Intonational Phonology of Georgian

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This paper investigates the intonational phonology of Georgian, a language from the South Caucasian family spoken predominantly in the nation of Georgia by over 4 million people (Hewitt 1995). The pitch contours of various sentence types including declaratives, yes/no questions, and wh-questions and the effect of focus on pitch were examined. Data used in this study came from nearly 600 sentences from a middle aged, female speaker gathered in a field work setting (about 6 months). The speaker was wearing a head-mounted microphone, and at least two repetitions of each sentence were recorded directly into a laptop using *PitchWorks* (Scicon R&D). A selection of these sentences (about 115 sentences) were also recorded by three additional speakers (2 female, 1 male) and used for confirmation.

Word order in Georgian is fairly free, though there are preferred word orders for certain sentence types. The language is known for its complex morphology and consonant clusters. A syllable can have very long consonant clusters, but only a vowel can be a syllable nucleus and carry an intonational tone. The language is thought to show stress, although its exact realization is debated in the literature. Robins & Waterson (1952) proposed variable stress, appearing on alternating syllables beginning with either the first or second syllable. Aronson (1990) proposed that stress fell on the 1st or antepenultimate syllable in words with four or fewer syllables and on both the 1st and antepenultimate syllable in longer words.

Our data suggest that in general the first syllable of a word is stressed, similar to Aronson (stress in Georgian is realized with larger amplitude). At a post-lexical level, however, some, but not all, of the stressed syllables receive a pitch accent (either L*, H*, L+H* or L*+H), and the pitch accented syllable is the first syllable of an Accentual Phrase (=AP), a phrase slightly larger than a word. Unlike Aaronson, our data also suggest that the high falling pitch found in some of the antepenultimate syllables of words is not a property of the word, but a property of an AP. That is, the antepenult of a word does not show high falling pitch if the word comes in the middle of an AP, and any syllable of a word can show the high falling pitch if it is the antepenult of an AP. We propose that this high falling pitch is a 'phrase accent' of an AP and label it as H+L to capture the high pitch on antepenult and the sharp falling to a low pitch on the following syllable.

In addition to an AP, we propose two larger prosodic units marked by intonation: an Intermediate Phrase (ip) and an Intonational Phrase (IP). An ip is larger than an AP and smaller than an IP. All three prosodic units are marked by a boundary tone on the right edge of the phrase. We have observed three boundary tones for an AP (Ha, La, and L+Ha), three boundary tones for an ip (H-, L- and L+H-) and four possible boundary tones for an IP (H%, L%, L+H%, or HL%). A '+' sign is used when a boundary tone is realized on the last two syllables of a phrase, which is distinct from the case where two tones are realized on the final syllable of a phrase (e.g., L+H% means a L tone on the penult and a H tone on the final syllable of an IP while HL% means a falling tone on the final syllable of an IP).

Typically, in declaratives, each word forms one AP, with a L* pitch accent and Ha boundary tone. Ha boundary tones decline over the course of the utterance, which typically ends in L%. Syntactic/semantic groups, such as subject nouns and its modifying adjectives or a relative clause, often form one ip, marked by a H-, which is higher than the preceding H tones. In this case, the ip-medial APs often show a falling pitch (H* La) pattern.

Questions prefer a verb medial word order (SVO), and are realized with a large prosodic break after the verb, marked by an ip boundary (SV//O). A common pattern in a question sentence, whether it be a Yes/No-question or a Wh-question, is that the first ip (ending with a verb) and the post-verbal ip both tend to have the H+L phrase accent. The end of the first ip can be marked by H- or L-, while the end of the sentence, i.e., post-verbal phrase, is marked by HL% or H%. Therefore, the final three syllables of a question sentence show a falling-rising (H-L-H%) contour or falling-rising-falling (H-L-HL%) contour, if the phrase has more than three syllables. When the phrase has fewer than 3 syllables, either the initial H is of the contour is not realized (i.e., L* H%/HL%) or the syllable is lengthened to carry multiple tones.

Finally, focus is usually marked with a H* or L+H* pitch accent and, as in many other languages, the post-focus words are often dephrased and deaccented, or produced in a very reduced pitch range. But the word immediately following the focused word is sometimes merge with the focused word and form one AP showing the H+L phrase accent. Thus, it seems that focus and questions share a common meaning marked by H+L phrase accent. More data need to be examined to confirm the current findings.

References

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