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 focus 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 overall impression of relative stress prominence.

The aim of the present paper is to account for the location of primary and secondary stress in di-syllabic verbs and nouns in English in a non-cyclic fashion, following Schaden'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) abstract | defect
affix      | project
combine   | suspect
concord   | transport

And, although there are a number of exceptions, such as combat, convoy, prefix, presage, purport, 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)

\[ V \rightarrow [+\text{stress}] - C_n \#
\]

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

\[ [+\text{stress}] \rightarrow [1 \text{stress}] - \ldots (VC_n (y)) \#
\]

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) forejudge | outbound
freewheel      | outréact
illtreat       | outwit

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:

\[ \text{illtreat} \]

\[ + (1) \]

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

\[ V \rightarrow [+\text{stress}] - C_n (VC_n) VC_n + \]

\[ \text{illtreat} \]

\[ + \text{ASR} \]

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:

\[ \text{illtreat} \]

\[ + (1) \]

\[ + \text{ASR} \]

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) éscort | process
cont | subject
combat | conéct | suspect
convoy | éscort | transport
incline
The stress contour in (iv) differs from that found in, e.g., rock-plant, green-stone, white-horse, 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.

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,

\[ \text{taboo} + (1) \]
\[ 1 \text{ DR} \]

3.0 Summary

(i) Only two phonological rules, i.e., (1) and ASR, and the low-phonetic Delay 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 fore-fade, 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 rock-plant, sledog 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.
REFERENCES


