Chapter 27 Prosody in discourse

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Introduction to discourse intonation framework

This chapter aims to examine the communicative value of discourse intonation by describing the four systems of discourse intonation (Brazil, 1985, 1997): prominence, tone, key and termination. The four systems of speaker intonational choices, each of which has a general meaning that takes on a *local meaning* within a particular context (Brazil, 1997: xi), are moment-by-moment judgments made by speakers on the basis of their assessment of the current state of understanding operating between the speakers. The chapter begins with a general introduction of Brazil's (1985, 1997) discourse intonation framework. Each of the four systems is then explained and illustrated with examples collected from naturally occurring speech from the one-million-word Hong Kong Corpus of Spoken English (HKCSE) (prosodic) (Cheng *et al*., 2008). Composed of four sub-corpora representing the academic, business, conversation and public domains, the HKCSE (prosodic) is one of the largest collections of prosodically transcribed material applying Brazil's (1985, 1997) discourse intonation framework. The transcription notation used here and in the corpus can be found at the end of this chapter under "Transcription conventions".

Discourse intonation is based on the view that spontaneous speech is purpose-driven rather than sentence-oriented. It is speaker controlled, interactive, co-operative, context-referenced, and context-changing (Brazil, 1995: 26–39). Choices in any of the discourse intonation systems are thus motivated by real-time, situation-specific decisions taken by speakers to add extra layers of interpersonal meaning to words as they are spoken, and they are concerned with "the speakers' moment-by-moment context-referenced choices" (Cauldwell, 2016). As such, these intonation choices are not associated with grammatical or syntactic categories. The communicative value of intonation is concerned with the choices that speakers make and with their reactions to the ongoing task of making sense to their hearers in context in real time (Cauldwell, 2002). Examining the choices of discourse intonation helps to determine the pragmatic and situated meanings of English utterances (Brazil, 1997), as the communicative value of the utterance is affected by intonational variations on the basis of "a small set of either/or choices," which relates to "a set of meaningful oppositions that together constitute a distinctive sub-component of the meaning-potential of English" (ibid., 2). These intonation choices that speakers make in relation to the four systems in the discourse intonation framework are independent. Altogether, thirteen intonation choices are available. Figure 1 summarizes these choices in the four systems of discourse intonation.

<Figure 1 here>

Figure 1 Map of the four systems of discourse intonation

Tone units

In discourse intonation, a tone unit refers to "the stretch of language that carries the systematically-opposed features of intonation" (Brazil, 1997: 3). All of the thirteen intonation choices as shown in Figure 1 occur "in the domain of the tone unit" (Cauldwell, 2016). Tone

units, rather than sentences, are thus the basic element of analysis in discourse intonation. Brazil (1995) states that, in purpose-driven talk, intonation and syntax are considered as "being separate areas of choice". As such, there is no one-to-one correspondence between tone units and clauses. Brazil (1985: 238) further argues for a "need for stating the communicative value of intonation in terms of the projected contextual implications of the tone unit: only if we regard intonation as a 'situation-creating' device, … can we give proper recognition to its ability to carry independent meanings". This argument highlights the importance of the situated meaning of intonation, and the need to acknowledge prosody as a system of meaning-making on its own in discourse.

The internal organization of the tone unit in discourse intonation can be described in three parts: a mandatory tonic segment, and two non-prominent optional stretches known as proclitic and enclitic segments. As the core of a tone unit, the mandatory tonic segment is delimited by the first and, if any, last prominent syllables, in which all the significant speaker-decisions are made (Brazil, 1997). The proclitic and enclitic segments are any unstressed syllables which come before and after the tonic segment respectively.

Minimally, a tonic segment may consist of only one prominent syllable, which is called the tonic syllable, or traditionally the nucleus. Example 1 shows a one-word tone unit with only the mandatory tonic segment, containing the tonic syllable (*so*) with no non-prominent stretches outside the tonic segment:

(1)

{= [< SO >]}

Alternatively, a tonic segment may consist of two or more prominent syllables, of which the first and last are known as the onset and the tonic syllables. Example 2 shows a tone unit with only the mandatory tonic segment, containing the onset and tonic syllables (*so* and *have*) and again no non-prominent stretches:

(2)

{= [SO] we < HAVE >}

Before the tonic segment, an optional proclitic segment may be present. Example 3 shows a tone unit with the tonic syllable (*why*) forming its tonic segment and a proclitic segment (*so I don't know*), whereas Example 4 illustrates a tone unit with the onset and tonic syllables demarcating its tonic segment (*may* and *please*) and a proclitic segment (*so*):

(3)

{\ so i don't know [< WHY >]}

(4)

{= so [MAY] i have your passport < ^ PLEASE >}

After the tonic segment, an optional enclitic segment may be found. Example 5 shows a tone unit with the tonic syllable (*so*) forming its tonic segment and an enclitic segment (*I have to*), whereas Example 6 shows a tone unit with the onset and tonic syllables (*so* and *checked*) demarcating its tonic segment and an enclitic segment (*with um it with*):

(5)

{= [< SO >] i have to}

(6)

{= [SO] i've already < CHECKED > with um it with}

In some cases, both proclitic and enclitic segments are found in addition to the tonic segment. Examples 7 and 8 show respectively one-prominence and two-prominence tone units that contain all the three parts:

(7)

{= i don't [< THINK >] so}

(8)

{\ so i [^ MADE] these < CHANges >}

Table 1 provides a schematic summary of the examples discussed regarding the different internal structures of a tone unit.

<Table 1 here>

Table 1 Examples illustrating the three-part structure of a tone unit

The internal composition of tone units carries important information regarding the decisions made by speakers. Specifically, it indicates whether information is to be considered integrated or distinct. Tone unit boundaries, therefore, can function as a device of disambiguation (Cheng *et al.*, 2008). When the word *so* is in a separate tone unit, for example, it is likely to be used as a discourse particle, as in Example 9:

(9)

{= [< SO >]} {= [WHERE] did you GET your < aMERican >} {\ [< ACcent >]}

In contrast, *so* is often found in a tone unit with other items in its propositional use, as in Example 10:

(10)

{= er [ONE] three < A >} {= [ONE] three < B >} {= [ONE] three < C >} {\ and [SO] on and < SO > forth}…

Table 2 shows the frequency distribution of *so* in separate and shared tone units by function in the HKCSE (prosodic).

<Table 2 here>

Table 2 The frequency distribution of *so* in separate and shared tone units by function in the HKCSE (prosodic)

In the corpus, an overwhelming 98.1 percent of all the instances of *so* in a tone unit on its own are discourse particles (Lam, 2008). Tone unit boundaries thus help to disambiguate the discourse and propositional uses of the word. This is consistent with the observation that tone unit boundaries have an important disambiguating function in helping to indicate whether alternatives introduced by the vague expression *or something* are treated as distinct from each other or not (Cheng *et al*., 2008). Further, the fact that many multi-word expressions such as phrasal verbs and idioms are often found within a tone unit provides evidence that speakers co-select words as a chunk instead of choosing individual words separately as information units (Sinclair, 1991).

Prominence

In discourse intonation, prominence determines the beginning and end of the tonic segment with the first and last prominent syllables. Sometimes referred to as accent or stress in other intonation models, prominence is concerned with the choice speakers make to give extra emphasis on words which are situationally informative (Brazil, 1997). A prominent syllable is

one that a hearer recognizes as being in some sense more emphatic than the others in the tone unit, and can be realized by a combination of cues in loudness, speech rate and pitch (Lomotey, 2017). While a tone unit may contain up to four prominent syllables, tone units with one or two prominences are considered the norm (Brazil, 1997), at least as far as Standard Southern British English described in the discourse intonation model is concerned. In Asian varieties of English such as Malaysian English and Singaporean English, however, three or more prominences in longer tone units are also common (Goh, 2003). In the HKCSE (prosodic), tone units with one or two prominences constitute 91.49 percent of the total, with tone units containing one prominent syllable being the most frequently occurring ones (Cheng *et al*., 2008). Table 3 illustrates tone units with different numbers of prominences.

<Table 3 here>

Table 3 Examples illustrating the number of prominences in a tone unit

In making a selection between prominence and non-prominence, speakers have available to them two paradigms: existential and general. The existential paradigm is "the set of possibilities that a speaker can regard as actually available in a given situation," and the general paradigm is the set of possibilities that are "inherent in the language system" (Brazil, 1997: 23), the words comprising the existential paradigm being a sub-set of those comprising the general one. The selection of prominence is "what a speaker does when he chooses from an existential paradigm" (Brazil, 1997: 45). Brazil (1997: 22–23) exemplifies the two paradigms with his well-known example of *the queen of hearts*, said in response to *which card did you play*. In the response, *of* is a product of the general paradigm, because the speaker is limited in this context to this word by the language system. Conversely, *queen* and *hearts* are choices limited by the contents of the pack of cards rather than by the language system. They are

therefore part of an existential paradigm as opposed to a general paradigm. The word *queen* is a selection from an existential paradigm of thirteen members, and *hearts* of four members.

Q: What heart did you play? R: // the QUEEN of hearts //

Q: What queen did you play? R: // the queen of HEARTS //

(Brazil, 1997: 23)

Prominent words, which contain prominent syllables, thus realize existential sense selections "from a set of possibilities defined by the context of situation" (Brazil, 1997: 41). The prominence system thus can be meaningfully exploited to project a context of interaction that suits the speaker's current conversational purposes. In Example 11 from an academic talk, a lecturer is making a contrast between two angles. In the last two tone units, prominence is given to the demonstratives *this* and *that*, to highlight this contrast. In addition, the values of the angles are also made prominent (*gamma*/*gamma* and *five*), to emphasize the difference between measurements of the two angles. The prominence selection in these tone units reflects the deliberate choices the speaker makes out of a number of possible alternatives in the existential paradigm in order to underline words that are considered situationally informative in the local context:

(11)

…{= [< THIS >] is} {V [< FIVE >]} {= [< AND >]} {V we [KNOW] that THIS angle is <GAMma >} {\ so [THAT] angle would be GAMma minus < FIVE >}…

While the selection of prominence emphasizes words that are more important or relevant in a particular context of interaction, non-selection is due to shared extralinguistic factors or "shared experience of the immediate conversational environment of the response" (Brazil, 1997: 24). Words may also be made non-prominent for phatic reasons. When disagreement or only partial

agreement is expressed, for example, words that indicate divergence of views may not be chosen for prominence, in order to minimize the difference between interlocutors for politeness purposes (Cheng *et al*., 2008). In Example 12 from a televised interview, the talk show host b1 asks the guest b2 a follow-up question based on the guest's previous response. Notice the guest's use of a non-prominent *well*, a typical marker of dispreferred response such as qualified answers, unwelcoming reactions, and structurally marked replies, to preface his partial agreement, followed by a prominent *yes* to highlight the convergence instead of the divergence of views between speakers:

(12)

b1: {\ so the [SEparate] rule you are TALking < _ aBOUT >} {\ is [< ACtually >]} {\ a [^ LOWer] < STANdard >}

b2: {\ well in [^ MAny] < CAses >} {\ [< YES >]} {= er [LET] me < SHOW > you} {= [< AN >]} {\ [< eXAMple >]} {\ [< _ HERE >]}…

Studies on prominence selection in a number of non-native varieties of English have suggested differences between native and non-native speakers. In particular, a typical feature found in the latter group is known as end-stress, whereby prominence is often placed on the last word of an utterance. This phenomenon has been observed in the speech of speakers from a range of countries in the Outer and Expanding Circles, spanning ASEAN in Asia (Deterding & Kirkpatrick, 2006), Ghana and Nigeria in Africa (Gut, 2005; Lomotey, 2017) and Spain in Europe (Ramirez Verdugo, 2002). It has therefore been argued that prominence selection, especially at the end of an utterance, is not necessarily meaning-related and may instead serve "specific pragmatic functions, such as reiterating important ideas, signalling the end of an utterance or a turn and expressing strong contrastive responses" (Goh 2003: 2).

Prominence selection in non-native varieties of English therefore shows dissimilar functions to those observed in native varieties of English (Mat Nayan & Setter, 2016).

Tone

The tone or pitch movement in the tone unit is associated with the final prominent syllable, i.e. the tonic syllable, in the tone unit, and so tone choices "attach additional meaning increments to tonic segments" (Brazil, 1997: 20). Speakers may choose from five tones: the rise, fall–rise, fall, rise–fall and level tones. Four of the tones are used to distinguish between information that is common ground, i.e. referring tones (R): rise (*r*+) and fall–rise (*r*), and information that is new, i.e. proclaiming tones (P): fall (*p*) and rise–fall (*p*+). Figure 2 shows the referring and proclaiming tone choices available to speakers.

<Figure 2 here>

Figure 2 The referring and proclaiming tone choices available to speakers

Source: Brazil, 1997: 83

Any spoken discourse proceeds on the basis of a considerable amount of shared knowledge between discourse participants (Brazil, 1997). It is through tone selection that a speaker decides, moment by moment, whether to present information as shared or new based on a subjective assessment of the state of shared knowledge between the participants. Table 4 outlines the communicative functions of the proclaiming and referring tones (*ibid*., pp. 82–98).

<Table 4 here>

Table 4 Functions of proclaiming and referring tones

Example 13 (reproduced from Example 11) from a lecture illustrates how tone selection indicates whether the information presented is considered by the speaker to be shared or not:

(13)

…{= [< THIS >] is} {V [< FIVE >]} {= [< AND >]} {V we [KNOW] that THIS angle is <GAMma >} {\ so [THAT] angle would be GAMma minus < FIVE >}…

In this extract, the lecturer makes use of the fall–rise tones in the second and fourth tone units to signal that the values of the angles are in the common ground, as these values are already established earlier. The use of this referring tone and the words *we know that* make explicit to the students that this part of the discourse is not presenting new information. By contrast, the final tone unit has a fall tone. This is because the value of the angle concerned in this tone unit is unknown to the students up to this point. By using the proclaiming tone, the speaker is presenting the information as new. Its introduction enlarges the area of convergence, i.e. the knowledge in a particular academic discipline in this context, between the lecturer and the students.

Tone selection is also accorded social significance, as the rise tone and the rise–fall tone are characterized as being participant-specific in specialized discourse types and may imply a certain role relationship between participants (Brazil, 1997: 82–98). If a speaker selects a rise–fall (instead of a fall) in proclaiming something, or a rise (instead of a fall–rise) in referring to something, the speaker is considered to be exerting dominance and control additionally (Brazil, 1995: 243). In discourse types where one speaker is more dominant in the sense of having greater responsibility for the discourse and greater freedom in making linguistic choices, that designated dominant speaker monopolizes the rise–fall/rise choice. Examples of specialized discourse types that involve an unequal power relationship between participants include teacher

talk and job interviews. In academic lectures, for instance, it is the teacher who is mainly responsible for the content and process of the lesson. Accordingly, the teacher may exert his/her dominance in the discourse through tone selection. Example 14 from a lecture on count and mass nouns is a case in point. In this example, the student a1 asks the lecturer a2 whether "sheep" is considered a count or mass noun based on the ongoing discussion. The lecturer responds with the repeated selection of the rise tone:

(14)

a1: {/then [< HOW >] about the word} {\ [< SHEEP >]} (.) {\ [< SHEEP >]}

a2: {/[< ^ SHEEP >]} (.) {/[< SO >]} (.) {/[DO] you think < SHEEP >} {= [< IS >] a} {\ [< COUNT >] noun or} {/[MASS] < NOUN >}

The lecturer's choice of the rise tone asserts her dominance as the main speaker in the discourse and reminds the student that the answer to the question has already been established earlier in the discussion. In other words, it is perceived to be common ground between the participants.

According to Brazil (1997), the rise–fall tone is the least prevalent of the five tones, and it tends to be used by the dominant speaker in discourse types with unequal participant status. In the HKCSE (prosodic), only a negligible 0.015 percent of all tone units (49 out of 313,340) carry the rise–fall tone (Cheng *et al*., 2008: 126). In institutionalized discourse types such as classroom talk and medical consultation, it is often the teacher or the doctor who uses the rise–fall tone to assert dominance and control (Brazil, 1997; Cheng *et al*., 2008). In informal conversations where there is no inherent imbalance of power due to institutional roles between participants, however, the selection of the rise or rise–fall tones is not restricted by the existence of institutionalized inequalities between participants. Instead, these tones are selected by all,

some or none of the conversational participants, depending on the moment-by-moment decisions of those involved, on the basis of a restrictive set of conventions. Brazil (1985: 131) argues that in conversation there is "an ongoing, albeit incipient, competition for dominance". This, however, does not necessarily imply aggressiveness or rudeness on the part of speakers; rather, the rise or rise–fall tone may be selected "to remind, underline, emphasize, insist or convey forcefulness" (Brazil, 1997: 98), and so overtly to assume the speaker's status as the dominant one. Importantly, dominant speaker status is to a lesser extent predetermined or fixed in conversation when compared with institutionalized discourse and is typically more interchangeable among participants as the discourse unfolds.

In asserting dominance in discourse through the use of the rise–fall tone, speakers may also modify their world view at the same time. In this respect, the rise–fall tone signals to the hearer that new information has been added to the speaker's own knowledge, as well as to the common ground between the speaker and the hearer at that moment of the talk. The addition of such new information often arises from a sudden realization by the speaker of the current state of affairs or of an unexpected event, which leads to the speaker's comment (Cheng *et al*., 2008). Example 15 shows such use of the rise–fall tone in a conversation, where two speakers are talking about the number of universities in Hong Kong. In the last utterance, speaker y uses the rise–fall tone in the first tone unit to indicate the sudden change of his view on this topic and that his intention to assert control of the talk through the continuation of speakership:

(15)

y: {= [< _ THERE >] is} {= [YOUR] < uniVERsity >} {= [< THIS >] one} {? and the [< CHInese >] university} {\ [< THAT'S >] it}

b: {= [< WHAT >]}

y: {= [< _ THERE >] is} {\ [THREE] < uniVERsities >}

b: {\ no there's [< SIX >]} {\ [< SIX >]}

y: {^ ah [< YEAH >]} {\ you [< _ TOLD >] me} {? because i} {\ i [DON'T] < reMEMber >} {= the [< eXACT >] er} {= [< NUMber >]}

The fifth tone, namely the level tone, is associated with the speaker's lack of engagement or orientation. Specifically, the use of level tone projects neither a context of interaction nor any communicative value of the utterance. This tone is used when the speaker does not intend to either proclaim or refer, and in so doing disengages from the immediate interpersonal, interactive context of interaction. In other words, the speaker does not make "either/or" choices of any kind, and presents the language with neutral projections as to the assumption made about the current state of understanding between the speaker and a hearer (Brazil, 1997: 132).

Instead of making the binary "either/or" selection, a speaker's choice of employing the level tone focuses on the linguistic properties or message organization of the utterance rather than on the truth of the assertion made in the utterance. Brazil (1997: 133–139) provides a detailed description of the two main contexts when speakers select the level tone. The first is when a speaker is adopting an "oblique presentation" (p. 133), i.e. when a speaker is saying something on paper or in the speaker's memory, that is either pre-coded or partially coded information (pp. 136–139). This first context is said to be restricted to "specific, somewhat formulaic, speech registers, such as public address announcements" (Beaken, 2009: 343). Example 16 illustrates such a situation from a public speech, when the speaker's continuous use of the level tone indicates that he is simply reading out a script. It is not until the end of the pre-coded information that the speaker changes his tone choice to the fall tone:

(16)

…{/i would [< LIKE >]} {= to [< exTEND >]} {_ a [VEry] warm welcome to < ALL > of you} {= who have [COME] < HERE >} {= for the [< FOURteenth >]} {= [GENEral] < MEEting >} {= [< OF >]} {= [< paCIfic >]} {= [< ecoNOmic >]} {\ [coOperation] < COUNcil >}…

The second context is one in which "encoding has not yet been achieved, and is presenting some kind of difficulty for the speaker" (Brazil, 1997: 139) – which is likely to happen when the speaker is telling a story or when the speaker is talking spontaneously. As such, this use of the level tone may be considered a disfluency signal and may partly account for the observation that the level tone has been the most frequently used tone among non-native speakers in a number of studies of Asian varieties of English (Goh, 2003; Cheng *et al.*, 2008; Mat Nayan & Setter, 2011). In Example 17 from a conversation, the speaker makes repeated use of the level tone when he has yet to formulate what to say:

(17)

…{\ i [< GUESS >]} {= [< ^ SO >] ^ er} {= i [< THINK >] er} {? [< IT >] it} {= [< IT >]} {\ [I'M] < STUdying >} {\ [< HERE >]}

A third context where the level tone is used concerns textual structuring. According to Brazil (1995: 244), "incremental elements" that form part of a "telling increment" are said with level tones. These incremental elements are message fragments which have not reached the "target state" (ibid., 165), namely the end of a discrete information unit. Typically, these incremental elements are produced with level tones until the final tone unit which is said with the fall tone. In Example 18 from a conversation, the speaker repeatedly makes use of the level tone to signal the development of the incremental elements until he marks the end of the information unit, i.e. the construction of the complete question, with the fall tone:

(18)

{= [< ER >]} {= [^ HOW] < aBOUT > the} {= [ecoNOmic] < situAtion >} {= [< _ IN >]} {\ u [< ^ K >]}

Figure 3 summarizes the tone choices available for each tone unit. Direct discourse refers to the discourse in process, which is hearer-sensitive and interactive, as opposed to oblique discourse such as reading and quoting, which briefly withdraws the speaker from interacting with the hearer (Cheng *et al*., 2008):

<Figure 3 here>

Figure 3 Tone choices available to speakers

Source: adapted from Brazil, 1997: 135–136

Key and termination

Key and termination refer to pitch-level choices available to speakers regarding prominent syllables in relation to previous prominent syllables. Key is the pitch-level choice associated with the first prominent syllable (onset) in the tone unit in relation to the pitch level of the onset syllable of the previous tone unit. Termination is the pitch-level choice associated with the last prominent syllable (tonic) in the tone unit in relation to the pitch level of the preceding prominent syllable in the same tone unit (i.e. the onset), or in the prior tone unit in the case of one-prominence tone units. For both the systems of key and termination, the three choices of high, mid and low levels are available. In any particular tonic segment, key and termination choices are “never more than one ‘level’ in the three-term system” (Brazil, 1997: 62), namely one step above or one step below.

Brazil (1997) distinguishes between minimal and extended tonic segments, depending on whether the tonic segment contains one or more than one prominence. In tone units with extended tonic segments, speakers can make independent choices regarding key and termination for different meaning realizations. In the case of minimal tonic segments, however, it is not possible to make the selection of key and termination independently. In single prominence tone units without an onset syllable, "the first prominent syllable is also the last, so there can be no independent choices in the two systems" (p. 12), representing a simultaneous selection of key and termination. As an illustration, Table 5 shows examples of tone units with different pitch-level choices of key and termination on the word *so*:

<Table 5 here>

Table 5 Examples of key and termination pitch-level choices

Key, defined as the pitch choice on the first prominent syllable, "affects the communicative value of the whole tonic segment" (Brazil, 1997: 50). The selection of key projects the speaker's assumption about the hearer's expectations as the talk unfolds. High key, for example, has contrastive value and "projects a binary opposition upon the existential paradigm and explicitly denies an alternative" (p. 45). It thus indicates overtly a choice made out of two options (it is "a" NOT "b"), adding an increment of meaning that "this tone unit has a denial of expectation relationship to what has preceded" (Cauldwell, 2016). It may therefore show surprise, pleasure, annoyance, alarm, and so on in the local context. In Example 19 from a conversation between friends, the speaker is discussing the desserts from a foreign city that she has just visited. The use of high key in the third tone unit on the word *so* indicates a sharp contrast, and hence the surprise that the speaker feels at the variety of cakes available between the city she travelled to and her own city:

(19)

…{= [< ER >]} {= [< THERE >]} {= there are [< ^ SO >]} {= many different [< TYPES >] of um} {\ [< CAKES >]}…

In comparison, low key in a tonic segment projects existential equivalence to the previous tonic segment. Low key thus adds an increment of meaning that "[t]his tone unit has an equative relationship with what has gone before" (Cauldwell, 2016). In other words, low key assumes that the hearer will perceive the current content as following naturally upon what has gone before, and as "being entirely in line with what the hearer would expect" (Brazil, 1995: 245). In Example 20 from a placement interview at a hotel, the interviewer is asking a student which department she would like to work in. The use of low key in the final tone unit, in combination with the lexical choice *you know*, signals the alignment of expectation to what has preceded, as the beginning of one's career is normally expected to follow one's graduation:

(20)

…{= [< ER >]} {/[< ^ WHICH >]} {= department [THAT] < UM >} {/you're [parTIcularly] interest < IN >} {= and would like [< TO >]} {_ [emBARK] your < caREER >} {\ [_ YOU] know UPON < graduAtion >}

Mid key attributes no special expectations to the hearer. It only has additive value, by "merely adding its content to what has gone before" (Brazil, 1995: 245). In Example 21 also from a placement interview, the student is explaining why she is interested in working in the hotel industry and studying hotel and management subjects at her university. Her repeated selection of mid key across the tone units shows that she is simply expanding on her reasons for her study and career choice:

(21)

…{= i [< THINK >] in} {_ [THIS] < SUBject >} {= i [CAN] LEARN < aBOUT >} {= a [LOT] of er < PRACtical >} {= [< ER >]} {= [< ER >]} {\ [< KNOWledge >]} {= [SO] i THINK it is good for < ME >}…

Given the additive value associated with mid key, it is perhaps not surprising that this key choice is the most frequently occurring, with more than 90 percent of all tone units in the HKCSE (prosodic) having been found to be produced with this key choice (Cheng *et al*., 2008).

While key projects the speaker's assumption about the hearer's expectations, termination constrains the next speaker in his/her selection of key. When the next speaker matches his/her key selection in terms of pitch height with the previous speaker's termination selection, a match of pitch choice, or "pitch concord" (Brazil, 1995: 86), occurs. A speaker who conforms to pitch concord is likely to be giving a preferred response, and a speaker who does not is likely to be giving a dispreferred response (Brazil, 1995: 53–58).

TERMINATION	HIGH anticipates HIGH KEY response (i.e. adjudication)
	MID anticipates MID KEY response (i.e. concurrence)
	LOW sets up no particular expectations, and permits choice of high key, mid key or low key.

(Brazil, 1995: 246, 1997: 119)

Pitch matching is illustrated in Example 22 taken from the beginning of a conversation, where two friends are checking whether the recording has started.

(22)

a: {\ [< YES >]} {= i [THINK] it's < ER >} * {\ [STARTED] < alREAdy >}

A: ** {\ [< STARTED >]} {\ [< ^ YEAH >]}

a: * {\ [< ^ Okay >]} {\ [< ^ SO >]}

A: ** {\ [< YES >]}

In the first utterance in Example 22, speaker a selects high key + termination on *yeah* to seek adjudication from speaker A regarding the recording status. By providing a preferred response which in this case is agreement with her friend's observation, speaker A also selects high key + termination on *okay* and *so*, hence achieving pitch concord.

In contrast, a mismatch of pitch choice is illustrated by Example 23, in which speaker b2 shows a dispreferred response to the question raised by speaker b1 in a televised interview:

(23)

b1: {\ [< _ NOW >]} {? [< K >] w} {? do you} {= do you [aGREE] with < THIS >}

b2: {\ [< ^ WELL >]} {? [< I >]} {? [< I >]} {\ i [< ^ THINK >]} {= [< ER >]} {= i [aGREE] < WITH >er} {\ er h [_ W] < BUT >} {= i [< ^ THINK >] we} {= we [NEED] to < LOOK > at the} {= [< THIS >] er} {= [< ISsue >] from a} {= from a [< BIGger >]} {\[< CONtext >]}…

While speaker b1 selects mid termination to seek concurrence, speaker b2 does not choose mid key at the start of his response. Instead he selects high key, to indicate a contrast, and suggests that he does not entirely agree with the other guest in the interview. "Concord breaking" can

therefore be strategically employed as prosodic cues to "mark dissonance" (Pickering et al., 2012: 12).

Conclusion

This chapter has presented an overview of the discourse intonation systems and the associated choices, illustrated with examples from the HKCSE (prosodic) to show how the four systems of prominence, tone, key and termination function in local contexts so as to add communicative value to what is said. It has highlighted the fact that intonation is situation-specific and that the same lexical items, such as the word *so*, can be used with a range of intonational choices. Instead of rigidly tying particular lexical or grammatical elements to intonation, the discourse intonation model thus argues that the use of intonation is context-sensitive and very much responsive to the communicative situation. While such intonational choices, consciously made by speakers, are not pre-determined, they can nonetheless be predicted to some extent through the detailed systematic observation, identification and description of general patterns. The study of the discourse intonation patterns observed in naturally occurring speech thus reveals to the analysts the intonational decisions that speakers have to make in real-time interactions on a moment-by-moment basis, which reflect the rich layers of pragmatic and situated meanings expressed in speech. Discourse intonation is therefore an indispensable area of research for a deeper understanding of meanings in spoken discourse.

Further research can explore more the intonational features of varieties of World Englishes. Compared with the major native varieties of English, non-native varieties outside the Inner Circle are much less well-understood in terms of their prosodic characteristics, though a small number of recent studies concerning Malaysian, Ghanaian and Nigerian Englishes have already

pointed out differences from their native counterparts (see Mat Nayan & Setter, 2016; Lomotey, 2017; Adejuwon, 2019). A related area of further research is thus the pedagogic value and practice of discourse intonation for ESL/EFL teachers and learners (see Jiménez Vilches, 2015; Pickering, 2018). Given the context-sensitive nature of discourse intonation, another important yet somewhat overlooked area is the variation of intonation in across communicative situations. Investigation into the prosodic patterns observed in different genres in different domains ranging from radio talk shows to television commercials is a promising start (see, for example, Herczeg-Deli, 2012; Odeyemi, 2017; Ali, 2020), but systematic comparison is only possible if critical mass has been reached. Studies of discourse intonation should also be extended to languages other than English in order to determine the universality of discourse intonation.

Transcription conventions

Transcription notation used in the HKCSE (prosodic)

Symbol	Remarks
…	parts of an utterance which have been omitted
*	onset of simultaneous speech produced by the current speaker
**	onset of simultaneous speech produced by an interlocutor other than the current speaker
(.)	a brief, unfilled pause roughly lasts for the length of a syllable

Symbol	Remarks
(pause)	a unit, unfilled pause which is longer than a brief pause and normally lasts for a few seconds
(())	a non-linguistic feature such as laughter, coughing, throat clearing and applause
((inaudible))	unintelligible speech
A:	female native speaker of English
B:	male native speaker of English
a:	female Hong Kong Chinese
b:	male Hong Kong Chinese
x:	female speaker of a language other than English and Cantonese
y:	male speaker of a language other than English and Cantonese
u:	unknown speaker
{}	tone unit boundary
/	rise tone
ˇ	fall–rise tone
\	fall tone
^	rise–fall tone
=	level tone

Symbol	Remarks
?	unclassifiable tone
CAPS	prominent syllable
[ ]	Key
< >	Termination
^	high pitch level
–	low pitch level

Further reading

Brazil, David (1985) *The Communicative Value of Intonation*. Birmingham: English Language Research, University of Birmingham.

An important and original work on the study of discourse intonation, this book provides a detailed description of the discourse intonation framework.

Brazil, David (1997) *The Communicative Value of Intonation in English*. Cambridge: Cambridge University Press.

This is the revised edition of Brazil's (1985) seminal work.

Cheng, Winnie, Greaves, Chris, and Warren, Martin (2008) *A Corpus-Driven Study of Discourse Intonation: The Hong Kong Corpus of Spoken English (Prosodic)*. Amsterdam; Philadelphia: John Benjamins.

Winnie Cheng and Phoenix Lam

This monograph discusses the discourse intonation patterns observed in the Hong Kong Corpus of Spoken English (Prosodic), one of the largest corpora of naturally occurring speech annotated with the discourse intonation framework.

Pickering, Lucy (2018) *Discourse Intonation: A Discourse-Pragmatic Approach to Teaching the Pronunciation of English. Michigan Teacher Training*. Ann Arbor: University of Michigan Press.

This monograph applies discourse intonation to English pronunciation teaching for ESL/EFL instructors.

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