

On the Optionality of Terminations in the System of Intonation

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Abstract

In this study, we aim to clarify how the termination (the choice of pitch height on the nucleus) contribute to the interaction and organization of discourse. Speakers of English are known to choose the pitch height on accents for communicative purposes. The key or the pitch choice on the first accented syllable shows logical relationships, and the termination demonstrates the speaker's expectation of the hearer to respond in the key with the same height. Contrary to our general idea that both key and termination are employed in every tone group, we have encounter cases where the functions of key alone can be recognized. We conclude that termination is optional and attribute it to the position of the tone group.

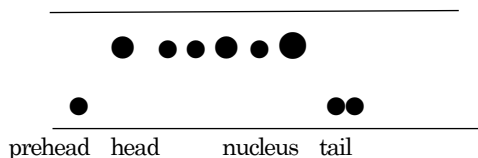
1. Introduction

In this study, we assess in what type of situations pitch heights on the accents contribute to the organization of spoken discourse. There is agreement, especially in the systemic functional grammar, that a language has a system of choice and that the moment-by-moment choices of speakers construct meanings. This choice applies to morpho-syntax and phonology such as intonation. O'Connor and Arnold (1973:1) assert that intonation is a "use of pitch variation," not a mere physiological phenomenon of human voice. The term "use" in this case can be interpreted as equivalent to "choice." We first overview of the structure of intonational units and then we mainly assess the use of pitch height on accents. This assessment requires understanding the structure of the spoken discourse because the intonational meaning is mainly interactive. We observe that speakers of English do not often make meaningful pitch height selection because its function is unnecessary in certain contexts. Unlike the International Phonetic Alphabet (IPA) for segments, many traditions note intonation differently. Ours is a revised version of Brazil et al (1980). Examples (1) and (14), however, are from Wells(2006) and Couper-Kuhlen (1986) respectively, and we shall retain their notation as much faithfully as possible.

2. Tone Group Structure

The pitch variation in an utterance is not random but has a shape and hierarchical structure. Although the smallest unit in the hierarchy is called by various names, we adopt the term "tone group," which has been widely used by, for example, O'Connor and Arnold (1973) and Halliday (1967). All tone groups have at least one most prominent syllable with pitch movement, called the nucleus. A nucleus is often preceded and followed by optional elements. Wells(2006) provided an example:

(1) We're planning to fly to It aly



Wells (2006 :9)

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Regarding example (1), Wells explains that the nucleus is *It*, the tail is *-aly*; and the head, the part from the onset, or the first accented syllable to the one immediately before the nucleus, is *planning to fly to*, which is preceded by the prehead *We're*. Brazil et al (1980) call the combination of the head and the nucleus, *planning to fly to It*, in example (1) a tonic segment. A separation of utterances into tone groups is a system of choice called tonality. They classify tone group into two types, depending on the presence or the absence of the head in the tonic segment.

(2) // They're reQIRED //

(3) // by adMINStrative PRACTice //

Brazil (1997: 90)

Capitalization shows the accented syllable⁽¹⁾, and the underlined letters are nuclei. Example (2) has no head, and the nucleus is the only accent. Tone groups such as this are called the minimal type. By contrast, example (3) has the onset and the following unaccented syllables form the head. Therefore, a tonic segment has two accents. Brazil calls this an extended type. We further discuss this point in section 2.

3. Extended Tonality

We must be careful not to treat the tone group as the only unit of intonation. Sado (1994, 2020) observes two higher units of intonation. The larger unit is what Brown (1977:92) calls a “paratone,” which is coextensive with a stretch of discourse presented by a speaker forming a unit with a single topic. The smaller unit of intonation is above the tone group and below the paratone. Brazil et al. (1980:61) call the unit of this rank a “pitch sequence” (example [4]).

(4) H *r* and when we RUBBED our PEN

M // // 0 on OUR // r JERsey // p we were causing //
L // // // // // // FRICtion

Brazil et al (1980: 168)⁽²⁾

H, L, and M in example (4) represent the pitch height of the accents. Sado (1994:18), in the discussion of the unit proposed by House (1990:49), adopts her term “processing unit” because no better term was available. Thus, intonation involves three units in its hierarchical structure. Halliday does not mention the two higher units above tone group, but we regard the realization of these units as parts of the system of choice, that is, an extended tonality, a further choice that Halliday does not mention but that we consider crucial and deal with in the next section.

4. Key and Termination

4-1 Discourse Intonation and Two Further Systems of Choices

Several writers have attempted to explain the linguistically significant choices. Halliday advocates three systems of choice—tone⁽³⁾, tonicity⁽⁴⁾, and tonality. Our view on this topic is based on the works of Brazil and Halliday. We have observed that extended tonality should be added to the system of choice in intonation. However, we must recognize two further choices when considering the relationships between units of intonation, especially the tone group and the structure of the spoken discourse. The key and termination is the use of pitch level on the onset and nucleus, that have been proposed in Brazil et al (1980) and Brazil (1997) and other works on discourse intonation.

4-2 Key

The term key is used in a limited sense in Brazil's work; refers to the pitch level of the onset; and is classified into high(H), mid(M), and low(L). We must not use this figure in physical value, such as fundamental frequency. These values are not absolute but are “relative to the height of the same crucial syllable in the preceding tone unit [our tone group],” according to Brazil et al (1980:25), and meanings are represented as follows:

high key	contrastive	'X not Y'
mid key	additive	'X and Y'
low key	equative	'X = Y'

Brazil shows how speakers make choices in (5) below.

	high	(a) and <u>LOST</u>
(5)	mid // p	he <u>GAM</u> bled // p (b) and <u>LOST</u>
	low	(c) and <u>LOST</u>

Brazil (1997: 40)

Brazil's well-known example; namely, Example (5) illustrates that in example (5a), the person who usually wins the gamble just happened to lose unexpectedly this time. The situation is "contrastive to the expectations." By contrast, (5c) expresses the opposite situation, where the person who usually loses the gamble, as expected, lost. In other words, at least in this context, gambling and losing are equated, or synonymous. When the mid key is used as in (5b), it simply describes two events, gambling and losing, without reference to the expectations. Mid key indicates an addition without any connotations and therefore a default choice. In Section 4, we explain that this explicit example is problematic in some cases. By contrast, the pitch height on the nucleus is related but has different roles, which we explain subsequently in Section 3.3.

4-3 Termination

Another crucial use of pitch height is the termination, namely, a pitch height on the nucleus, and again, the level is a relative level. Although the key function is mainly logical, the functions of the termination are mainly interactive. By choosing termination, the speaker shows his/her expectation or the absence of expectation regarding which key they will answer. Examples (6) and (7) demonstrate mid and high termination.

(6) Speaker A: // DO you underSTAND //
Speaker B: // YES //

STAND //

(7) Speaker A: // DO you under
YES
Speaker B: // //

Brazil (1997: 53–54)

Speaker A in (6), by choosing mid termination, expects concurrence from the speaker B with mid key. Because the meaning of the mid key is additive, the speaker expects the hearer to simply agree with what s/he says. A high termination is used in example (7), resulting in an expectation of a high key from speaker B, whose meaning is contrastive. In this case, the high keys show adjudication that the answer is yes, not no. Brazil says that the "pitch concord" of high and mid terminations are "means whereby one speaker restricts another's freedom of choice."

By contrast, a low termination does not show any expectations for the key to be used. The hearers are invited to answer with any key. From the structural perspective, the low termination signals the end of their pitch sequence, and the unit above the tone group, mentioned in section 2 and observed in example (4), has a low termination on *FRIC*.

Additionally, low termination shows the end of a subtopic in a long turn especially a monologue. Example (8) is an interaction in a classroom.

(8) H p NOW then i WANT you to take your
M// TWO kinds of // // PEN //
L p ENergy

Brazil et al (1980: 156)

In example (8), the low termination on *EN* in the first tone group concludes the subtopic. In the science lessons on energy, the teacher had been talking about the energy from food. Next, the teacher switches to the subtopic of static electricity. The teacher marks the minor topic change with the low termination, which is followed by a high key, which signals a new subtopic.

We have thus far observed the excellent systems of the functions of key and termination in the framework of discourse intonation. In Sections 4 and 6, we explain the problem with this system.

5. Problems in Key and Termination

5-1 Pitch Height and Tone Group Types

We have observed terminations in examples (6)–(8), extended types with a key on the onset, and termination on the nucleus. To explain the key choice, we have quoted example (5) in section 3.2 and highlighted that the example poses a problem. Example (5) is a case of a minimal type of tone group, which has one accent. Is the pitch height on the only accent either a key or a termination, or a combination of both? Additionally, are there many minimal types of tone groups? Brazil answers these questions: the pitch heights on the accents are combinations of key and termination, and the minimal types are in greater number. We elaborate on these issues in this section.

5-2 Key-Termination Conflict

With the nucleus, the only accent in the minimal types, key, and termination are inevitably realized on the same syllable. There is no problem when the intended height agrees, such as for high key and high termination. Because the combination of high and low is not allowed, the problematic combination would be four types: high key + mid termination, mid key + high termination, low key + mid termination, and mid key + low termination. Notably, all these involve the mid-level, and Brazil's view is that mid is sacrificed and conforms to the high or low level. This idea seems to be based on the view that mid key is additive and a type of default. The choice of key with a stronger meaning should be favored.

LOST
(9) // he's //

Brazil (1997: 64)

In example (9), the actual key and termination realized are high, although the appropriate key is supposed to be mid, and lowering the high key to the mid is less tolerable.

Although Brazil attempts to explain the actual uses of pitch heights, we later present that the use of termination is not necessarily obligatory when we consider discourse structure. For now, we consider why tone groups of this type matter in Section 4.3 below.

5-3 Frequency of Minimal Types of Tone Groups

Comparisons with other traditions of notation indicate that the tone groups in discourse intonation are much shorter and contain many minimal tone groups. Brazil et al (1980) present two extracts: a lesson in a classroom and a political speech. The lesson has 231 minimal types out of 453 examples (50.9%). We observe a similar situation for the political speech: 93 out of 190 (48.9%). The total is 324 out of 643 (50.3%). In other words, a little over half of the tone groups are minimal, which means they are not “exceptions.”

6. Discourse structure

Spoken discourse is not simple turn taking but, as Sinclair and Coulthard (1975) show, has a hierarchical structure as follows:

I // p and HOW long do they LAST //
 R // p about HALF an HOUR //
 F // p HALF an //
HOUR

Brazil (1981: 156)

Brazil says that the “two closely related exchanges are included in one pitch sequence.”

Additionally, the low termination may end the pitch sequence in the middle of the exchange, as in example (14).

(14) D: well^h | TELL me Mister Smith | | ^m | how are you feeling ↓ NOW | |

Couper-Kuhlen (1986: 204)

Although the exchange has not ended, the end of the pitch sequence is marked by low termination. Brazil (1981:157) explains that the low termination “serves often as an invitation to reply at length precisely because the addressee is free to begin as he likes.” Initiating moves such as this move is an introduction to a topic, not a pure question. Unsurprisingly, low termination allows the hearer to not only choose the key s/he likes but to talk for a certain duration.

Although the low termination is not always a marker of the end of the exchange, their pitch sequence is related to the exchange structure: they may coincide or one is larger than the other. What this relationship shows is that the termination is primarily interactive and is activated at the end of moves except when the low termination shows the end of a subtopic in a long tern including a monologue (demonstrated in section 3.3). In other words, terminations are often not activated in the middle of the moves.

In example (15), the pitch height on the nucleus does not play the role of termination.

(15) H ^{r+} i had some CEreal
 M // // ^{r+} and i had some TOAST //
 L

 H
 M ^{r+} and i had some EGG // ^{r+} and i had a BIScuit // ^p and then i came to SCHOOL //
 L

Brazil et al (1980: 146)

The pitch levels remain mid except for the first tone group, and the terminations do not seem to be employed. This phenomenon is not limited to a listing such as this but is true for other tone groups in the middle of the move.

(16) H the ... GREEK
 M // ^P NOW // ^p NAME // ^r for AMber // ⁰ IS // ^p eLEKtron //
 L

Brazil et al (1980: 172)

There is neither here an end of moves nor a change of subtopic in this chain of tone groups. Contexts such as these do not require the employment of termination, and this can be true even for tone groups that coincide with or are at the end of the clause, such as the last tone group in (16). Although Brazil does not explicitly say that both key and terminations are obligatory in all types of tone groups, notably, in a context such as this, the pitch height on the nucleus does not have to play the role of termination.

8. Conclusion

The tradition of discourse intonation is an excellent description of the role that the system of intonation plays in spoken discourse. The

use of pitch height on accents, key, and termination is well explained and unique to this tradition. However, we have demonstrated that termination is not often employed because of its interactive nature and relation to the subtopic, which are, in our observation, activated at the ends of some moves and in the change of subtopics. This leads us to revise our view on the use of pitch heights on onset and the nucleus. To support this revision, research on H,M, and L terminations in the corpus in Brazil's tradition will naturally be necessary. The improvements, however, will make the system available to wide range of instances and give better explanation of the role of intonation in spoken discourse.

Notes

(1) As we have demonstrated in examples (1) and (3), the nucleus is not the only prominent syllable and is often preceded by several prenuclear accents. We regard the term “stress” as a lexical term, namely, the relative strength within the word marked by intensity and duration, and accent is a stress that accompanies pitch movement. A level tone, on the other hand, may not have pitch movement, but it does attempt to maintain the pitch level. We regard level tones as a type of nuclear tone.

(2) Brazil et al (1980) and the related works on the discourse intonation have acknowledged two tone choices—the proclaiming tone (*p*) and the referring tone (*r*)—whose typical shape of movement of pitch is fall and fall-rise, respectively. In their analysis, the tones represent the information status: new versus given. A level tone (*o*) is neither proclaiming nor referring. Our view is a revised version of Brazil that incorporates the relevance theory, based on the views of Vandepitte (1989) and House (1990)

(3) the system in intonation that divides spoken discourse into its separate individual tone groups

(4) the location of the nucleus in the tone group

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