.e., (1) and *ASR*, and the low-phonetic *Detail Rule*, are needed for the assignment of stress contours in di-syllabic verbs and nouns in English.
- (ii) Lexically "pure" di-syllabic verbs of the type *export*, *increase* have the stress contour 0 1 which is arrived at by the application of rule (1) and *DR*.
- (iii) Lexically "complex" di-syllabic compound verbs of the type *forejudge*, *outbid* are characterized by the phonetic contour 3 1, obtained through the application of (1), *ASR*, and *DR*.
- (iv) Lexically "pure" nouns of the type *export*, *replay* have the contour 1 3 which is the result of the application of (1) and *ASR*, reinforced by the provision on di-syllabic nouns with [+stress] assigned to each syllable nucleus.
- (v) Lexically "complex" two-syllable compound nouns of the type *rockplant*, *seadog* have the stress contour 1 3, accounted for by the application of (1) and *ASR*, completed by the above mentioned provision, and finally by *DR*.

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