

## STRESS, INTONATION, ACCENT, PROMINENCE IN DISYLLABIC DOUBLE-STRESS COMPOUNDS IN EDUCATED SOUTHERN ENGLISH

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The linguistic importance or non-importance of a spoken sound depends on whether the members of a language community are able to react to it linguistically. This is especially important in the analysis of the suprasegmental phonemes, where the phonetically trained listener is automatically disqualified, as he is used to listening to phonetic details on a sub-phonemic level.

The untrained listener, on the other hand, holds the key to the problem. Any linguistic signal he hears can be accepted as such; what he does not hear must be put aside as non-linguistic material.

To the untrained listener the difference between a stressed syllable and an unstressed one lies in the greater loudness of the former. We are thus perfectly justified in describing accent as loudness on the auditory level. Instrumental analysis will show that the accent consists of one or more components – increased duration, increased intensity, variation or contrast of fundamental frequency, sharper formant definition. Although the trained listener or specialist will be able to isolate for instance the pitch component of this accent, the untrained listener will not. The pitch component is thus not linguistically valid outside the domain of the accent phoneme, and it does not belong to the domain of pitch phonemes usually called intonation.

On the articulatory level, the stress is felt as a simple effort by the speaker, although it involves a complex activity of various – not too well differentiated – nerve centres, muscle groups, and speech organs. The latter fact accounts for the many-faceted acoustic picture resulting from the stress.

In literature the term "stress" has often been given a more narrow definition – as the articulatory and auditory counterpart of acoustic intensity alone. Daniel Jones provides a way out of this impasse, when he says: "... much of what is commonly thought of as 'stress' is in reality 'prominence' effected by means other than stress ..., by subtle degrees of vowel and consonant length and by intonation." (*Outline*, 1957, § 915).

A phonetically untrained speaker will certainly provide his stressed syllables with the attributes mentioned by Jones, while the untrained listener will still only be hearing a loudness accent.

From the linguistic point of view, stress could be defined as the effect made by a speaker when pronouncing what is heard as an accent by the listener.

The term "prominence", which can only be applied on the auditory level, could conveniently be defined as any factor that makes a syllable or a phoneme stand forth from its background of adjacent syllables or phonemes.

This definition also holds good for accent, which is in fact the most frequent type of prominence encountered in normal speech. However, a prominence may also be sub-accentual (for instance a pitch glide on an unstressed syllable), or extra-accentual as to length, pitch or quality. In the latter case the untrained listener will hear accent + features of length, pitch or quality simultaneous with or immediately following the accent (for instance  $d\tilde{r}a\tilde{w}l$  = extra-accentual length).

Perhaps the most important extra-accentual/sub-accentual prominence category is that of intonation, that is those portions of the tone contour which do not serve as accent components only.

The non-accentual prominences are an important source of errors in the case when speaker and listener do not belong to the same dialect or language community. The proportion of accent components employed will differ between dialects, and the intonation patterns will sometimes be quite different. The listener will thus hear non-accentual prominences where the speaker – to the best of his knowledge – does not pronounce them. The confusion created by such random non-accentual signals can sometimes be considerable, especially in the domain of feelings.

Foreigners are often accused of speaking English with an accent. They do. They use their own accents, the components of which are not proportioned as those of English accents.

In one and the same language community, conventional intonation patterns are accepted by a listener without any conscious effort. If, however, a speaker of another dialect comes into the picture, the listener will hear randomly placed tones in what is being said by the speaker. The presence of unconventional non-accentual pitch prominences in his language accounts for the listener's feeling that speakers of the other dialect are apt to speak in a sing-song voice.

Another difficulty in the analysis of suprasegmental phonemes is the fact that each phoneme possesses its own specific "phonetic power" (Fletcher, 1953), that is, each phoneme has its own specific intensity, duration, pitch, and quality on the acoustic level. On the auditory level this difference is not registered by the ear. The result is that for instance accent components show different characteristics in different phonemes. Acoustic analysis can overcome this difficulty through comparing the same word, syllable, or phoneme in different situations and surroundings or using symmetrical or nearly symmetrical words for a comparison between syllables or phonemes (*Type downtown*).

The following is a short preliminary account of research on disyllabic double-stress compounds carried out at Uppsala University and the Phonetics Research Laboratory of Stockholm University

An inventory was made of disyllabic double-stress and single-stress compounds containing identical or practically identical syllables. The words were integrated into

## TERMINOLOGY EXPLANATORY TABLE

Auditory level (Unemotional speech, untrained listener)		
PROMINENCE		
<i>Sub-accentual</i>	<i>Accent</i> (heard as <i>loudness</i> )	<i>Extra-accentual</i>
Increments of Volume Length Pitch Quality	Components: Volume Length Pitch contrast Pitch variation Quality	Increments of Volume Length Pitch Quality
(One or several, heard as volume, length, pitch quality respectively)	(No component heard as isolated from the others)	(One or several, heard as volume, length, pitch, qual- ity respectively, in the same syllable as carries the accent)
	Acoustic level	
	Cues to accent:	
	Intensity	
	Duration	
	Frequency of the fundamental	
	Formant pattern	
	Articulatory level	
	<i>Stress</i>	

NOTE: There is no absolute one-to-one correspondence between the acoustic cues to accent and the auditory accent components (audible only to the trained listener).

rhythmically varying sentences and also placed in isolation followed by a full stop and a question mark respectively, in order to ascertain their lexical pronunciation. The material was read aloud from the paper by five speakers of educated Southern English and the reading recorded on tape. The tapes were played by the author with several months' interval between hearings. Items of interest were subjected to further investigation by means of a Kay Electric Sonagraph and a Grützmacher-Lottermoser pitch-meter connected to a Mingograph.

As the measurements have not been completed at the time of writing, only a few general points will be mentioned here.

*Double stress compounds* (Type *Maine Lane*), although they carry the nuclear (kinetic) accent on the second syllable, easily drop either of their accents if confronted with a strong accent in their immediate surroundings.

They then adopt the character of the correspondingly stressed single-stress compound.

A *single-stressed compound* with its accent on the first syllable (Type *Fleet Street*) will not overturn except when subjected to a combination of rhythmic influence and contrast:

Fleet Ínn, Fléet Stréet, Fleet Róad.

Even then the overturning is not complete but has rather the character of a double accent.

A *single-stress compound* with its accent on the second syllable (Type *waylay*) will overturn sooner and more completely under the influence of a contrary rhythm, especially if immediately followed by a stressed syllable:

The squád will wáylay.

Wáylay Hímmeler. (But: Wayláy Hímmeler's mén)

A hesitating accentuation is found in:

The squád had bétter wáylay Hímmeler's mén.

The reason for the greater tendency to overturning in this type of compound may lie in its relatively low frequency (and the relatively low frequency of the word *accent* - ˈ) in English.

*Wordgroups* (Type *neat street*) tend to keep their two strong accents intact. They isolate themselves from their immediate rhythmic environment by means of pause signals strong enough to interrupt the rhythmic sequence set up before and/or after the word group. The juncture between the two words forming the group is also of a more open character than that found in the compounds. It should also be observed that the information content of each word in the word group is so high as to make the unstressing of either word rather impracticable, while, in the compound, the possibility of mistaking the unstressed portion is comparatively small.

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