

Submission for Prosody08

Title: Distributional Stress Regularity: A Corpus Study

Abstract

The regularity of stress patterns in a language depends on *distributional stress regularity*, which arises from the pattern of stressed and unstressed syllables, and *durational stress regularity*, which arises from the timing of syllables. While a number of empirical studies have explored durational stress regularity—for example, studies of “stress-timed” versus “syllable-timed” languages (Dauer, 1983)—distributional stress regularity has been subject to relatively little quantitative investigation. Distributional stress regularity depends on three factors. *Lexical stress patterning* refers to normal stress patterns within words; *interlexical stress patterning* refers to patterns that arise from word combinations; and *contextual stress patterning* refers to deviations from normal lexical stress patterns. All three of these kinds of patterning have been observed to contribute to stress regularity in English. The role of lexical stress patterning in stress regularity is seen, for example, in cases of stress shift within stems as affixes are added, as in *infést / ínfestátion*. The effect of interlexical stress patterning is seen in the fact that disyllabic nouns and verbs tend to occur in different stress contexts which, in combination with their characteristic internal stress patterns (nouns are mostly iambic while verbs are mostly trochaic), tend to favor stress regularity (Kelly & Bock, 1988). Finally, contextual stress regularity is seen in well-known phenomena of “stress clash avoidance,” in which normal stress patterns of words are altered to enhance regularity, such as *thírteen men* (Hayes, 1995). Despite wide

discussion of these three factors, there has not yet been any quantitative study to determine how much each factor contributes to stress regularity in English.

A corpus study was done to assess the effect of lexical, interlexical, and contextual stress patterning on distributional stress regularity in conversational and formal spoken English. Corpora of natural speech annotated with stress information were analyzed and manipulated to isolate the effects of the various factors. Randomly rearranging the stressed and unstressed syllables of each sentence and comparing this random pattern to the actual stress pattern of the annotated text reveals the overall stress regularity of the original data—the effect of lexical, interlexical, and contextual patterning in combination. Replacing the annotated stresses with “citation-form” stress patterns—drawn from a phonetic dictionary—and randomly reordering the words of each sentence reveals the degree of stress regularity that occurs due to lexical patterning alone. Restoring the original word order, but retaining the citation-form stresses for each word, reveals the effect of interlexical patterning. And comparing this to the original annotated stress pattern reveals the effect of contextual patterning.

The results show that both lexical and interlexical patterning contribute significantly to stress regularity in English; contextual stress patterning does not, and in fact significantly reduces regularity in comparison to citation-form stress patterns.

References

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