

THE SOUNDS AND TONES OF FIVE TIBETAN LANGUAGES OF THE HIMALAYAN REGION

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1 INTRODUCTION

In this paper I describe the sounds and tones of five Tibetan languages: Dzongkha, Lhomi, Sherpa, Dolpo Tibetan, and Mugom Tibetan.²

In characterizing these sounds, I describe first, using digital oscillograms, the intersegmental voicing coordination of the onset consonant in the various dialects. This is important as an initial step in the study of pitch because it demonstrates the extent to which the complexity of the WT syllable canon is still evident in onset phonation, and the extent to which these onsets are contrastive. The laryngeal states of the onset for the Tibetan dialects often exhibit a rare complexity, which gives evidence for the complexity of the WT syllable. In Dzongkha, there is a seven way contrast in the phonatory/articulatory interaction on onsets, and a six way contrast for the other languages studied here.

Second, I describe pitch on monosyllables, using graphs of fundamental frequency. In this characterization, I will show the way in which pitch can be predicted on the basis of the onset phonation with obstruents and some sonorants, and rhyme type. In addition to a salient high and low register contrast, there is a level/falling contrast that corresponds to short and long open syllables. Sometimes the pitch contrast is not one of level vs. falling but one of sharply falling vs. postponed falling, or in rare cases the contrast between pitch melody heights within a register. The same basic facts on the monosyllable are true for each of the five dialects documented in this paper. One of the interesting findings of this study is that pitch between registers is sometimes contrastive not by beginning or end points, but by the route the pitch travels between beginning and end point.

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² The dialect of Dzongkha described here is spoken in Pasakha, West Bengal, India just south of the Indo-Bhutan border. Lhomi is spoken in Sankhuwa Shabha district of Eastern Nepal, near the Nepal-China border. The dialect of Sherpa examined in this paper is the Solu dialect as spoken near Phaplu, Solu Khumbu District of Eastern Nepal. The dialect of Dolpo Tibetan examined here is that spoken in Dolpo district of West Nepal. The variety of Mugom studied here is that of Mugu village, Mugu district of West Nepal.

Third, I will show that while each of the dialects shares a common register pitch system on the monosyllable, they differ from one another in multisyllabic words. My data for the languages here points to three systems: a word tone system that parallels that described for Central Tibetan (Mazaudon 1986); a word tone system like that described for Tamang (Hari 1970); and a syllable based system not described in the published literature for these languages. Fourth, in the Appendix, I illustrate the correspondence between Written Tibetan (WT) and the attested spoken forms in the different dialects.

1.1 Significance of this research

The Tibeto-Burman languages which belong to Shafer's (1955) Bodish branch (i.e., the Tibetan languages) constitute fertile ground for the investigation of the relationship between laryngeal and tonal features. Proto-Tibetan is regarded as having no tones (Benedict 1972). The daughter languages of proto-Tibetan, however, are at various stages of tonal development, ranging from toneless to fully tonal (Sun 1995). These stages have to do with how closely pitch correlates with the laryngeal states of onset and coda consonants. A relevant question to ask, then, is whether these languages fit into the classification of tonal languages or not. As Sprigg (1966:186) so pertinently asks, "...are languages in which pitch features are relatable to such other features as breath force and vowel duration to be classified as tone languages, the associated breath-force and vowel duration features being at least to that extent subordinated to pitch, or are they to be classified as stress languages or as quantity languages, with regularly associated pitch features?"

Basic agreement in the description of the Tibetan tonal systems (where they exist) lies in the claim that they have a high/low pitch contrast. The disagreement seems to lie in three principal areas: 1) how closely pitch is associated with the phonation of the onset and vowel; 2) whether or not there are tonal contrasts within high and low register; and 3) the domain of tone (i.e., syllable, morpheme, or word).

Little has been done for the Tibetan languages in the area of acoustic research to investigate these areas of dispute. Many of the Tibetan-type languages of the Himalayas are reported as having some of the more fully developed tonal systems on the Tibetan tonality continuum, with fully contrastive tones. As will be seen in this paper, however, this characterization is inaccurate. This paper, then, seeks to provide answers to some of the areas of dispute for the southern Tibetan languages, and to provide an acoustic account, and hopefully a more accurate description of how "tone" works in this group of languages.

1.2 Research methodology

This paper is based on a phonological and acoustic analysis of each language. Before conducting acoustic analysis I developed a basic understanding of the phonological system of each language using a phonemic analysis based on a corpus of approximately 1,200 elicited words. Acoustic analysis was conducted using CECIL and PRAAT, and the methodology prescribed in those computer software programs. This is based on recordings of between 250 and 400 words in each language. These words were selected as representatives of the pitch, register, and vowel length contrasts with several different points and manners of articulation in the onset (i.e. pa, paa, ta, taa, sa, saa, ma, maa, etc..) These words were recorded in isolation four times each, and in different frame drills. I was able to get between two and three different speakers from each language to make these recordings, with the exception of Sherpa for which I have recordings from only one speaker.

1.3 Written Tibetan comparisons

When eliciting and making recordings of words, I was careful not to have recourse to Written Tibetan spellings. My intent was to avoid any influence that Central Tibetan and “Chos skad” (the higher register) pronunciation might have on these words. Most of my language consultants were illiterate.

2 PHONATIONAL AND ARTICULATORY COORDINATION

2.1 Voicing

In each of the languages studied, there is a four way contrast in voicing in the obstruents. These four contrasts are: voiceless without aspiration, voiceless sometimes with slight aspiration and followed usually by breathy voice (devoiced), voiceless with heavy aspiration (followed by modal voice), and voiced (voiceless preceded by voicing). Among sonorants, there is a potential three way contrast, as in Dzongkha, and at least a two way contrast in the other languages. These three sonorant contrasts in Dzongkha are voiced, prevoiced voiced, and preaspirated voiced; and in the other languages: voiced and preaspirated voiced. I begin with a discussion of the obstruents.

2.1.1 Obstruents

The four way contrast in obstruents is illustrated with the recordings taken from Sherpa. The same phenomenon can be illustrated from the other languages studied in this paper with little variation from language to language. (In fact, I wonder whether the variation found in the oscillograms are as much a product

of dialect variation as it is the variation in idiolects between speakers.) The four words illustrated here are [dɛ] 'arrow', [tɛ] 'horse', [pʰɛ] 'wool', and [tʰɛ:] 'loom' in the oscillograms in Figures 1-4. Each oscillogram captures the brief moments before and after the pronunciation of the beginning consonant of the word. More precisely, the oscillograms capture 0.20 milliseconds before the articulation of the vowel, and 0.05 milliseconds into its articulation. Each figure, then, can be compared visually for the differences among the different onsets.

In Figure 1, the word [dɛ] 'arrow' begins with a brief period of voicing with little amplitude and then tapers off to almost a complete silence, and is followed by the voiceless release of the plosive [t]. This is then followed by the voicing of the vowel [a]. It is more accurately transcribed as [dɛ]. The articulation of the sound [d] is unlike that of the articulation of a voiced stop in most languages of the world, where the voicing is carried throughout the articulation of the sound, or begins with initial devoicing. Here in Sherpa, and in many of the Tibetan dialects of the Himalaya, the voicing stops before the release of the sound, and at the point it is released it is a voiceless sound. For lack of a better term, I have referred to this manner of voicing as "prevoiced" to make a contrast with an articulation that is fully voiced. There are no languages studied in this paper that make a phonemic contrast between "voiced" and "prevoiced" in the obstruent class. In this sense, the "prevoiced" series can be viewed as phonologically voiced for obstruents, although voiced sonorants are fully voiced. For some speakers this obstruent series is pronounced as fully voiced, as it would be in English or French. In word medial position, this series is sometimes fully voiced, even by speakers who pronounce it as "prevoiced" word initially.

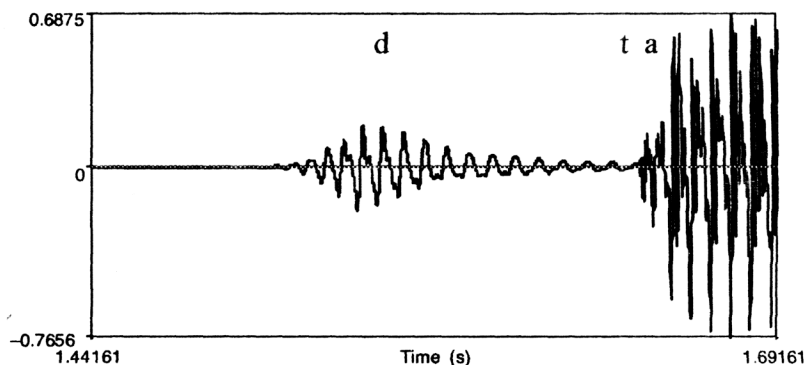


Figure 1. Oscillogram of Prevoiced Obstruent.