

An Introduction to Language and Linguistics, Edited by Ralph W. Fasold, Jeff Connor-Linton, 2014, pages 66-68.

use of pitch to convey meaning at the word level; intonation refers to the use of pitch to convey meaning at the sentence or discourse level.

Intonation distinguishes different kinds of sentences or focuses attention on a particular word. For example, try reading the following sentences out loud (and dramatically):

“That’s a cat?”

“Yup. That’s a cat.”

“A *cat*? I thought it was a mountain lion!”

The pitch of your voice moves in different directions on the word *cat*. On the first *cat*, pitch goes up, indicating a question. On the second, pitch falls, indicating a statement or confirmation. On the third *cat*, a more complicated fall–rise pattern indicates incredulity. (Typographically, we indicate these different “readings” with a question mark, period, and italics, respectively.) In each case, the sequence [k<sup>h</sup>æt] refers to the same object, a feline. The pitch differences indicate only the role that the reference to the feline is playing in the current conversation: asking for information about the cat, providing it, or expressing disbelief regarding the information offered. All languages use intonation to some extent, though the patterns and meanings differ across languages.

In addition to intonation, most languages also use pitch to distinguish different words. In English, whether you say [k<sup>h</sup>æt] with a rising pitch or falling pitch, the word still refers to a feline. In Thai, if you say [k<sup>h</sup>a:] with rising pitch, it means ‘leg’; but if you say it with falling pitch, it means ‘value.’ (There are actually five contrasting pitch patterns in Thai: high, low, mid, falling, and rising.) These words are as different as *cat* and *cut* to an English speaker. This use of pitch, to distinguish different words, is known as *tone*.

Although the idea of tones seems very strange to English speakers, the majority of the world’s languages are tonal. The major European languages and their relatives are exceptional in *not* having tone.

## Syllable structure

How many syllables are in the word *Appalachicola*? *Massachusetts*? *Antidisestablishmentarianism*? (six, four, and eleven, respectively.) English speakers have little trouble counting the number of syllables in a word, but linguists have a harder time defining what a syllable is.

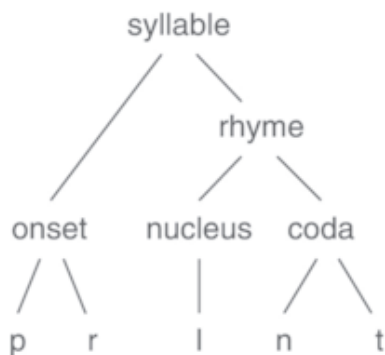
One preliminary answer might be “a vowel and its surrounding consonants.” Most of the syllables we encounter in English, in words like *pin*, *print*, or even *sprints*, fit this definition. However, it’s perfectly possible to have a syllable without a vowel. We would all agree that *hidden* has two syllables, even if pronounced [hɪdn], with no vowel between the two consonants. Also, defining a syllable as “a vowel and the consonants around it” doesn’t explain why some sequences of consonants are allowed and others are not. The sequence [prɪnt] is acceptable as a syllable in English, but the sequence [rpɪtn] is not acceptable as a single syllable in any language. Why is [prɪnt] a good syllable when [rpɪtn] is not?

The best answer (though not perfect) lies in the concept of sonority. **Sonority** can be defined as relative openness of the vocal tract, which corresponds directly to the relative loudness of a sound. The most sonorous sounds are the low vowels; the mouth is wide open, and the sound flows freely out. The least sonorous sounds are the voiceless stops; the mouth is completely shut, and no sound is made at all. Other sounds range between these two extremes.

The speech stream is organized into peaks and valleys of sonority. Languages generally do not choose long strings of consonants nor long strings of vowels. Rather, we alternate sounds that are more sonorous and less sonorous: each stands out better against the background of the other. A syllable, then, may be defined as a way of organizing sounds around a peak of sonority.

Take the simple syllable *pin*. The vowel [ɪ] is the most sonorous sound in the sequence, flanked by less sonorous consonants. Thus there is a single sonority peak, and a single syllable. The syllable *print* also follows the principle of sonority. Sonority rises from [p] (voiceless stop) to [r] (rhotic) to [ɪ] (vowel), then falls from vowel to [n] (nasal) to [t] (stop). A single peak, a single syllable. Meanwhile, the sequence [rpɪtn] has three peaks; higher sonority [r], [ɪ], and [n] are interrupted by lowest sonority [p] and [t]. Thus (if it is pronounceable at all) it has three syllables, not one.

The most sonorous element of a syllable, the peak itself, is called the **nucleus**. Lower sonority sounds preceding the nucleus are called the **onset**; those following the nucleus are called the **coda**. The nucleus and coda together form the **rhyme**. A syllable structure tree diagram for the word *print* is shown in **Figure 1.6**. (In linguistics, such tree diagrams are often used to show how constituent parts of a larger unit are related, so you’ll see more tree diagrams in other chapters!)



**Figure 1.6** Syllable structure for the word *print*

Since vowels are the most sonorous sounds, they usually constitute syllable nuclei, but that's not always the case. Sounds other than vowels may form sonority peaks, so that *hidden* and *prism* have one vowel but two syllables.

Sonority thus seems to capture most of our intuitions about syllable structure and explains a lot about possible syllables in the languages of the world. But sonority doesn't account for everything. There are some English words that clearly violate the principle of sonority – *sprints* and *sixths*, for example. Linguists aren't sure exactly how to deal with words like this. It may be that endings like plural [s] and ordinal [θ] are not really part of the syllable at all; rather they're tacked on in an “appendix” to the end of the word.

## Stress

Linguistic stress is a prominence relation between syllables: certain syllables are longer, louder, higher-pitched, or more clearly articulated than those around them. Just as we can generally count the syllables in a word, we can generally pick out the syllable that's most prominent: *phoNOlogy*, *phoNETics*, *SYNTAX*.

There are at least three different levels of stress in English. Consider the word *Alabama*. The third syllable [bæ] is the most prominent, and bears the *main* or *primary stress* of the word, but the other three syllables do not receive equal stress. The first syllable has a full vowel quality [æ], though it is not quite as long or loud as the third, but the second and fourth syllables are short and weak, with the tongue not moving far from its central position. We say that the first syllable has *secondary stress*, while the second and fourth are completely unstressed.

Some languages do not use stress at all. In Japanese, for example, all the syllables in a word are sometimes pronounced with equal prominence. This