

The Weight-Stress Relation in English Words
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It is often observed that heavy syllables attract stress in English. In particular, the default pattern of main stress in English words is thought to be as follows:

- (1) Stress the final syllable if it has a long vowel
Else stress the penultimate syllable if it is heavy
Else stress the antepenultimate syllable

However, the sizes of exceptions are rarely offered statistically. Alcantara (1998) made a quantitative study of English stress in the CELEX lexicon and found that the default stress pattern very often fell well below 50%, and sometimes it is hard to tell which of the competing patterns are dominant statistically.

In this paper we report a similar study using the CMUDICT lexicon, which is larger than the CELEX lexicon. The results for trisyllabic and longer words are summarized in (2), where a final H has a long vowel (a tense vowel or a diphthong), a final L is (C)V or (C)VC, S is (C)VCC, a non-final H is heavy (with a long vowel or a VC rime), and a non-final L is light.

- (2) Weight and main stress in trisyllabic and longer words

Final SSS	Expected	Exceptions
HHH	final	93.92%
HHL	penult	52.64%
HHS	penult	47.39%
HLH	final	93.52%
HLL	antepenult	40.53%
HLS	antepenult	47.82%
LHH	final	96.09%
LHL	penult	45.55%
LHS	penult	33.98%
LLH	final	95.99%
LLL	antepenult	44.63%
LLS	antepenult	47.42%

The results are similar to those of Alcantara's, in that exceptional patterns are quite widespread.

Unlike most previous analyses, which predict one stress pattern for each given string of sounds and in which exceptions must be accepted, we offer an analysis in which all the stress patterns are regular, following the spirit, but not the details, of Burzio (1994). Our analysis makes the assumptions in (3), most of which are familiar.

- (3) Pure tense vowels (such as [i]) can count as either long or short
Stressed syllables are heavy
Heavy syllables are stressed
English has both bimoraic trochee and bisyllabic trochee
Main stress is on the last syllabic foot

In our analysis multiple stress patterns are possible for a given string of sounds (although each word only uses one of the patterns), all of which are well-formed (i.e. observe the constraints on weight-stress and on the location of main stress).