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A floating tone discourse morpheme: The English equivalent of Cantonese *lo1*

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Abstract

Cantonese linguists have said that Cantonese sentence-final particles (SFPs) express the same kinds of meanings that are expressed by intonation in languages such as English, yet apparently no study has ever systematically attempted to discover whether any SFPs have English intonational equivalents. This study identifies the English intonational counterpart to the SFP *lo1* by looking at the pitch contours of Cantonese-to-English audio translations, which were provided by four Cantonese/English native bilingual participants. Based on the data, it is concluded that the English equivalent of *lo1* is a high-falling pitch contour. A definition using the natural semantic metalanguage is formulated to define *lo1*, and native English-speaker judgments indicate that this same definition also defines the meaning of *lo1*'s English equivalent. Examples are given to demonstrate that this definition succeeds at defining either *lo1* or its English equivalent in any context within which they are used. It is proposed that this *lo1*-equivalent pitch contour is a floating tone morpheme in the English lexicon. Linguists have long debated whether or not any forms of intonation have context-independent meanings. This study offers empirical evidence in support of the argument that they do.

Keywords: Cantonese; Discourse particle; Floating tone; Evidential marker; Discourse intonation; Natural semantic metalanguage

1. Introduction

Most studies on Cantonese sentence-final particles[1] (SFPs)[2] say that English intonation and SFPs are closely related (e.g., Cheung, 1986; Kwok, 1984; Matthews and Yip, 1994; Yau, 1980; Yip, 2002). They have different forms but are considered to have similar functions and meanings. SFPs are a class of bound segmental morphemes that attach to the ends of sentences, while intonation is formed primarily by the manipulation of pitch.

Even though it is widely assumed that SFPs and intonation have shared meanings, only one study as far as the author knows has ever attempted to discover any English intonational counterparts of Cantonese SFPs (Pennington and Ellis, 2000) and only one attempt has ever been made to discover the Mandarin equivalents of English intonation (Chao, 1932). The study reported here is part of a larger study aimed at filling this research gap (Wakefield, 2010). This portion of the

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[1] Luke (1990) argued for the term 'utterance particles' rather than sentence-final particles because they can attach to utterances that are arguably smaller than a sentence. It is beyond the scope of this paper to defend the term ''sentence-final particle'', which I adopt, but it is a term that is commonly used in the literature.

[2] The following abbreviations are used throughout the paper: D = discourse element; F_0 = fundamental frequency; NSM = Natural Semantic Metalanguage; P = proposition; SFP = Cantonese sentence-final particle.

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study finds and describes the form and meaning of the English equivalent of the SFP *lo1*. While *lo1* is a segmental morpheme, its English equivalent is a suprasegmental pitch contour.

A definition is developed for *lo1* using Wierzbicka's (1996) natural semantic metalanguage (NSM), and native English-speaker judgments are collected as a form of evidence to show that *lo1* and its English equivalent have the same meaning. It is taken as a working hypothesis that *lo1* and its English counterpart are equivalents with regard to function, meaning, and grammatical category, i.e., that they are both discourse particles that function to link the sentence to the discourse in the same way.

This paper is organized as follows. The next section describes the forms and functions of intonation and SFPs, and explains the three-way relationship among intonation, lexical tones and SFPs. Section 3 introduces the natural semantic metalanguage and proposes an NSM definition for *lo1*. Section 4 describes the research design and methodology. Then, based on the Cantonese-to-English translations, Section 5 describes the form of *lo1*'s English equivalent. Section 6 demonstrates that the NSM definition is able to accurately describe the uses of *lo1* and its English equivalent in any context where they appear. Section 7 explains the polysemy of *lo1* and the final section provides a summary and conclusion of the study. Throughout the paper, the term SFP refers to Cantonese SFPs.

2. Intonation and discourse particles

Cheung (1986:251) said it is ''beyond doubt'' that lexical tones, SFPs, and intonation are interrelated because lexical tones and intonation both share the same form, while SFPs and intonation share the same functions. To help readers better understand this three-way relationship among SFPs, intonation and lexical tones, this section first describes the forms of intonation and lexical tones, and then the forms of discourse particles. After that the overlapping functions of SFPs and intonation are described in order to explain why the complex lexical tone system of Cantonese has resulted in its using segmental particles to express the types of meanings that are expressed by intonation in English.

2.1. The forms of intonation and lexical tones

Intonational forms consist of pitch, length and loudness. Pitch is considered by linguists to be the most important of the three, followed by length and then loudness (Chun, 2002; Cruttenden, 1997; Johns-Lewis, 1985; Hirst et al., 2000). The terms pitch, length and loudness refer to the cognitive, subjective interpretation of their physical counterparts, which are, respectively, fundamental frequency (or F_0) measured in hertz, duration measured in seconds, and intensity measured in decibels.

Pitch is frequently measured as and referred to as its physical counterpart F_0 (Botinis et al., 2001; Chun, 2002; Ladd, 2008; Pierrehumbert and Hirschberg, 1990), but linguists acknowledge that pitch and F_0 are not the same thing. F_0 is an acoustic measurement of what speakers produce, while pitch is the way in which listeners perceive F_0 (e.g., Chun, 2002:4). As such, a number of linguists have pointed out that the final judge of pitch is the human ear, not mechanical measurements (Gussenhoven, 2004:3; Hirst, 1977:2; Pike, 1945:16; Roach, 2009:starting at 4:23). Based on the idea that only some F_0 movements are perceptually relevant, 't Hart et al. (1990) developed the Institute of Perception Research (IPO) method, which is a perceptual model of intonation. Since pitch is subjective, native-speaker judgments should be taken into account to the extent possible in order to increase the validity of any claims about a form of intonation.

Many scholars have either recognized and/or followed the practical step of analyzing intonation in terms of pitch alone (e.g., Botinis et al., 2001; Brazil, 1997; Chun, 2002; 't Hart et al., 1990; Wells, 2006), and this practice has been adopted here. Intonation is analyzed in this study by examining the F_0 contours of the audio data, supplemented by native English-speaker intuition for the reasons just explained. The method used for gathering native-speaker judgments of pitch is described in Section 4.4.

Lexical tones are closely related to intonation because they are also composed primarily of pitch, so for obvious reasons they restrict the use of intonation. It is therefore reasonable to assume that the more complex a language's system of lexical tones, the more this will interfere with that language's use of intonation, and Cantonese has a relatively complex tone system. It has six lexical tones (Bauer and Benedict, 1997; Yip, 2002), with tonal contrasts that involve both height and orientation, severely restricting the speaker's ability to manipulate pitch for anything other than the expression of lexical tone (Cheung, 1986; Yip, 2002).[3] Changing the tone(s) of a Cantonese word will alter its lexical meaning rather than merely add connotative meaning. This has been argued to have caused various kinds of attitudes, epistemic modality and speaker stances that are expressed intonationally in English to be expressed through the use of SFPs in Cantonese.

[3] Although intonation is severely restricted in Cantonese, some forms are still present. Cantonese has the apparently universal characteristics of prosody, such as downdrift (Cheung, 1986; Flynn, 2003), the manipulation of pitch range or level (Cheung, 1986; Pennington and Ellis, 2000), and the marking of syntactic phrasing (Fox et al., 2008). It also allows the use of rising tones to form declarative clause questions (Fox et al., 2008; Ma et al., 2011).