SYNTAX AND PROSODY:
INTERACTING CODING SYSTEMS IN DOLAKHA NEWAR

Carol Genetti
University of California, Santa Barbara
<cgenetti@linguistics.ucsb.edu>

1 Introduction

The most common methodology in linguistics is to transcribe words, phrases, sentences, or texts onto paper, and then to analyze the linguistic features that are represented in the transcription. This is an excellent and valuable methodology, and I have used it myself extensively. However, it is important to realize that this methodology reifies the linguistic transcription as a static object, whereas language itself is dynamic, produced in real time to meet the communicative and interactional aims of the interlocutors. In producing language, speakers are constantly making decisions about what information to convey, how to organize that information, and how to present the information in a fashion that allows the hearer to process it. We can enrich our understanding of language structures and how they are used by expanding our methodology in a way that allows us to understand the unfolding of the discourse in real time. One way to do this is to work not just with the static transcripts, but with the tapes and videos as well, as these media automatically incorporate the temporal dimension of the speech event.

Once we analyze the sound together with the transcribed text, we realize at once that there is an entire modality in the speech event which most transcription systems ignore.[1] This other modality is, of course, prosody, the organization of phonological segments into a series of hierarchical units, and their production in terms of loudness, pitch, rate of speech, etc. Prosody and the segmental stream of speech are produced cotemporally, and both are equally important to the organization and presentation of discourse.

Discourse is largely structured through the production of morphosyntax, which indicates the relationships between units and also, in many instances, their boundaries. In producing discourse, speakers are actively making decisions about how to parse the intended information into syntactic units, how to use morphology and syntax to show the relationships between those units, and how to control the flow and highlighting of information. As these decisions are being made about the organization of the morphosyntactic level of speech, simultaneous and very similar decisions are being made about the prosodic level of speech. Speakers must decide how to parse the information into prosodic units and how to use prosody to show the relationships between those units. Speakers also use prosody to direct the hearer's attention to participants and events of different levels of importance, and to indicate his or her attitude towards the information being conveyed.

Prosody and syntax are simultaneous, but still independent, domains of speech, and there are interesting parallels between prosodic and syntactic structure. Prosodic and

---

1. A third modality is gesture, broadly construed to include eye-gaze, body position, facial expression, etc. Since I do not have video data, I won't be discussing this modality.

syntactic units often align, although they are not required to do so, and speakers may produce syntax/prosody "mismatches" for particular communicative purposes. In addition, prosody and syntax show structural parallels at the macro-level of organization: both have units which are hierarchically organized, and both produce complex structures via embedding. Finally, prosody and syntax are mutually informative, each providing cues to the structure of the other.

The goal of this paper is to explore the parallels between the independent but interacting coding systems of syntax and prosody in Dolakha Newar, a Tibeto-Burman language spoken in Nepal. After presenting the basic typological features of the language, I will describe five intonation contours that are commonly found in Dolakha Newar narrative texts. I will demonstrate how speakers use intonation to organize prosodic units into macro-units which I call "prosodic sentences". I will argue that prosodic and syntactic sentences have parallel structures and that both allow for embedding. Despite the structural parallels between the two coding systems, they are still clearly independent, as I will demonstrate through exemplification and discussion of syntax/prosody "mismatches". The paper illustrates how the inclusion of the prosodic level in the analysis of syntax is necessary for a full understanding of language as a dynamic system of communication.

2 Background on Dolakha Newar

Newar is a Tibeto-Burman language spoken primarily in Nepal. The total Newar population is about seven-hundred thousand (Bandhu 2003: 7). Most Newars live in the Kathmandu Valley, where there are three dominant dialects (Kathmandu, Patan and Bhaktapur), as well as a number of smaller varieties. In addition, there are other Newar villages located throughout Nepal, many of which have dialects of Newar distinct from those of the Kathmandu Valley.

The most conservative dialect which has been recorded to date is spoken in the village of Dolakha, located approximately 130 kilometers to the east and north of Kathmandu. This Dolakha dialect is mutually unintelligible with those of the Kathmandu Valley. They could be considered different languages instead of different dialects, however since the Newars constitute a single ethnic group, all speakers consider their language to be "Newar". The mutual intelligibility of the two dialects is caused by significant differences in the phonology, morphology, and syntax of the languages. The split between the dialects occurred a minimum of 700 years ago.

Dolakha Newar is a non-tonal language with a fairly simple phonemic inventory. It has many polysyllabic words, and is primarily suffixing. The language has morphological ergativity indicated by an enclitic casemarker. Despite this, the language has primarily nominative syntax, and there is strong evidence for a subject category (Genetti 2007). Dolakha Newar is a verb-final language, although sometimes elements are postposed in connected speech, and it exhibits many of the typological correlates of verb-final word order that have been discussed in the literature, such as the presence of postpositions as opposed to prepositions, and the positioning of modifiers before the modified noun (Greenberg 1966, Hawkins 1983, Croft 1990).

One typological correlate of verb-final word order that is important for the current paper is the ordering of dependent clauses before main clauses. Syntactic sentences end when the speaker produces a clause with a finite verb. Thus finite clauses are by definition sentence-final. Dependent clauses, including complement clauses, converbal clauses, and

nominalized clauses, precede the final clause and are thus both non-finite and non-final.[2] The structure of the complex sentence is represented in (1). Any number of non-finite clauses may occur prior to the production of the final clause:

(1)   Structure of the complex sentence
       Non-final clause
       Non-final clause
       Final clause

At the end of each clause, the speaker must make a decision about the structuring of the sentence. Should s/he produce a finite verb, thus closing off the sentence and marking the end of a significant discourse unit? Or should s/he produce a non-finite verb, indicating that the sentence will continue, and use verb morphology to specify the syntactic and semantic relations between clauses? We can see that final verbs in this language become significant "decision points" for the speaker in the structuring of the discourse (Genetti and Slater 2004).

At the same time that speakers are making decisions about whether to indicate continuation or finality in the syntactic domain, they are also making decisions about whether to mark continuation or finality in the prosodic domain. Consider example (2), taken from a recorded narrative:[3]

(2)   *khu-mā*   *mucā janm-ai*   *ju-ene;*
       six-CL   child born-BV   happen-PART
       'The six children were born (and),

       ām   *mucā-pen thau*   *thau*   *ṭhāĩ on-a.*
       DEM   child-PL   REFL   REFL   place go-3sPST
       the children each went to their own place.'

The sentence contained in (2) consists of two clauses produced over two prosodic units. Each prosodic unit is represented on a separate line.[4] In this example, the clause boundaries and the prosodic boundaries occur in the same position. The first prosodic unit contains a converbal clause (the general converb is glossed PART(iciple) in Newar linguistics; Genetti 2005), and the second contains a finite clause. At the end of the first clause, the speaker decided to continue the sentence with the converb rather than break it off with finite morphology. Had she chosen to do so, the first line would have been a complete sentence: "The six children were born." By using the converb, she shows an integration of the events depicted in the two clauses.

---

2. The only exception to this is direct quotation, which is embedded as an object complement, and carries the morphology appropriate for the speech situation it is attributed to.
3. The following grammatical glosses are used in this paper: BV borrowed verb; CL classifier; COMP complementizer; DAT dative; DEM demonstrative; ERG ergative; EXCL exclamation. FUT future; GEN genitive; INF infinitive; NEG negative; NOM nominalizer; PART participle (converb); PH past habitual; PL plural; PRTCL particle; PST past; REFL reflexive; TOP topic.
4. I use the term "prosodic unit" to indicate a stretch of speech uttered under a single intonation contour, and marked off by pause, changes in tempo, and other prosodic cues. This is what Chafe (1980 and later) refers to as an intonation unit. See also Du Bois et al (1993).

At the same time that she is marking the continuation or finality of the syntax, the speaker is also marking the continuation or finality of the prosody. The verbs which are in final position in these prosodic units are overlaid by the terminal intonation contours. In the first line, the pitch contour is rising; in the second line it is falling. The pitch trace of (1) is given in Figure 1, which plots the F0 in hertz over time. The arrows indicate the beginning of the verbal suffix of each unit:[5]
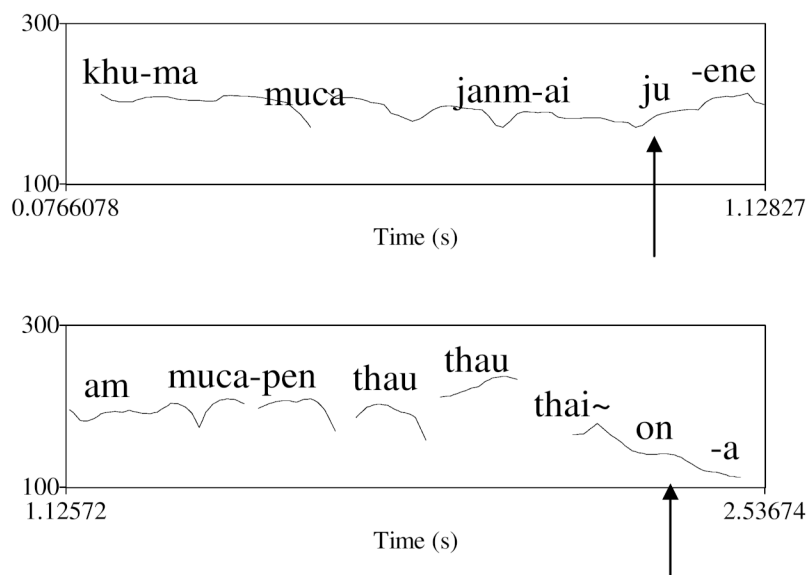

Figure 1: *Pitch trace of example (1)*

We can see that the syntactic and prosodic marking of continuation and finality are cotemporaneous. This is a common pattern which is due primarily to the fact that verbal suffixes come at the end of the clause in a verb-final language, and that ends of clauses are frequently at the ends of prosodic units, the position of terminal contours. I turn now to a brief description of the terminal contours used in the production of narrative discourse in this language.

3 Terminal intonation contours in Dolakha Newar

As with many other areas of linguistics, the field of intonation studies is rich with multiple perspectives, approaches, and sets of terminology. For this paper, I will be focusing on the terminal intonation contours, the pitch movements produced over the last two or three syllables of a prosodic unit. The focus on terminal contours was chosen because these contours are primarily responsible for indicating the relationships between prosodic units; terminal contours function to determine the broader prosodic organization of the text. Following Du Bois et al (1993), I will be using a functional categorization of terminal contours. They make the following observation:

---

5.   The acoustic analysis and pitch traces were produced by Praat. The font which overlays the pitch trace does not accept diacritics; these are in the transcription under the figure heading.