
METHODS OF INDICATING AND DESCRIBING INTONATION IN ENGLISH

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Abstract

The main factors in intonation are variations in the pitch of the voice. Two of the most popular models of intonation are presented in this article, which should be useful for second language teachers and textbook authors for their own research and for creating course material. In the English language, intonation is often accompanied by stress and rhythm to produce meaning. It is also easier for readers to understand recent primary material on the characteristics of intonation, particularly in relation to languages. It is difficult for second language teachers to use the results of intonation research because of this gap between intonation as it is used in instruction and intonation research. In this piece, I discuss the basic subjects covered in current theoretical research as well as the different approaches intonation may take.

Keywords: Intonation and inflection, intonation patterns, flat intonation, stress and rhythm, pitch contours, ToBI (Tones and Break Indices), MAS (Melodic Analysis of Speech method).

Introduction

Intonation is the word for the 'melody' of spoken language: the way the musical pitch of the voice rises and falls. Intonation systems in languages are very complicated and difficult to analyse, and linguists do not all agree about how English intonation works. [1] It is the way our voice rises and falls to add emphasis, express emotion, or ask a question. Intonation in speech helps you communicate more than just the words you're saying. In combination with the words and grammar you use, intonation is the changes in the pitch of your voice to communicate. Intonation is an important part of English pronunciation. Some elements of pronunciation affect clarity — individual sounds, connected speech, etc. But like sentence stress, intonation affects meaning too. [2]

Well, why do we need intonation? There are several reasons why intonation is important. In intonation, the following are used:

Particularly in tonal languages, intonation aids in comprehension of a sentence's meaning. The meaning of a word might vary depending on its tone in tonal languages like Mandarin and Vietnamese. As a result, a sentence's meaning can be entirely altered by a change in tone. Learning a language's tone is just as crucial as learning its sounds when learning a tonal language. In non-tonal languages like English and French, intonation is also helpful in determining a sentence's meaning. Sentences can be classified as either statements or questions based on their rising or falling parts. For instance, the rising rhythm in the statement "They are coming back" would give the

impression that the speaker is posing a query. However, it would sound as though the speaker is providing information and indicating that they will return if the identical line were delivered in a falling pattern. Tone is a means of expressing moods and emotions. Based on the speaker's tone, it is simple to determine if they are joyful or sad. Because of this, if someone's tone of voice does not correspond with the emotion of what they are saying, we may conclude that they are lying or not being serious. For instance, even though the speaker is grinning or laughing, the listener will assume that the speaker is not truly happy if they say, "I'm happy for you," in a neutral tone. Additionally, intonation might indicate which word is more significant than the others. Usually, the word stress is used for this. In order to make it clear that we are stressing a word, we also alter its tone in addition to other aspects of the word. When we regard one word or one element of a sentence to be more significant than the others, we utilize word stress. This demonstrates our sentence priorities. For instance, the speaker want to convey that the task should be completed today when they say, "I want you to finish this work today." By changing the word emphasis to "I want you to finish this work today," the speaker is letting you know that a certain task should take precedence over other tasks and needs to be finished that day. In certain situations, the speaker's identity can be inferred by their intonation. It has been noted that younger girls are more likely to use uptalk or generally rising intonation at the end of sentences. Because of this, this speech pattern is sometimes referred to as Valley Girl speech. To make the discourse more lively and engaging, intonation is crucial. The listener finds a monotone discourse boring and may become easily distracted. Using intonation in a speech can assist the listener stay focused and not get distracted easily [3].

Intonation in conversation

One use of intonation is to show how a piece of information fits in with what comes before and after. For instance, a speaker may raise his or her voice when taking over the conversation from somebody else, or to indicate a change of subject. A rise or fall on a particular word may show that this is the 'centre' of the message the place where the new information is being given; or it may signal a contrast or a special emphasis. A rising tone at the end of a sentence may suggest that there is more to be said and perhaps invite another speaker to take over [1].

Intonation and Inflection

Although both inflection and intonation are related to variations in voice pitch, they serve distinct purposes in communication.

A sentence or phrase's overall pitch pattern, or intonation, can convey the speaker's mood or emotion. "Are you coming to the party?" is an example of a yes-or-no inquiry in English where your voice usually raises at the conclusion of the phrase.

Individual words' variations in pitch are known as inflection. The grammatical function of the term is frequently impacted by this alteration. To transform a statement into a question, for instance, you can alter the pitch of your voice: A rising inflection on the

word “going” changes "You're \going" (statement) into "You're ↗going?" (question). The word "going" stays the same, but the pitch change at the end turns the statement into a question. [2]

Intonation patterns. English has a number of common intonation patterns. You can communicate more effectively and establish a stronger connection with your audience by being aware of these trends. This is because they give your interactions more nuance, focus, and passion. Let's examine some typical intonation patterns.

1. Rising Intonation. This occurs when you finish a sentence or phrase with a higher pitch. Rising intonation is used in polite requests, yes-or-no queries, and question tags that demand an answer, such as "You didn't lose it, did ↗you?" and "Do you want a ↗drink?"

2. Falling intonation. The most prevalent type of intonation in English is falling intonation, which occurs when your voice pitch drops at the conclusion of a statement or phrase. There is falling intonation in statements like "Nice to meet \you," commands like "Close the \door," Wh-questions like "What time will you be \home?" and question tags that don't require an answer like "It's a nice day, isn't \it?" Although it's not common, you may hear people use rising intonation to conclude comments, particularly in nations like the USA and Australia. This is known as high rising terminal (HRT) or upspeak, and it makes you sound unsure. However, it can also make you seem more approachable and amiable. Avoid using a lot of rising intonation at the end of statements as this could confuse or even irritate your audience [2].

3. A fall-rise intonation. A fall-rise intonation implies that there is more to say or that something is unclear or incomplete [1]. You should use a combination of rising and falling intonation in numerous statements and phrases. When the pitch rises and then falls inside a sentence or phrase, this is known as rising-falling intonation.

•Rising-falling intonation for choices:

Do you speak ↗Spanish or \French?"

•Rising-falling intonation when making lists:

You need ↗eggs, ↗flour, and \sugar.

•Rising-falling intonation for conditional structures:

If it rains ↗tomorrow, we'll stay at \home". [2]

Everything we have examined thus far is straightforward. However, intonation can also convey more complex information. Unfinished thoughts, for instance, have a rising-falling tone.

• Did you enjoy the meal? The ↗salad was \nice

The salad was well received, but what about the others? This speaker has omitted a lot, and their rising-falling intonation indicates that they are hesitant to express their entire viewpoint. This is an illustration of how intonation gives your words depth [2].

4. Falling-rising intonation. In contrast to the preceding examples, falling-rising intonation occurs when the pitch rises and then falls, frequently inside a single syllable. This demonstrates two things.

First of all, this pattern indicates that the speaker is unsure of their response or may not even choose to respond. For example,

• **What were you doing on Saturday at 8 pm? I do not \re/ member.**

Second, when posing a question, it might also convey both politeness and hesitancy. For example,

• **Do you think it would be \O/K?**

5. Flat intonation: A speech that lacks tone or is monotonous is known as flat intonation. A speech with flat intonation won't have any rising or falling (3). Let's look through some examples,

• "That's a great \idea" sounds like a real compliment. "That's a great /idea" with an exaggerated rising intonation, sounds sarcastic. It sounds like the speaker actually thinks it's a terrible idea.

• "You're going to wear /that?" sounds like a genuine question. "You're going to wear \that?" sounds more like a judgment or criticism of the person's clothing choice.

• "I can't believe you did /that" shows surprise or even excitement. But "I can't believe you did \that" shows disappointment [2].

ToBI (Tones and Break Indices). A collection of rules for recording and annotating speech prosody is called ToBI (/ˈtoʊbi/; an acronym for tones and break indices). The first ToBI system was created by Mary Beckman and Janet Pierrehumbert, among others, and is commonly referred to by the moniker "ToBI" to describe the standards used to describe American English in particular. Other ToBI systems have been established for several languages; for instance, J-ToBI refers to the ToBI norms for Tokyo Japanese, and Carlos Gussenhoven created ToDI, a version of ToBI that describes Dutch intonation. In order to facilitate comparisons across various British English dialects, IViE (Intonational version in English), another version of ToBI, was created in 1998 [4]. There are six components to a complete ToBI transcription: A recording of the fundamental pitch (Fo), an electronic printout or paper record of it, a tones tier that analyzes the tonal events in terms of H and L, a words tier that contains the utterance's words in standard writing, a break-index tier that displays the strength of the junctures, and a miscellaneous tier with comments are the first five options [5].

Tonal events. Pitch accents, phrase accents, and boundary tones are examples of tonal occurrences.

Pitch accents, Usually applied to words that convey the most information in a sentence, pitch accents are represented by the letters H* or L* (high and low tones, respectively). For instance, a natural pronunciation of the sentence "Mary went to the store to get some milk" might use pitch accents on the words "Mary," "store," and "milk." L*+H, which is a syllable that begins with a low accent before rising, and L+H*, which

is another low-high syllable with the second portion accented, are examples of other types of pitch accents [6].

Phrase accents, The tones in between a pitch accent and a boundary tone are called phrase accents, and they are denoted by the letters H- or L-. For instance, a question's final intonation could be H*L-H%, which indicates that the pitch begins high, drops to a low, and then rises again, or L*H-H%, which indicates that the pitch begins low and then increases gradually to a high [6].

Boundary tones, denoted by H% and L%, are associated with the boundaries of phrases rather than words. One way to pronounce the line "Mary went to the store" is as a question or as a statement ("Mary went to the store." vs. "Mary went to the store?"). A boundary tone at the end of the phrase indicates the difference between the statement and the question: a low boundary tone indicates the statement with a dropping pitch contour, while a high boundary tone indicates the inquiry with a rising pitch contour.

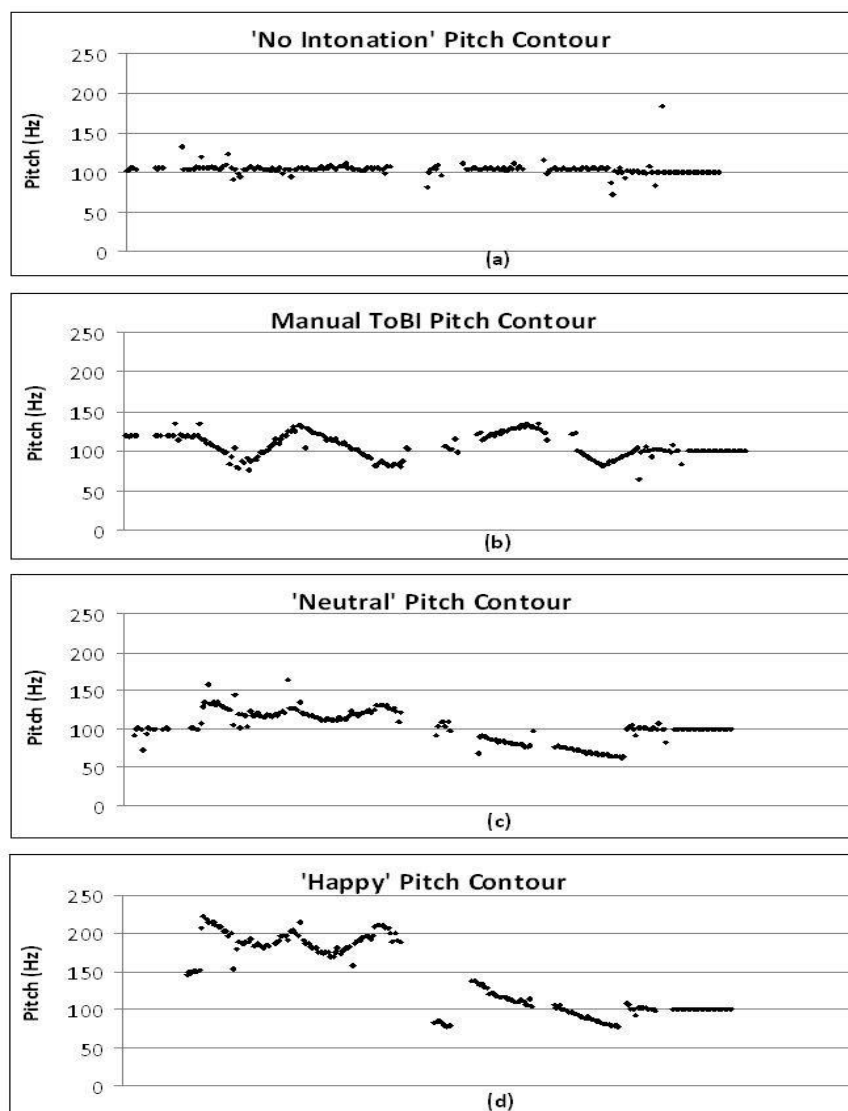
(4) English utterances' intonation patterns and other prosody elements can be transcribed using the ToBI (for Tones and Break Indices) approach. In order to share prosodically transcribed databases across research sites for a variety of technological and research purposes, a group of speech scientists from different disciplines (linguistics, electrical engineering, psychology, etc.) developed it. They wanted a common standard for transcribing a predetermined set of prosodic elements [7].

Break indices. Numbers that represent the strength of the gap between words are called break indices: 0 = clitic border, such as the identity of; 1 = is the typical word boundary; 2 = is an apparent intonational border without a pause or any other indications, or a perceived junction without an intonation impact; 3 = is an H- or L-marked intermediate phrase; 4 = complete intonation phrase at the end of a phrase or sentence, indicated by L% or H%

Pitch contour. Fundamental to the linguistic concept of tone, where the pitch or change in pitch of a speech unit over time affects the semantic meaning of a sound, the pitch contour of a sound is a function or curve that tracks the perceived pitch of the sound over time. It can include multiple sounds using multiple pitches and relate the frequency function at one point in time to the frequency function at a later point. It also indicates intonation in pitch accent languages. Creating a natural-sounding pitch contour for the entire utterance is one of the main issues in voice synthesis technology, especially for non-tonal languages. A common misperception of speech synthesis in popular culture is that it sounds "lifeless" or "emotionless" to human listeners due to unnatural pitch contours. [8]

The relative shift in pitch of a primary sequence of played notes over time is the focus of the pitch contour in music. It is possible to transpose the same contour without losing its fundamental relative characteristics, including abrupt pitch shifts or a pitch that increases or decreases over time. Michael Friedmann's methodology for analyzing pitch contour is frequently used in the analysis of post-tonal music. It assigns numerical values to indicate the relative positions of each pitch within a musical line; the lowest pitch is assigned the value "0" and the highest pitch is assigned the value of n-1, where

n is the number of pitches within the segmentation. As a result, contour classes 0, 1, and 2 would be assigned to a contour that follows the low, middle, and high sequence. While complex sounds like speech and music usually have powerful peaks at many distinct frequencies, pure tones have a clear pitch. However, one can create a meaningful pitch contour that is in line with human experience by setting a fixed reference point in the frequency function of a complex sound and then tracking the movement of this reference point as the function translates. For instance, there are two main formants for the vowel [e], one of which peaks between 280 and 530 Hz and the other between 1760 and 3500 Hz. The peaks will move between these ranges when someone speaks a sentence that has several [e] sounds, and the movement of the peaks between two instances determines the difference in their values on the pitch contour. [8] The Pitch contour obtained from four different intonation models: (a) Pitch contour of the utterance without any intonation modelling, (b) Pitch contour of the utterance with ToBI annotations, (c) Pitch contour of the utterance with Neutral expression (CART model), (d) Pitch contour of the utterance with Happy expression (CARTmodel)[9].



MAS (Melodic Analysis of Speech method). Developed by Cantero in 2002, Melodic Analysis of Speech (MAS) is a method for analyzing speech intonation that uses acoustic perception to provide a formal, objective, and comprehensive approach [10]. MAS provides researchers with a number of tools, such as: Corpus establishment: Criteria for establishing a corpus; Melodic unit identification: A method for identifying melodic units; Acoustic data extraction: A method for extracting and standardizing acoustic data; Graph representation and interpretation: A method for representing and interpreting graphs; Perception tests: A method for carrying out perception tests and validating results; intonation interpretation: A method for interpreting melodic data based on three levels of intonation: prelinguistic, linguistic, and paralinguistic. [10]

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