Phrasal polysynthetic words in Inuit: evidence from syntax and phonology

1. Introduction: A common assumption in many frameworks (e.g., DM, Match Theory, etc.) is that words are syntactic heads (including complex heads created via head movement). This paper examines the status of polysynthetic words in Inuit (Eskimo-Aleut), domains that are both moveable and indivisible (except for ellipsis, see below). We argue first that these domains are phrasal (i.e., they are XPs, not complex heads) and next that they constitute the smallest prosodic domain, suggesting that these larger XPs may spell out at PF as prosodic words.

2. Words as XPs. Evidence for treating Inuit words as XPs comes from adverb ordering and vP ellipsis within polysynthetic words. 2.1 Adverb ordering: Verbal complexes in Inuit contain the heads typically associated with the clausal spine (C, T, Neg, v, V, etc.), but they can also contain a number of optional adverbial modifiers. While Cinque (1999) has such affixes as heads, evidence from their ordering suggests that these elements are not heads in Inuit, as they can occur in varying orders, something unpredicted of heads, given the Head Movement Constraint (Travis 1984). For instance, the adverbs mmarik ‘even’, qattaq ‘regularly’, and qquuq ‘probably’ can occur in all six logically possible orders within a verbal complex:

(1) a. niri-mmari-qattaq-quu-tuq
eat-even-regularly-probably-DEC.3SG
‘He/she probably eats early/beforehand.’
b. niri-mmari-quu-qattaq-tuq
c. niri-qatta-mmari-quu-tuq
d. niri-qattaq-quu-mmari-tuq
e. niri-qquu-qatta-mmari-tuq
f. niri-qquu-mmari-qattaq-tuq

Such variable orderings are not predicted if we assume head movement along a fixed hierarchy of adverbial functional heads. However, such variability is permitted and in fact expected if we abandon the LCA and allow right-headedness (Abels & Neeleman 2009, 2012) along with (phrasal) adverbs without fixed base positions (Ernst 2002) inside XP-sized words (see, e.g., Compton & Pittman 2010).

2.2 vP ellipsis: Another phenomenon pointing to the XP-status of Inuit words is vP ellipsis (Dora 1988; Swift & Allen 2002 “stem ellipsis”), whereby a vP-sized constituent may be elided within words:

(2) Miali uqalimaq-tuq nipikisaq-luni, […]-giaqaq-tutit=tauq
M.(ABS.SG) read-DEC.3SG quiet-CONTEMP.3SG […]-should-DEC.2SG=too
‘Mary is reading quietly (i.e. while she is quiet), (and) you should #(read quietly) too.’

Assuming that ellipsis targets an XP-sized constituent (Lobeck 1995), that it can target constituents within words suggests that these words are XPs as well.

3. Evidence for prosodic words. Evidence that these syntactic domains are indeed prosodic words is drawn from an acoustic analysis of the South Baffin Island Inuktitut dialect and segmental evidence comparing consonant clusters across morpheme and word boundaries. Note that this part of the dialect continuum has neither lexical stress nor lexical tones or pitch accents. 3.1 Prosodic evidence: Analyzing scripted dialogues between two speakers, orthographic words were consistently marked by an f0 fall, while some prosodic variation occurred in utterance-final position. Our data come from a website for learning Inuktitut (Pirurvik Centre 2015), which includes short dialogues between a male and a female speaker of South Baffin Inuktitut with (orthographic) transcriptions and English translations. Here, we analyze the first 20 dialogues (about 5.5 minutes total). They contained 297 orthographic words and 164 stretches of speech delimited by pauses, which we here identify as intonational phrases (IPs). IPs contained between one and six words (median: 2). The data further included 64 instances of noun incorporation.

Almost all orthographic words in our data carried a pitch fall (99%, with 4 deviating words), which we analyse as HL tones (see Figure 1 and ex. 3). While the L tone was always realized close to the end of the word, the location of the H was more variable. It sometimes appeared close to the end of the word and sometimes closer to its beginning (e.g., jvilli ‘and you’ versus other words in the figure). In IP-final position, 68% of the words were realized with an earlier fall followed by a low plateau, while the fall continued to the end of the word in 21% and was followed by a rise in 11% (111, 35 and...
We interpret the low plateau as due to an additional low boundary tone associated with the IP (labelled Li in the figure) and the rise as due to a high boundary tone.

Figure 1. Pitch track of the utterance in example (3) (male speaker).

(3) Nunavut Tunngavik-kkut-ni iqqanaijaq-tunga.
Nunavut Tunngavik-group-LOC.SG work-DEC.1SG
Ivvit=li, nami iqqanaijaq-qit Maikaa?
2SG=and where work-INTER.2SG Maika INTER

‘I work at Nunavut Tunngavik. And where do you work Maika?’

We propose that our intonational analysis shows evidence for two prosodic units: a smaller one corresponding to orthographic words and a larger one delimited by pauses. These two prosodic units exhibit remarkable regularity with respect to their tonal marking, with words regularly being marked by HL tones and IPs mostly being demarcated by an additional L tone. This finding suggests that there is a robust prosodic correlate for the notion of “wordhood” in Inuktitut: orthographic words behave uniformly with respect to their prosodic demarcation. 3.2 Segmental evidence: Further evidence for analyzing these domains as prosodic words comes from the sequences of consonant clusters that are permitted across morpheme boundaries within words versus across the boundaries between words. Goad et al. (2002:253) propose “that any syntagmatic constraint, such as that against clusters [...], must be confined to consonants that are adjacent within the lower PWd/stem”. As such, we expect the permitted consonant clusters across morpheme boundaries to be a subset of those occurring between words. We present evidence from Eastern Canadian Inuit (not shown here) that (non-geminate) clusters such as Cs, Cn, Cm, Cp, Ck, Cq are illicit at morpheme boundaries yet readily found between words.

4. Conclusion: Evidence that the domains examined herein are syntactically XPs and yet are the smallest identifiable prosodic domain goes counter to the common assumption in a number of theories that complex words are complex heads created via head movement. Evidence from Inuit suggests that larger constituents may spell out at PF as prosodic words.