THE ALPINE INTONATION OF BERN SWISS GERMAN

Jennifer Fitzpatrick-Cole
University of Konstanz, Germany

ABSTRACT
This paper presents data from the Bern dialect of Swiss German from a typological perspective. Bern Swiss German is impressionistically more “alpine” than Northern Standard German, partly as a result of their distinct “default accents”, H*+L in NSG and L*+H BSG. Similar dialectal variation has also been reported for English. Like Northern Standard German, Bern Swiss German can associate L phrase tones to the end of focus or to a postnuclear stressed syllable. Assuming a typological framework which recognizes distinctions between phonetic and phonological aspects of intonation as well as universal and language-specific aspects, the differences between BSG and NSG discussed here are taken to be phonological rather than phonetic.

1. TYPOLOGY OF INTONATION
Work on intonation is slowly gaining ground in typology (see for instance [13]). Ladd [14] shows that Bolinger’s [2, 3, 4] “universalist” theory of intonation is steadily losing ground to “phonological” theories of intonation (beginning with Bruce [5] and Pierrehumbert [17]). The former contends that intonation is extralinguistic, essentially emotional. The closest it comes to the grammar is the phonetics, meaning that any typological generalizations to be made about it are not like those made for the grammar. In the latter, intonation has a decidedly phonological component distinct from the phonetic implementation, and thereby cross-linguistic differences can be either phonetic or phonological. A sketch for a typology of intonation is given in Table 1.1. This is slightly modified from Ladd [14], who adapts Wells’ [20] taxonomy of segmental variation to intonational variation, and incorporates Gussenhoven’s [10] distinction between the phonetic and phonological levels of intonation.

The first cut is between the extralinguistic — which includes some of the aspects of intonation that Bolinger considered truly universal, including communicative functions like the imparting of emotion or interest — and the linguistic.

Under linguistic, the next cut is between the universal and the language-specific. Bolinger’s universals are vague tendencies that all have counterexamples, but they can be salvaged with “weak” versions.

Under language-specific, the next cut is between the phonetic and the phonological. The traditional distinction is that gradient differences are phonetic and categorical differences are phonological. As for phonetics, we can separate the universal aspects like intrinsic pitch of segments from the language-specific, phonetics-y, non-meaningful aspects, such as late vs. early peak alignment, interpolation vs. spreading of static tones, possibly compression vs. truncation, and perhaps various downtrends and uptrends, such as downstep/catathesis, upstep, downdrift, and final lowering.

Phonological aspects of intonation can be categorized according to the phonological form of tunes, the inventory of phonological tunes, and the meanings assigned to phonological tunes.

Phonological form differences include phonotactics, tonal shapes, (e.g. monotonal vs. bitonal pitch accents or phrasal tones), well-formedness conditions on tunes (e.g. OCP effects), distribution of tunes, tune-text association, phonological rules (e.g. deletion, Tone Linking, possibly truncation), phonological phrasing, deaccenting, and so forth.

Systemic differences refer to the intonational distinctions languages make, that is, what set of tunes each language has in its inventory. For instance, Glasgow English neutralizes the distinction between statements and questions ([14, 16]), which other dialects maintain with distinct contours. English and German neutralize neutral focus with narrow focus on the rightmost element, while Bengali distinguishes them with two different contours.

Semantic differences refer to the meaning and use of tunes. As soon as we adopt the phonological/typological view of intonation, we practically take it for granted that languages and dialects use different tunes for the same meaning or have different meanings for the same tune.

There are still numerous aspects of intonation that are not included in this table, such as discourse factors and disfluencies.
**Extralinguistic**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Completion, finality, declaratives:</td>
<td>low/falling pitch (= L₁)</td>
<td>(i’ ) Declaratives do not necessarily fall from the last pitch accent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Glasgow English Q/decl. [16] L₁H₁L₁</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• East Bengali some declaratives L₂H₁</td>
</tr>
<tr>
<td>(ii) Incompleteness, non-finality, questions:</td>
<td>high/rising pitch (= H₁)</td>
<td>(ii’ ) Questions have high/rising pitch near the end</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Hungarian Q [14] L₁ H₁ L₁</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Bengali yes/no Q [11] L₁ H₁ L₁</td>
</tr>
<tr>
<td>(iii) New/salient information:</td>
<td>local pitch peaks (= T*)</td>
<td>(iii’ ) New/Salient information is marked with a pitch accent and possibly a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• subordinate postnuclear pitch accent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• a lexical pitch accent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• a phrasal tone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Bengali focus clitics [15] L₁ H₁</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Bengali focus [11] L₁ H₁</td>
</tr>
</tbody>
</table>

**Phonetic differences**

Languages can have different phonetic realizations of the same phonological tune, e.g. early vs. late peak alignment, downstep/catathesis, upstep, downdrift, final lowering, interpolation vs. spreading.

**Phonological differences**

Languages can have different phonological forms of tunes, e.g. phonotactics, tonal shapes, well-formedness conditions on tunes, distribution of tunes, tune-text association, phonological rules, phonological phrasing, deaccenting.

- Bengali
  - monotonal boundary tones H₁ L₁
  - bitonal boundary tones H₁L₁ L₁H₁
- German, English
  - monotonal boundary tones H₁ L₁
- German, Eng. “hat pattern” H H
- Bengali no plateaus

**Systemic differences**

Languages can have different inventories of distinct phonological tunes.

- Standard English declarative H⁺ L₁
- yes/no question L⁺ H₁
- Glasgow English decl., ques. L⁺H₁L₁L₁
- Bengali focus declarative L₁H₁L₁
- neutral declarative H⁺ L₁
- German, English declarative H⁺L₁L₁

**Semantic differences**

Languages can differ in the meaning or use of phonological tunes.

- English, German focus H⁺L
- Bengali neutral focus H⁺ L₁
- Bern German L⁺+H
- Standard N. German H⁺+L

<table>
<thead>
<tr>
<th>Linguistic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Language specific</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Table 1: Typology of Intonation" /></td>
</tr>
</tbody>
</table>

Table 1: Typology of Intonation
2. BERN SWISS GERMAN

2.1. Default pitch accent
Whereas the default pitch accent in NSG (1) is typically H*+L, in BSG it is typically L*+H.

(1) Northern Standard German

H*+L !H*+L L₁

Fahnder deu-tet auf einen Be-su-cher-stuhl.
‘The detective pointed to a visitor’s chair.’

H*+L

L₁

(2) Bern Swiss German

L*+H L*+H L₁

Dr Dang-ter dů-tet uf e Bsu-cher-stuhl.
‘The detective pointed to a visitor’s chair.’

The default accent in BSG has all the hallmarks of a rising accent L*+H. L* aligns to the stressed syllable, is often a step down from a preceding syllable, is low for a good portion of the stressed syllable, and is a rise from low pitch into a peak that occurs much later than ToBI L*+H [18]. The +H peak can occur after the stressed syllable (even if the stressed syllable is long, perhaps unlike ToBI). The fall usually begins right after the peak, before the end of the word; indicating +H rather than H₀ (H~), which would sustain the H to the end of the word or phrase. The fall has two sources: in prenuclear position, L*+H is followed by another L*+H; in nuclear position, L*+H is followed by a phrase tone L₁ (see §2.2). Under this analysis the difference between BSG and NSG is not a realizational difference at the phonetic level, but a semantic difference at the phonological level. In work on English dialects, Mayo et al. [16] and Grabe and Nolan [8] have analyzed some English dialects in the same fashion, where some have H*+L and others have L*+H.

BSG’s default accent could also be phonologically represented as H*+L, but phonetically implemented with a (very) late F₀ peak alignment. Such an analysis, however, pushes our typological model of intonation to the point of being useless if our only interest is making an (unnecessary) link to NSG. A plausible case of phonetic peak-timing difference is proposed by Grabe [7] for Northern Standard German and Southern British English. Phonologically they have the same default accent H*+L, but differ on the phonetic level in terms of the peak alignment: NSG aligns the peak later in the stressed syllable than SBE (and both are later than Romance).

2.2. Focus
The accent patterns in simple SOV sentences are what we would expect from what we know of German and Dutch ([1, 12, 10, 6]). An example of a sentence with no narrow focus is given in (3). The F₀ peak is often realized following the stressed syllable, there is a fairly gradual fall to the next stressed syllable, and a typical downstep pattern.

(3) (Answer to ‘What happened?’)

L*+H L*+H L₁

In (5) the lack of downstep on the object, cf. (3), gives the narrow focus reading, which can be interpreted as being the object or the VP. In German and English objects and verbs phrase together, and a focus accent on the object can take scope over the VP (cf. Bengali). The fact that the object in (5) is not immediately followed by a L suggests that the object and verb phrase together, and the post-focus L in (4) and (5) does indeed align to the end of the focused phrase (where it meets the sentence final L₁ in (5)).

(4) (Answer to ‘Who murdered the politician?’)

L*+H L₁

In (5) the lack of downstep on the object, cf. (3), gives the narrow focus reading, which can be interpreted as being the object or the VP. In German and English objects and verbs phrase together, and a focus accent on the object can take scope over the VP (cf. Bengali). The fact that the object in (5) is not immediately followed by a L suggests that the object and verb phrase together, and the post-focus L in (4) and (5) does indeed align to the end of the focused phrase (where it meets the sentence final L₁ in (5)).

(5) (Answer to ‘Who did the fanatic murder?’ or ‘What did the fanatic do?’)
Narrow focus on the verb is also indicated by a pitch accent $L^*+!H$ (6). Here the object also has $L^*+!H$, and is unambiguously in the background, i.e. not focused. The subject, like all previous examples, has $L^*+H$, and may or may not be interpreted as focused.

(6) (Answer to ‘What happened to the politician?’ or ‘What did the fanatic do to the politician?’)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.3. Final L

In (3–5) there is not a gradual fall at the end of the utterance but a sharp fall on the stressed syllable of the verb, suggesting that there is a final L that associates to the final stressed syllable rather than the final boundary.

One analysis is to revise the analysis of the default pitch accent as $H^*+L$ and allow +L to associate to the following stressed syllable, even if it is unaccented (as a variation of Partial Tone Linking). This would account for the L on the verb and perhaps the apparent L* (incorrectly) assumed earlier. Curiously, however, this +L can only associate to the last stress in the phrase, as in (4), where it can associate to the verb but not the object. More problematic, (4) has two L targets following the pitch accent, so +L probably does not account for both of them.

Another analysis is to transcribe $H+L^*$ or $L^*$ on the verb. In an analysis of southern German dialects, Truckenbrodt [19] transcribes SOV sentences with no narrow focus as $L^*+H H+L^*$. In (4,5), however, there is a preceding narrow focus on the subject or object, so the final $H+L^*$ on the verb would not be the nuclear pitch accent. In Standard German verbs in such constructions only receive pitch accents under narrow focus, which corresponds to (6), where the verb has $L^*+H$. Moreover, a post-focus object receives no pitch accent, as in (4), so this potential post-focus pitch accent on the verb in (4,5) would be special to verbs.

Grice and Benzmüller [9] show that the L target in German nuclear falls and fall-rises also falls on a postnuclear stressed syllable. They argue that treating L as part of the preceding nuclear pitch accent, $H^*+L$, would predict that L be a fixed distance from the H peak. Instead, they suggest the L is independent of the pitch accent, similar to Ladd’s [14] analysis of certain postnuclear tones in English, Greek, and Romanian. A postnuclear phrase tone is independent of, but subordinate to, the nuclear pitch accent. It is accent-like in some languages in that it associates to a stressed syllable if one is available, otherwise it behaves like a boundary tone.

Along these lines, I suggest that the final L in (3–5) is the Intonation Phrase boundary tone $L_1 (L%)$, which has the option of being stress-seeking.

ACKNOWLEDGMENTS

This research was supported by a grant from the Deutsche Forschungsgemeinschaft Schwerpunktprogramm “Sprachtypologie”

NOTES

1. In the notation used here, $T_1 = ToBI$ [18] T%, an Intonation Phrase boundary tone and $T_0 = ToBI T−$, a Phonological/Intermediate Phrase boundary tone.

REFERENCES