Extending the Prosodic Hierarchy: Evidence from Lushootseed narrative

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The prosodic constituent “phonological phrase” proposed by Lehiste (1975, 1979), has traditionally been omitted from the Prosodic Hierarchy (Selkirk 1984; Nespor & Vogel 1986; Hayes 1989) where the topmost level is the phonological utterance (U). Constituents in the traditional Prosodic Hierarchy are defined by segmental alternations relevant to their boundaries. In this paper, we offer evidence from narrative in Lushootseed—a Salishan language of Washington State—for a higher-level prosodic constituent (f) delineated by FO declination and reset which, while not triggering segmental alternations, coincides with morphosyntactic and narrative structure. These results are consistent with previous findings in Chichewa (Carleton 1995, 1996), Kansi (Cahill 1995), and Mandarin Chinese (Yang 1998). We claim that, rather than being purely phonetic, these discourse-level constituents are a phonological marker of episodic structure and, as such, represent an extension of the Prosodic Hierarchy above the level of the Utterance.

1) The Prosodic Hierarchy

The Prosodic Hierarchy (PH) represents a hierarchical ordering of the prosodic components of the grammar beginning with the Syllable and ending with the Utterance. Constituents within the PH are defined by various phonological rules such as segmental alternations and declination domains whose environments are predictable via a vis the boundaries of prosodic, rather than syntactic, constituents. The standard prosodic constituents which compose the PH are given in (1):

(1)

\[
\begin{align*}
\text{U} & \quad \text{Utterance} \\
\text{I} & \quad \text{Intonational Phrase} \\
\text{p} & \quad \text{Phonological Phrase} \\
\text{C} & \quad \text{Clitic Group} \\
\text{W} & \quad \text{Prosodic Word} \\
\text{F} & \quad \text{Foot} \\
\sigma & \quad \text{Syllable}
\end{align*}
\]

The three lowest levels of the hierarchy are generally considered to be within the domain of the lexical or word-level phonology: The three levels that will be our primary focus here—the Utterance (U), the Intonational Phrase (I), and the Phonological Phrase (p), however, operate at a level above the word comparable to the domain of the syntax, and syntactic information is often considered crucial for the formation of these prosodic constituents.

2) The Lushootseed Prosodic Hierarchy

Although the Prosodic Hierarchy in terms of the ordering and hierarchical organization of its components is generally considered to be universal, the specific evidence for each level and the processes that demarcate the relevant boundaries tend to vary on a language-specific basis. In the sections that follow, we will examine the evidence for each of the levels p, I, and U in Lushootseed and set the stage for further evidence of a higher level of prosodic structure, f, to be discussed in section 3.

2.1) Evidence for p

Phonetically, phonological phrases (p) in Lushootseed are set off in careful speech from contiguous phrases by an audible pause, usually of from 50 to 100 ms; in rapid speech, this pause is smaller, but it is usually perceptible in even these circumstances by the lack of phonological interaction between segments located on either side of a phrasal boundary. The rules or constraints that build p, bear a strong formal resemblance to the rules used to form syllables in many languages. Each phrase in Lushootseed is built up around a phonological word (W) which serves as a kind of phrasal nucleus to which phonological clitics (C) are attached via one of the two processes of cliticization or phonological incorporation. As discussed in Beck (to appear), whether a given lexical item is an eligible phrasal nucleus is not determined entirely by its semantic, syntactic, or morphological properties. As a rule of thumb:

- words belonging to the major word classes tend to be phonological heads, in particular nouns are always heads, as are derived verbs (Lushootseed has no adjectives)
- particles are not words, unless marked for emphasis
- deictics and words corresponding to English adjectives and adverbs may be either clitics or words, depending on which is needed to achieve optimal phrasing

A Lushootseed sentence can consist of a single phonological word or a string of words, each constituting its own phrase (delimited here by parentheses), as in (2).

(2) \((\text{C W}) (\text{C W} \ldots)\)

More commonly, phrases consist of a word and one or more phonological clitics:

(3) \((\text{C W}) (\text{C W} \ldots)\)

Within the phrase, the phonological nucleus bears stress. Thus, in (3) the unique stress falls on the first non-schwa vowel in the root (Bianco 1995) of the verb tasi:su:li: ‘was getting thin’; the adverb is unstressed and becomes a clitic. Phonologically, cliticization is marked by the lack of a pause between elements and, in some cases, the beginnings of coarticulatory assimilation at the word–clitic boundary.

When sentences get more complex, they consist of a single word more than one phrase, each containing a single clitic and, optimally a single clitic as in (4):

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(4) \((\text{C W}) (\text{C W} \ldots)\)
As these examples show, the preferred phrasal pattern is one of procliticization, with a preceding clitic joining to a word to form a sort of phrasal "onset". Words never cliticize to words or share clitics between them. This is also apparent in (5), which shows that when a C appears between two Ws, it adjoins to its right rather than to its left.

(5) (a) (huy q'at-ab-ox'c) (ti?it 3at'halbix') (tuu Taliban) (tadh)
then gather-ICS-MD-now P all where
then the centenarians were gathered together from everywhere

(6) (a) (tu-yac-ab-tu-bicid-ox') (dog'-t) (s?tab) (d=sy?ya?t)
well then 1s mes-tell-ICS-2s-now 2s noble lpo-friend
'well then, I will tell [it] to you now, my noble friend'

In (5), the incorporated clitic re-syllabifies with its phrasal head; in (6), the final consonant in sqabat undergoes deaffrication (C > t].) In (9), the possessive pronoun /3t/ seen in (8a) loses its syllabic nucleus and is reduced to (9).

(9) (a) (ti tusuyahub) (7a ts?u?i?) (tusluXluXet)
'(it) the relatives of Coyote really [are] very many'

(10) (C W+C ) (C W+C ) (C W)
(C W+C ) (C W+C ) (C W)

In the second case, the onset of the incorporated clitic x'at? 'neg' assimilates to the final element in the coda of s?uladx' 'salmon' and triggers the deletion of the /d/ in the word-final coda of its head, as does the preposition 7a in su?afa derived from /su?ulad/... At sentence boundaries and where there would otherwise be three-clitic sequences, a clitic immediately preceding a phrasal nucleus is incorporated as a prefix—thus, WCCW is parsed as (W+C)(C+C+W). This is in (12):

(12) (a) (x'at? k't?kkuwawd?) (ti?it s?ali?)
/(x'at? k't?kkuwawd?) (ti?it s?ali?)/

'affiliation or phonological incorporation can be distinguished from cliticization in that where ordinary clitics retain their own shape and original segmental material (with some exceptions, such as initial glottal stops), an incorporated clitic re-syllabifies with a stem. In most cases, affiliation causes the loss of a mora or some phonemic material, or triggers some phonological alternation such as consonant or schwa-deletion in the word to which it attaches—all of which are processes typical of Lushootseed word-level phonology (cf. the reduction of the past-time prefix /tu/ to [t] in (3) above). In all of the examples above, the incorporated clitic loses its onset and becomes a part of the syllable of the preceding word. In (7c) – (e), for instance, the incorporated element undergoes vowel-reduction, the vowels of the conjunction /ui/ in (c) and the preposition /pal/ in (d) and (e) surface merely as [a]. Other examples offer even more striking evidence for affiliation:

(a) [(huy 'at-ab-ox')]

(b) [(tu-yac-ab-tu-bicid-ox')]

(c) [(huy q'at-ab-ox')]

(d) [(tu-yac-ab-tu-bicid-ox')]

(e) [(huy q'at-ab-ox')]

/12/ '... for our journey' (utterance-final)

/13/ 'a story of our ancestors'

/14/ 'as he ate the salmon, [he] couldn't eat it all'

/15/ 'it [was] really flat up on top of the big stone'

/16/ 'well then, I will tell [it] to you now, my noble friend'

/17/ 'well then, I will tell [it] to you now, my noble friend'

/18/ '... for our journey' (utterance-final)

/19/ 'a story of our ancestors'

/20/ 'as he ate the salmon, [he] couldn't eat it all'

/21/ 'it [was] really flat up on top of the big stone'
Just as in suffixation, a number of boundary phenomena can be observed at work marking the phonological incorporation of the clitic-cum-suffix into the word: in (12a) we have $k'W$ $g'$a-ad-suxaw $d$x; collapsing into $k'$a $g'$a-ad-suxaw; in (12b), $k'$a $g'$a-ad-suxaw; and in (c) $h'h'$ $g'$a $d$sad $W'a$ $h'$sad-sad. Compare this last example with the phrasing in (13):

(13) [hay] (g'lal wilil'idax) (h'h' $h'$sad-sad)]

(14) (W) (C W) § (C W) § (C W) § (W+C)

 worthless+Is only hab-travel
'I'm only wandering around'

The intonational peak of the contour is consistently placed over the first vowel in the phrase in Figure 1, where we see a single Intonational Phrase composed of two $g'$s. There is an intonational peak followed by a gradual fall in F0 through to the end of the utterance. The I is therefore marked by a smooth, uninterrupted declination line. Following Ladd (1984), we believe that the boundary is sentence-finally, where the end of an I coincides with the end of the clausal unit. However, this boundary is very often overridden in rapid speech and an I can potentially encompass more than a single matrix clause. (17) shows a $q'$ cutting across the boundaries of two sentences in the same I:

(17) [g'g'al] (t'a? qavwg) (g'abl Xall) (g'abl $h'$sad-sad+s) (t'a? ba-qah)

[h'i $c'h$ ratt toj also start($p$)arv/child+s D and many]

[ti?i $g'$al] (q$g'$al $v$alvi) (tst'a? $g'$a$ $g'$a-s-s)

[h'i $g'$al $v$alvi Df $v$if+s3po
'[And Raven, also were his children many.] [And $g'$ is his wife's name was $g'$a$ $a$ $v$alvi]'

The phonological phrase shown here clearly cuts across a syntactic boundary, joining the introductory particle of the second sentence to the previous I in a process Woodbury (1985: 172) refers to as "enjambment". There are also a number of places, as shown in (15) and (16) above, within a single syntactic sentence where I-boundaries can appear. One common I-boundary comes at the division between predicate and objects, as in (18), which contains both a singular direct object and a predicate marked for plural subject.

(18) (W) (C W) § (C W) § (W+C)

[bs-pa-ad-$v$alvi+s] (t'h' $h'$sad-sad) (t'h' $h'$sad-sad) (t'h' $h'$sad-sad) (t'h' $h'$sad-sad)

[ti?i $v$alvi+s $v$alvi+s $v$alvi+s $v$alvi+s $v$alvi+s
['they] annoyed Whale'

Here the nominal clitic $v$alvi+s 'you' would normally be expected to form a phrase with the following word; instead, it incorporates to the preceding W, as it would in utterance-final position.

Unlike the Phonological Phrase, the Intonational Phrase is not inherently predictable. The most common place to find an I-boundary is sentence-finally, where the end of an I coincides with the end of the clausal unit. However, this boundary is very often overridden in rapid speech and an I can potentially encompass more than a single matrix clause. (17) shows a $q'$ cutting across the boundaries of two sentences in the same I:

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'[And Raven, also were his children many.] [And $g'$ is his wife's name was $g'$a$ $a$ $v$alvi]'

The division between a predicate nominal and its subject is marked by an I as well.

FIGURE 1: The broken lines are the F0 patternings for the utterance shown in (14). The smooth arc above the F0 lines is added to emphasize the declination line of the Intonational Phrase.
Similarly, adverbial predicates may also be set off from their subjects, as in (20):

(20) (C W) $ (C W+C) (tI?H sla+Jub+a) (tI?H dax+a[a])

'suddenly shorewards D mink+and

'the whale went suddenly way up on shore'

(lit. 'the whale's going ashore [was] suddenly shorewards')

In the same way, predicate adjuncts may be contained in separate Is from the clausal nucleus:

(21) (ba?alab-ax$) (tI?H k?afaq) (dax+a[ba?alab+a]) (tI?H bba?alab+a)

put-down-now D mat § walk+P D mink+and

(D C+W) (tI?H sas?egul+a[a]) D cousin-3yo

'[they] threw down a mat for Mink and his younger cousin to walk on'

The division between coordinated clauses, marked by the use of the conjunctive pronouns in initial position of the second clause, may also be reinforced by an I boundary:

(22) (C+W+C) (W+C) (C+W+C)

only 2s+howl 2s+conj toss-head-from-side-to-side

'you just howl and toss your head from side to side'

It should be noted, however, that Is are not obligatory in these environments. The size and complexity of the intonational unit varies a great deal depending on the rate of speech and the degree of care being taken by the speaker to make things clear. Stuttering, hesitation while thinking of phrasing or recalling words, and pausing for stylistic or dramatic effect also play a big role in the structure of the I, and very often the boundaries mentioned above—particularly that between predicate and object—are not marked phonologically. I is also intimately bound into a complex declination domain, which we utilize the degree of

2.3) Evidence for U

As predicted by Nespor & Vogel (1986), the U is often isomorphic with I and, according to their algorithm, the U is minimally the sentence. When an I is formed according to its maximal syntactic boundary, it can be the case that the U is marked according to its minimal boundary, which is also the sentence. In our corpus, however, there is evidence of Us composed of multiple Is. These complex Us seem to be of two types, each with its own diagnostic.

The first type of U contains two or more Is, the diagnostic being that the Is composing these sentences be nested into a superordinate declination domain. In many cases this type of U encompasses multiple syntactic sentences. The second type of complex U is isomorphic with the sentence, but contains more than one I. Quite frequently, this type of U has an upward differential in FO peak between the Is composing it. In these cases, there is still strong motivation to posit the group of Is as a single U in spite of the superordinate declination trend.

2.3.1) Nested Declination Trends

As with the I, in defining the U we make use of FO declination as a diagnostic of prosodic constituency. For Us, we utilize the degree of FO rise (increase in FO) from the end of one I to the beginning of the next to demonstrate nested dependencies of Is within larger constituents. The superordinate structure containing multiple Is also has a declination trend of its own. This is illustrated in Figure 2 which shows two Is with clear declination contours contained within an obviously larger declination domain, which we define as U. Note that the U in Figure 2 is an example of reported speech. According to the minimal domain stated by Nespor and Vogel (1986: 222), we consider any number of Is occurring within a sentence will be a U. In Figure 3, the U-level declination trend was altered by semantic constraints on the utterance: the second I, "Pheasant and Raven were neighbors." The speaker was thus forced to intonationally "mark" this I by increasing pitch level.

2.3.2) Sentences with Multiple Is

The example in Figure 2 demonstrates a downward differential between the two Is making up the complex U. There are, however, cases in which the two elements contained within the U show an upward differential in FO. Consider the following example, illustrated in Figure 3:

(23) (C+W) (C+W) (C+W) (C+W)

'sixt-gather-side D pheasant conj D raven

'Pheasant and Raven were neighbors.'

In Figure 3 consists of a single sentence divided between two Is. The unusual placement of the I-boundary between the determiner ti? and the NP sga? indicates that this is an internal focus constituent (Selkirk 1996) which in Rudderseed is used as a topic-shifting structure to mark the beginning of a new discourse episode (see the examples in (25) below). Although the Is in Figure 3 do not follow a superordinate declination line, we believe them to be in the same U. In accordance with the minimal domain of U stated by Nespor and Vogel (1986: 222), we consider any number of Is occurring within a sentence will be a U. In Figure 3, the U-level declination trend was altered by semantic constraints on the utterance: the second I, "Pheasant and Raven", is focused. The speaker was thus forced to intonationally "mark" this I by increasing pitch level.

3) The phonological paragraph

The prosodic constituents considered up to this point have been restricted to units that consist of a single or at most a small group of sentences. The Uterance is the traditional upper limit of the Prosodic Hierarchy, just as sentences or the conjuncted clauses are usually treated as the highest level in syntactic structure. This upper limit, of course, has in many ways simply been a matter of focus and analytic convenience, and supa-sentential phenomena such as topic-marking, obviation, and switch-reference have long been recognized as discourse-level—or discourse-related—aspects of the grammar. The search for higher-level organizational principles in language has led a number of researchers to argue for a supra-sentential level of constituent structure, commonly referred to as a discourse episode or a paragraph. Attempts to define the paragraph in grammatical terms have often relied on content and presentational features of stretches of discourse, the consensus being that a paragraph consists of a set of consecutive sentences sharing a common topic. Longacre (1979) defines the paragraph in terms of "thematic unity" and argues that paragraphs are often set off in ordinary discourse by task-specific introductory and conclusion

Figure 2: This is a pitch extraction of the sentence x'i? k'i g'ascuts s'ulab da t'itH sg'g'ulub "x'i? ladsg'a?". He had not said as had Pheasant, "They are not mine." The smooth lines emphasize the nested declination trend of the two Intonational Phrases within the same Utterance.
Halliday's rhetorical structure is marked within two main components of the grammar—a prosodic component and particle pitch cues in Porno to divide oral text into lines corresponding roughly to our I and plex Group, and the
from Lushootseed narrative.

Approach to an evidence, mainly the distribution of grammatical particles, and narrative considerations such as change of action and scene, to organize texts into lines, then verses, stanzas, scenes, and acts. Kinkade (1987) takes a similar approach to an Upper Chehalis text, noting the use of the particle has to mark verse and stanza divisions. Hymes' multi-layered discourse structures are reminiscent of work by Hinds (1979) on ordinary English discourse, which he argues has a hierarchical, nested structure, each level having its own intonational and predicative organization.

While there have been studies of the phonological properties of Native American oral narrative, these have generally centered on the lower-levels of the Prosodic Hierarchy. The seminal studies in Tedlock (1972, 1983) make use of a large number of phonological cues such as lengthening, pause, pitch, cadence, and loudness. For each writer who does tackle the phonology of higher levels of discourse organization in oral narrative, the study of narrative has been particularly active in the field of Amerindian studies (for a survey, see Kinkade and Mattina 1996). In addition to the studies in Longacre (1979) alluded to earlier, one of the best known attempts to characterize the structure of Native American story-telling is that of Hymes (1981), who argues for the organization of Chinook folks tales into a hierarchical structure. Hymes makes use of morphosyntactic evidence, mainly the distribution of grammatical particles, and narrative considerations such as change of action and scene, to organize texts into lines, then verses, stanzas, scenes, and acts. Kinkade (1987) takes a similar approach to an Upper Chehalis text, noting the use of the particle has to mark verse and stanza divisions. Hymes' multi-layered discourse structures are reminiscent of work by Hinds (1979) on ordinary English discourse, which he argues has a hierarchical, nested structure, each level having its own intonational and predicative organization.

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The well-defined roles that these languages consistently maintain these participants in subject position, overtly in (24b) and as a topic through the use of a nominally predicated sentence (24a) and (24i) to shift the narrative to a new topic marker. As for Raven, he also had children. The first sentence, the narrator establishes a topic through the use of a nominally predicated sentence (24a) and (24i) to shift the narrative to a new topic marker.

The points on the graph represent F0 Max values of Us. The reset followed by downdrift marks the narrative into its well-defined role. The well-defined roles that these languages consistently maintain these participants in subject position, overtly in (24b) and as a topic through the use of a nominally predicated sentence (24a) and (24i) to shift the narrative to a new topic marker.

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F0 reset are often reinforced by morphosyntactic properties of the text. In the literature, the best-known morphosyntactic technique for grouping lines into discourse-level constituents is the use of discourse particles as outlined in Hymes (1981) for Chinook. In Lushootseed, there is some use of particles to organize narrative, although the situation seems to be more akin to that observed by Woodbury (1985) in Central Alaskan Yupik, where the "particle component" of the grammar reinforces "the hierarchical structuring of the prosodic and syntactic components rather than creates one of its own" (p. 162). Thus, the particle huy, for example, appears in a large number of its attestations at the boundary between Us and sub-Us, although by no means all such boundaries are marked by huy (see Kinkade 1987 for a discussion of the discourse-properties of the cognate huy in Upper Chehalis). Similarly, huy tends to appear towards the end of subparagraphs, marking conclusory material and codes (Section 3.2).

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position of the I boundary can be analyzed as setting off a focused element from the remainder of the sentence, in the same way that a phrase-boundary is used to offset an adjunct (cf. the phrasing in English examples like *Me, § I like them*). This is precisely the structure shown in (25a), where the intersection of $g^*$ is used to set off a fronted topical NP. The remainder of the examples show a focus set off to the right of the sentence predicate, recalling right-dislocated constructions in English such as *I really enjoyed that book*. In (25d), however, the focus, *Wide Bear*, is not post-posted but remains in situ (as do the focused NPs in the preceding examples, whose ordinary location is at the right edge of the sentence). The intonational phrasing of topic-setting structures may thus be more akin to that reported for Korean focus constructions by Selkirk (1996), whereby the insertion of an intonational boundary within a syntactic unit is said to demarcate an "internal focus constituent"—a sentence element singled out for special attention by the speaker which is therefore set off from the rest of the sentence by an I-boundary. While Korean "envelopes" the marked constituent in its own I, Lushootseed merely places an I-boundary immediately before the marked element, splitting the sentence across the constituency of an NP.1

Phonetically, discourse episodes linked by subject continuity tend to be contained within a divisional boundary, while changes in subject are marked by strong FO reset (T). This is illustrated in a short episode from $sg^*alb $t $t$ $?a $qa$wi$ps (this episode is given in a larger context in example (29) below):

(26) (a)  
\[(W) (C W) \quad (W)\]  
\[\{\text{lit. 'his meeting them [was] sudden'}\}\]

(b)  
\[(W) (W) (W)\]  
\[\{\text{the people were sitting there}\}\]

(c)  
\[(C W+C)\]  
\[\{\text{they have two dogs too}\}\]

(d)  
\[(W)\]  
\[\{\text{it was prepared for him}\}\]

(e)  
\[(C W)\]  
\[\{\text{there were two people and, [they were] youths}\}\]

The beginning of the episode in line (26a) is marked by strong FO reset and a non-verbally predicated sentence whose subject is a nominalized verb-phrase, *$k^* $s-24+$q-dx$-s* $t$ $t$ $?a* $his meeting them*. In terms of the discourse, this is a pre-sentential sentence in the sense that all of the information in it is new and the situation as a whole is offered to the audience as a new topic. The syntactic subject of the next line singles out a particular aspect of the new scene, *$l$acarce $A$c$h$bIx* 'these people', as a more specific discourse topic, which is iterated in subject position (underlined) in the following three sentences. Over the length of this episode there is a gradual decline in FO peaks until line (26e), which shows a sharp upward jump in pitch. This line also marks a shift in syntactic subject away from the two youths back to Pheasant (the topic of the previous episode), who appears in subject position through the application of a good deal of elaborate morphology. The syntactic subject of (26e) is set off from the rest of the phrase as an internal focus constituent by an I-boundary, giving it a marked prosodic status and identifying the line as a topic-shifting structure.

A final example of the coincidence of FO contours and subject-continuity is given in (27). Unlike the previous examples, the initial sentence in the episode—which constitutes a phonological subparagraph of a larger § shown in its entirety in Figure 6 above—is not a syntactically or prosodically marked structure, but is distinctive enough that it represents a shift away from direct speech to narrative mode and takes as its syntactic subject a zero pronominal whose referent is understood to be the object at the centre of the preceding discussion, an elk carcass which is being awarded to Pheasant by some spirits he has met in the mountains (lines 74 - 83 in the text):

(27) (a)  
\[\{\text{lit. 'right away Pheasant [was] that which [they] were disposed to chew on'}\}\]

(b)  
\[\{\text{And [they] have two dogs too.'}\}\]

(c)  
\[\{\text{And [they] have two dogs too.'}\}\]

(d)  
\[\{\text{And [they] have two dogs too.'}\}\]

(e)  
\[\{\text{And [they] have two dogs too.'}\}\]

The beginning of the episode in line (26a) is marked by strong FO reset and a non-verbally predicated sentence whose subject is a nominalized verb-phrase, *$k^* $s-24+$q-dx$-s* $t$ $t$ $?a* $his meeting them*. In terms of the discourse, this is a pre-sentential sentence in the sense that all of the information in it is new and the situation as a whole is offered to the audience as a new topic. The syntactic subject of the next line singles out a particular aspect of the new scene, *$l$acarce $A$c$h$bIx* 'these people', as a more specific discourse topic, which is iterated in subject position (underlined) in the following three sentences. Over the length of this episode there is a gradual decline in FO peaks until line (26e), which shows a sharp upward jump in pitch. This line also marks a shift in syntactic subject away from the two youths back to Pheasant (the topic of the previous episode), who appears in subject position through the application of a good deal of elaborate morphology. The syntactic subject of (26e) is set off from the rest of the phrase as an internal focus constituent by an I-boundary, giving it a marked prosodic status and identifying the line as a topic-shifting structure.

A final example of the coincidence of FO contours and subject-continuity is given in (27). Unlike the previous examples, the initial sentence in the episode—which constitutes a phonological subparagraph of a larger § shown in its entirety in Figure 6 above—is not a syntactically or prosodically marked structure, but is distinctive enough that it represents a shift away from direct speech to narrative mode and takes as its syntactic subject a zero pronominal whose referent is understood to be the object at the centre of the preceding discussion, an elk carcass which is being awarded to Pheasant by some spirits he has met in the mountains (lines 74 - 83 in the text):

(27) (a)  
\[\{\text{lit. 'right away Pheasant [was] that which [they] were disposed to chew on'}\}\]

(b)  
\[\{\text{And [they] have two dogs too.'}\}\]

(c)  
\[\{\text{And [they] have two dogs too.'}\}\]

(d)  
\[\{\text{And [they] have two dogs too.'}\}\]

(e)  
\[\{\text{And [they] have two dogs too.'}\}\]
interaction between prosodic and narrative organization of discourse.

3.2.1 Narrative episodes

Perhaps the most obvious and least surprising use of the ↑ boundary is to signal the boundaries of narrative episodes, marking such things as change of scene and change of action. Not unexpectedly, phonological graphing of this kind is often of a recursive nature, with major F0 reset setting off larger episodes that might be thought of as stanzas (full paragraphs) and relatively minor reset marking subdivisions that could be thought of as verses (subparagraphs), at least as these terms are used by Hymes (1981). The example in (29) illustrates F0 reset marking both types of episodic boundary:

(29) (a) ↑ huyu-t-ab-axw ti?¹g³³ sg"alub
  ↓ INTI travel-now D pheasant
  'Then Pheasant traveled.'

(b) ti?¹g³³-ab-axw dxʷ-‘ad
  INTI travel-now toward-where
  'Indeed, he traveled everywhere.'

(c) paXa³³ uʔiʔibás³³
  WORTHLESS PRT-(RDP)travel
  'He wandered about.'

(d) ti Xa-as-taq-axw alg³³
  HAB-STAT-hungry PLURAL
  'Because they were always hungry.'

(e) ti?¹?iʔilb-axw kí³³ sʔad-‘ab-dxʷ-s ti?¹g³³
  ↓ sudden-now D NP-chew-ICs-MD-MD
  'Suddenly he met them.'

(f) ʔa-g³³-‘ad’il tiʔacac ‘aʔiʔalbix³³
  HAB-STAT-youth
  'These people were sitting [there].'

(g) sʔa³³-ʔiʔila³³ ti?¹g³³ ‘aʔiʔalbix³³ huyu³³ dxʷ-taq-‘ab
  (RDP)two D people INTI (RDP)youth
  'There were two people and, [they were] youths.'

(h) g³³-‘aʔx³³ baʔsal³³
  INTI POSS-(RDP)dog
  D two people
  'And they have two dogs too.'

(i) ↑ tìb³³-ab-axw ti?¹g³³ sʔaʔ³³-dxʷ-x³³³iʔu-t-ab-axw ti?¹g³³
  IMMEDIATELY-now PRT-DP-NP-chew-ICs-MD-MD D pheasant
  'Right away they wanted to chew Pheasant up.'

(j) la-‘ux³³
  PROG-GO
  'who was going [along].'
The first line in (29) corresponds to the first line of both a Phonological Paragraph—hence, the reset in FO (7)—and the beginning of a discourse episode signalled by a change of action as Pheasant sets out on his journey into the mountains. The next lines within the paragraph describe the manner of and motivation for Pheasant’s travelling. Following this, a new episode begins at line (29c) with a change of scene (the previous discourse being centred on Pheasant’s home—that is, the point of departure for his travels) as Pheasant reaches the end of his journey and meets the hunters. This boundary marks an important point in the discourse and is set off by a high FO reset, followed by a number of lines setting the scene for the action to follow. This episode is shown in Figure 7, line (29c) corresponding to line 20. The next upward differential in FO Max comes at line 24 (29g) where there is a change of action—the youths’ dogs attack Pheasant. Although there has been reset in FO, we would still consider this to be part of the same §, given that the FO reset is only slight and the dog’s attack on Pheasant is still a part of the initial incident in the story, Pheasant’s meeting the hunters. The next reset in FO, line 30 (29h), is substantially higher and constitutes a new episode as the youths urge Pheasant to call the dogs as if they were his. This is the first of a series of tests of Pheasant’s character at the instigation of youths/hunters (who are, of course, really supernatural beings) and so constitutes both a narrative unit in and of itself and a prosodic unit, being set off from the rest of the text by ultra-high FO boundaries.

3.2.2) Direct speech

Direct speech attributed to a character in the narrative is another common motive for FO reset, most frequently corresponding to a new paragraph. Generally speaking, if the character speaks more than one line, these lines are contained within the same subparaphrase, although minor reset takes place occasionally when there is a change of topic within a single speech or where a particular statement is singled out for narrative highlighting or some other type of prominence (see 2.2.3 below). Change of speaker occasionally triggers a new paragraph as well, as in:

Figure 7

The beginning of this paragraph is a statement on the part of one set of characters—the hunters/spirits who the protagonist of the story, Pheasant, encounters in this portion of the story—that they will give Pheasant a gift. The remainder of the paragraph is Pheasant’s speech reacting to the gift and explaining how important it is to him. All of these statements are contained within an identifiable F0 contour.

Another interesting feature of direct speech is that it is frequently prefaced by a line or (rarely) two introducing the speech, most commonly the introductory statement “he/she/they said”. This is seen in lines 58 – 60 in Figure 8, given in (32):
3.2.3) Highlighting and other narrative figures

employs a very high

This sentence serves as both the moral climax of the first half of the story and underscores the outcome of Pheasant's interaction with the spirits, which will be contrasted with the quite different outcome of their interaction with Raven, Pheasant's foil in the second half of the story.

Given the degree of reset seen in this example and one or two other instances of major highlighting, an argument might be made for considering this the beginning of a new § rather than the beginning of a subparagraph contained within a larger unit whose left edge is marked by substantially lower FO reset. On the other hand, this line represents a continuation of both a single discourse topic (the gift), a single episode (the spirits' reaction to Pheasant's behaviour and their awarding of the gift), and the speech of a single set of characters, the hunters/spirits (who are always presented as speaking with a single voice). It is also worth noting that the fact that this paragraph has been structured in this way with its FO peak in the middle of the paragraph rather than its left edge serves to increase the prominence of the highlighted line in much the same way that marked prosody is used at the sentence-level in English contrastive emphasis (e.g. I can’t believe you gave it to him!). The FO reset is relatively high for this sentence even on an absolute level, but as the left edge of an autonomous paragraph, the line would not be especially marked.

Narrative highlighting, however, does not always trigger such a marked upwards differential—in many cases it is merely indicated by an upward shift in FO which is relatively less than that seen at the beginning of the larger paragraph. Such cases are identifiable from the fact that they do not correspond to ordinary paragraph or subparagraph divisions marked by subject or topic shift, change of speaker, etc. This is the case in lines 33 and 34 in Figure 9, which is part of the speech of Pheasant, beginning in line 32, shown in (33):

Figure 8

occurs when the character actually begins his speech in line (32b). In most cases, the introductory line represents an upward differential from the previous line (the last line of the preceding paragraph), although the degree of reset is more typical of the difference between subparagraphs. The use of relatively low FO for such lines seems consistent with the story-teller's practice of de-emphasizing "stage directions", commentary, and transitional action that are less directly part of the mainstream of the narrative. Some more examples of this will be discussed at the end of the following section.

3.2.3) Highlighting and other narrative figures

As noted earlier, it would be somewhat beyond the scope of this paper to try to give an extensive treatment of all of the narrative techniques and literary devices story-tellers implement through manipulation of differential FO reset. Indeed, on the basis of a single text told by a single raconteur, it would be premature to claim that we have more or less scratched the surface of possible organizational patterns of narrative. In the sections that follow, however, we will briefly mention and illustrate a few of the more common and more notable techniques employed by Mrs. Lamont in her narrative in an effort to show, as we have been arguing throughout this paper, that the manipulation of FO declination and reset is a regular and non-random feature of the phonological structure of narrative.

Narrative highlighting

Narrative highlighting is a technique wherein the narrator makes use of an unexpected or exaggerated upward differential in FO to give special prominence to a particular aspect of the narrative, usually an event which is of particular thematic or dramatic importance. In line 69 of Figure 6 (see (31) above), for instance, the narrator employs a very high FO reset to highlight a major turning point in the story wherein the hunter/spirits encountered by the protagonist, Pheasant, award him a gift (an elk carcass) as a reward for his modesty and correct behaviour. This sentence serves as both the moral climax of the first half of the story and underscores the outcome of Pheasant's interaction with the spirits, which will be contrasted with the quite different outcome of their interaction with Raven, Pheasant's foil in the second half of the story.

This paragraph deals with a narrative episode in which Pheasant, attacked by the spirits' dogs (see (26) above), is exhorted to call them off as if they were his own. The spirits' exhortation is found in lines 30 – 31. Pheasant's reply—a refusal and an explanation that the dogs are not his—begins in line 32, shown in (33):

Figure 9

Pheasant's behaviour and their awarding of the gift, and the speech of a single set of characters, the hunters/spirits (who are always presented as speaking with a single voice). It is also worth noting that the fact that this paragraph has been structured in this way with its FO peak in the middle of the paragraph rather than its left edge serves to increase the prominence of the highlighted line in much the same way that marked prosody is used at the sentence-level in English contrastive emphasis (e.g. I can't believe you gave it to him!). The FO reset is relatively high for this sentence even on an absolute level, but as the left edge of an autonomous paragraph, the line would not be especially marked.

Narrative highlighting, however, does not always trigger such a marked upwards differential—in many cases it is merely indicated by an upward shift in FO which is relatively less than that seen at the beginning of the larger paragraph. Such cases are identifiable from the fact that they do not correspond to ordinary paragraph or subparagraph divisions marked by subject or topic shift, change of speaker, etc. This is the case in lines 33 and 34 in Figure 9, which is part of the speech of Pheasant, beginning in line 32, shown in (33):

(33) (a) x\(\)?i? x\(\)?i? si\(\)i?ab k\(\)i?g\(\)a-d-g\(\)hi\(\)d
NEG NEG (RDP)noble D SUBJ-1PO-nP-called-ics
"No, Sirs, I won't call them."
(b) T x\(\)?i? la-d-g\(\)a\(\)a? d-sq\(\)ab\(\)ay?
NEG NEG-1PO-NP-one's-own 1PO-dog
"They are not my dog(s)."
(c) x\(\)u\(\)a\(\)a? s-g\(\)a\(\)a?-lap
maybe NP-accompany-2pPO
"Perhaps they are yours."

This paragraph deals with a narrative episode in which Pheasant, attacked by the spirits' dogs (see (26) above), is exhorted to call them off as if they were his own. The spirits' exhortation is found in lines 30 – 31. Pheasant's reply—a refusal and an explanation that the dogs are not his—begins in line 32. Normally, we would expect either consistent FO declination starting at line 30 (delimiting a question-and-answer pair), or a reset at line 32 marking a change of speaker. Instead, we find reset at line 33 (33b). This and the next line are of particular
importance to the story because they show Pheasant's correct response to the first test set for him by the spirits and illustrate his modesty and generosity, in direct contrast to the response of Raven in the identical situation in the second half of the story. Pheasant's words in 33 - 34 are echoed in line 62 (Figure 6) in his response to the second test set for him by the spirits. This line, too, receives narrative highlighting, marked again by slight FO reset.

Circular figures

Closely related to narrative highlighting is a narrative construct we have, following Langen (1996, 1997), labelled a "circular figure" in which two equivalent lines "sandwich" a small chunk of related text. These are signalled by a slight upward FO differential marking the repetition or very close paraphrase of the earlier line. A good example of this is seen in Figure 7, lines 24 and 27, given here in (34):

(34) (a) ti?ab?ax-t? 7u-dx-s-x"u?u-t-ab-ab ti?ab? sq?a?lab
immediately-now PNT-DR-NE-chew-ICS-MD-MD D pheasant
'Right away they wanted to chew Pheasant up.'
(lit. 'Right away Pheasant was wanted to be chewed on')
(b) la-?u?x
progo
'who was going [along],'
(c) ti?ab?ax
who was just walking [around] a bit.
(d) ti?ab?ax-t? 7u-dx-s-x"u?u-t-ab-ab-ax-t?
immediately-now PNT-DR-NE-chew-ICS-MD-MD-now P D (kin)dog
'He was wanted to be chewed on by the dogs.'

The first line in (34) is a statement to the effect that Pheasant, who has just come upon the hunter/spirits, is set upon by their dogs, who want to chew him up. The next two lines represent parenthetical information to the effect that Pheasant was just walking around a bit. The final line constitutes a virtual repetition of the initial line of the narrative figure, with a slight modification that in the first line the subject, Pheasant, is overt and the dogs are not mentioned. In the final line, the dogs are named and Pheasant (still the syntactic subject and discourse topic) is elided. An even more complex example of a circular figure is shown lines 44 and 47 of Figure 9, given in (35):

enti only 1st hab-travel worthless
'Oh, I'm only wandering around.'
(b) d-x-t?ab?ax ti?ab? d-su-?i?ba?
towards-inland D PNT-DR-NE-travel
'Into the high country [is] where I am traveling.'
(c) ti?ab?ax-t? 7u-tu?x 7u-?i?ba? pa?ax
enni only 1st hab-travel worthless
'But from [over there] is where I am going, where I live.'
(d) pa?ax
who is only wandering around.

These lines (representing the first part of Pheasant's response to a question about his activities) begin with a statement to the effect that Pheasant is simply wandering about without any particular goal in mind (a motif which recurs throughout this part of the narrative). Pheasant then explains that he is heading inland but comes from farther away, following which he repeats the information given in (35a) (line 44 in the text) that he is simply wandering without any specific goal in mind. The fact that the initial and final lines of the circular figure here are not identical to each other but are, in fact, mirror images makes (35) an example of what Langen (1996) refers to as a "circular 'hysterion-proteron figure'". In both examples here, and in a number of others throughout the text, circular figures involving repetition and paraphrases of lines relatively close to one another (rarely separated by more than three or four Us, in our sample) trigger an upward differential reset, although on a relatively minor scale compared to that observed for many instances of narrative highlighting. This correspondence between FO and a recognized narrative device can hardly be coincidental and seems to be good evidence for the deliberate manipulation of FO declination patterns by the storyteller for narrative effect.

Coda

A coda is a line—or a small group of lines contained within a single U—which serves as a cap to a narrative episode and comes at the end of a phonological paragraph. These usually represent some sort of summing up or dénouement to the episode in which they are contained and are marked by a relatively low-level reset in FO, comparable to lower range of reset found setting off subparagraphs. An example of a coda is seen in lines 40 - 41 of Figure 9, where the episode relating Pheasant's trial with the dogs is concluded and Pheasant moves to join the two hunter/spirits where they are sitting, setting up the situation for the subsequent action. These structures seem very much akin to what Longacre (1979) refers to as a "terminus". Note that not only does the coda in Figure 9 represent an FO reset approximately equal to the reset for the previous subparagraph, it is substantially higher than the "preface" to the following paragraph (as opposed to more ordinary final Us which tend overwhelmingly to be lower than the first Us of the following paragraph, whether or not this is introductory material).

Narrator's asides and narrative transitions

Unlike the previous examples, where narrative devices employ FO level and tend to be marked by upwards differential in pitch, narrative's asides and, to a lesser extent, narrative transitions tend to be marked by relatively lower levels of FO. A good example of the first technique is found in lines 63 - 64 in Figure 6, given in (36 - 36c):

(36) (a) xu?u-tu?x 7u?u-tu?x ti?ab? ax-t?
maybe own-bf own-bf big-game-animals
'maybe that food, [that] big game animal is yours.'
(b) huuy
finish
'Done! (i.e., Well spoken!)
(c) ha?x 7u-tu?x 7u-tu?x caadid
good P mind P D 2b-ERG
'They are favorably impressed [by his reply].'
(a) ʔwux-’ax’ s-ʔuxab-a-b-dx’ sg’ulub go-now D np-pitiful-prs-1-md-loc pheasant

‘Humble Pheasant went now.’

(b) g’əl la-g’əd’it

‘And he sat down.’

(c) g’əl huy əbə-’u-b-a-ax’

‘And then it was put on [his] back.’

(d) g’əl huy ʔwux’

‘And then he went.’

These four lines, which constitute one of Langen’s (1996) circular figures, are contained within a single U and, given that they represent a shift of both topic and subject from the preceding paragraph, are analyzed here as constituting a single ʕ. As a group they are marked as having relatively low FO—markedly low, in fact, for an independent paragraph. In narrative terms, they summarize the events leading up to the next several episodes.

In this paper, we have presented evidence from Lushootseed narrative for an extended version of the Prosodic Hierarchy. In addition to the traditional levels of the Phonological Phrase (φ), the Interpersonal Phrase (ψ), and the Utterance (U), we have argued that narrative structure in discourse is organized into a higher-level constituent, the Phonological Paragraph ()))),. Phonological Paragraphs are marked by declination patterns in the FO Maxima of Utterances, which tend to decline over the length of the paragraph and then are reset to mark the beginning of a new discourse-level prosodic unit. The phonetic evidence for )))), is supported by morphosyntactic data such as coincidence of ʕ boundaries with grammatical particles, topic-subject-continuity, and the distribution of syntactically and/or phonologically marked topic-shifting structures. Paragraph boundaries also coincide with components of narrative structure such as the episode, direct speech, narrative highlighting, circular figures, and narrative intersections and transitions, and as such can not represent a random or purely phonetic phenomenon, but must be considered an integral part of the grammar. Whether it constitutes an aspect of the grammar of story-telling—and thus, serves as a marker of the accomplishment of the raconteur—or if it is, as we suspect, a part of the fundamental prosodic structure of human language will have to await the extension of our methodology to other genres.

Abbreviations

φ phonological phrase
ψ interpersonal boundary
�� paragraph boundary
�� morphological affix
�� phonological affix
�� lexical suffix
�� first-person
�� second person
�� third person
�� additive
�� agitative
�� applicative
�� benefactive
�� class membership
�� conjunctive-coordinative
�� conjunct
�� derivation: be disposed
�� derivational suffix

FO, maxima

Notes

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2. The data in this paper come from Hess (1993) and Hess (to appear).

3. The violation of syntactic constituent structure by marked 1 boundaries is not a Lushootseed idiosyncrasy—English uses such constructions as well, as in “Brought to you by ... the Children’s Television Workshop”.

4. Bill Iadaroli (p.c.) has suggested that codas, in fact, are simply one-U subphrases. This seems to be a fair assessment, although from the point of view of their narrative properties they are still worthy of mention as a type of phonetically-implemented narrative device employed by raconteurs.

5. In the original text, line (36b) is contained in quotation marks, indicating that it might, in fact, represent a spoken response on the part of the narrator. If this were the case, particularly given the emphatic lengthening and the fact that (36b) and (c) are contained within the same ʕ, it seems more likely that it would have been marked by upwards reset. Given the preliminary stages of our understanding, however, this can't be taken as definitive evidence.
References

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