

WORD STRESS AND SENTENCE STRESS IN VARIOUS TONE LANGUAGES

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Introduction

The nine languages summarized here all use two or more tones as part of the features which contrast lexical items. All but one of the languages, Fasu (4), show tonal contrasts on both stressed and nonstressed syllables. In Fasu the tonal contrasts occur on stressed syllables only. One language, Mikasuki (6), contrasts long versus short vowels in addition to tone.

Instead of contrasting lexical tone in the prepause syllable, Tenango Otomi (3) has a different pitch system on that syllable, one that indicates the attitude of the speaker.

Diuxi Mixtec (9) has two types of word stress, one marked by vowel length, and the other by allotones. Some words have both types, but others have only the type marked by vowel length. Eastern Popoloca (2) also has two types of word stress, one marked by vowel length and the other by consonant length. In this language the two types never occur in the same word.

Probably in all of the languages, loudness is optionally present on stressed syllables. Vowel length is used to mark stress in at least five of the languages. Consonant length is one of the features marking stress in at least three languages.

By the term "word stress", I mean the syllable which is the nucleus of a rhythm wave, in this case, the phonological word (Pike 1976, 54-69). By "sentence stress" I mean the nucleus of a larger rhythm wave. As I have used it in this paper, this rhythm wave coincides with the pause group (K. Pike 1967, 392-403), so by "sentence stress" I mean the syllable which is the nucleus of a pause group.

A word uttered in isolation is between pauses; therefore the stressed syllable of a word in isolation has sentence stress. To identify word stress, usually there must be at least two words in the utterance. Word stress is the stress which remains on a word when it occurs in the margin of a pause group.

If, in a specific language, word stress and sentence stress occur on the same syllable, it is perhaps impossible to know which features are marking word stress when the words are studied only in isolation. It may be, for example, that in Mikasuki (6) some of the features which were described as those of word stress were actually features of sentence stress, since the data, for the most part, were studied from words uttered in isolation.

There is less apt to be confusion when sentence stress occurs on a different syllable from that where word stress occurs. For example, in Ayutla (7) and Acatlan Mixtec (8), and also in Tenango Otomi (3) word stress occurs on the first syllable of the stem, but sentence stress (with some exceptions) occurs on the prepause syllable.

Perhaps the thing that surprised me most, as I summarized the nine languages, was that in only one of the languages, Fasu (4), were vowel allophones spoken of as being determined by their occurrence in relation to a stressed syllable. If I have the opportunity to hear these languages again, that is one of the points I will check.

Languages summarized

(1) Marinahua of Peru (Pike and Scott 1962) has a contrastive tone, high versus low, on each syllable (p.7). Word stress occurs on the first syllable of the stem and is marked by vowel length (p.4). Sentence stress occurs on the first syllable of the stem

of the last word in the sentence (p.2); it has an even longer vowel than occurs with word stress. Sentence stress is also marked by allotones, that is, the high is raised, and the low tone usually glides down when in a syllable with sentence stress (p.8). When the speaker is irritated, the last consonant of the sentence may be lengthened, and the loudness may shift from the normally stressed syllable to the prepause syllable (p.4).

(2) In Eastern Popoloca of Mexico (Kalstrom and Pike 1968), contrastive tone consists of four level tones plus ten tone clusters which are combinations of those tones. There are two types of stress. Some words have stress marked by a long vowel (that stress occurs on the next to the last syllable of the stem, p.16,18). Other words have a stress that is marked by a long consonant (that stress usually occurs on the last syllable of the stem (p.17). When only one consonant occurs in the syllable, that consonant is lengthened. When a consonant cluster occurs, it is the /h/, /?/, or /n/ of the cluster which is lengthened--all consonant clusters have either /h/, /?/, or /n/. All words have either one stress type or the other, but no words have both.

In a normal sentence, the prepause syllable is usually short, louder than other syllables in the sentence, and it ends in a sharp glottal stop (p.28). A polite sentence is raised in key and the prepause syllable is long, lenis, gradually getting softer as it glides upward. There is no final glottal stop in that type of sentence (p.29).

(3) In Tenango Otomi of Mexico (Blight and Pike 1976), high, low and upgliding tone contrast lexical items. The upgliding tone occurs only on syllables with word stress. Word stress occurs on the first syllable of the stem, and is marked by vowel length

(p.56); it is also marked in that voiceless stops are preaspirated when they are initial in a stressed syllable (p.52). A low tone in a stressed syllable is slightly lower than a nonstressed low; a stressed high usually has a slight downgliding allotone when occurring between voiced consonants (p.55). Sentence stress occurs on a prepause syllable and is marked by loudness. It is that prepause syllable that carries contrastive intonation. There is no contrast of lexical tone on the prepause syllable nor on any word-final syllable (p.55).

(4) In Fasu of Papua New Guinea (May and Loeweke 1965), a contrast of high versus low tone occurs on only one syllable per word--the stressed syllable; the placement of that syllable is not predictable. Vowels /i/ and /e/ have open variants which fluctuate with close variants when prestressed if the stressed vowel is /i/ or /e/ respectively (p.92). Within a sentence, there is a gradual downdrift of pitch. In a question-doubt sentence, without an interrogative marker, there is a small upglide on the final syllable (p.95). Other attitudes of the speaker may be indicated by a wider spread in the tone levels, or by voice quality, etc.

(5) In Golin of Papua New Guinea (Bunn 1970), there is contrastive tone, high versus low, on each syllable. Word stress occurs on the final high, or if there is no high, then on the final low (p.4). Sentence stress occurs on the same syllable as word stress, but it is louder and if it is a syllable with high tone, it usually has a higher allotone. When sentence stress occurs on a syllable with low tone, there is optionally a lower allotone (p.5). Sentence stress may occur on any word of the sentence; it is usually used for emphasis (p.6).

(6) Mikasuki of Florida USA (West 1962) has contrastive long versus short vowels. Mikasuki also has three levels of tone and one tone cluster which are used in lexical items (p.82). In a question, one of the syllables of the sentence may have an extra-high tone and additional length, and one of the words may end in glottal stop (p.82,89). (Glottal stop is not lexically pertinent.) Other clause types, negative statements, imperatives, for example, may also have the extra-high tone or tone clusters that do not occur in simple lexical items (p.89). Word stress usually occurs on the highest nonfinal syllable (p.85). In the normal sentence, there is a gradual drop of pitch between words (p.88-89).

(7) In Ayutla Mixtec of Mexico (Pankratz and Pike 1967), there are three levels of tone, contrastive on each syllable (p.291). Word stress occurs in the first syllable of the stem and is marked by loudness and also by allophones of the consonants. That is, when contiguously following the stressed syllable, voiceless stops and affricates are preaspirated, voiced continuants are lengthened, voiceless continuants are either lengthened or preceded by a slight hiatus (p.288). Allotones mark word stress in that a proclitic with high tone is not as high as a stressed high which immediately follows it (p.291). Throughout the sentence there is a downdrift of pitch. Sentence stress is usually louder than other syllables, and occurs either on the prepause syllable, or on the syllable with word stress-- there is variation in accordance with the CV pattern and the tone sequence of the last word (p.294).

(8) Acatlan Mixtec (Pike and Wistrand 1974) has contrastive tone on each syllable: low, mid, high and up-step (p.83). Word

stress occurs on the first syllable of the stem. It is marked by allophones of consonants (p.100,103) in that all consonants, except the flapped /r/, are lengthened when contiguously following a stressed syllable. If the syllable which follows stress does not begin with a consonant, then it is the stressed vowel which is lengthened. Sentence stress occurs on the syllable immediately preceding pause (p.104). There is general downdrift in relaxed speech in that each low tone tends to be lower than the preceding low (p.84).

(9) Diuxi Mixtec (Pike and Oram 1976) has two contrastive tones, high versus low, one of which occurs on each syllable. There are two types of word stress. The type marked by a lengthened vowel occurs, on each word, on the first syllable of the stem (p.322). The second type of word stress occurs on the word-final syllable, but only on some words. It is marked by allotones. That is, a stressed high between another high and pause has a sharp downglide. When between low and pause, the high may not downglide, but it is definitely higher than a nonstressed high in that environment. A stressed low tone downglides from a point starting noticeably higher than a nonstressed low (p.325).

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