

# Donegal Irish and the Syntax/Prosody Interface<sup>1</sup>

Ryan Bennett

Prosody Reading Group - 10/22/08

## 1 Background

- The project: exploratory stumblings into the syntax/prosody interface in Irish
- The larger goal: can we use prosodic landmarks to diagnose syntactic structure in Irish?
- The data:
  - 25 sound files, analyzed instrumentally using Praat.
  - Older male speaker, from Donegal.
  - As much as possible, the utterances:
    - Were simple transitive clauses, with non-pronominal subjects.
    - Contained sonorant segments, to aid pitch tracking.
- Irish is a VSO language
  - Impressionistically, there is one regular (and prominent) correlation between prosody and syntax in Irish: *pause in post-subject position*.
    - These pauses are non-trivial.
      - In this data, post-subject pauses were found in 18/25 tokens, with durations of 131-523ms.
      - BUT, the speaker is a storyteller, so pause duration (and other prosodic phenomena) might be exaggerated by speech register.
  - The basic assumption is that there is *some* prosodic boundary at the right-edge of the subject in Irish → [ VS | O ]
- Post-subject position was further examined for other phonetic correlates of prosodic boundaries.
  - So far, we've only looked at pauses, downstep, and lengthening.
- Aims of today's presentation:
  - Discuss the background assumptions of the project.
  - Present preliminary findings.
  - Get your thoughts on how to analyze the results, and where to go next.

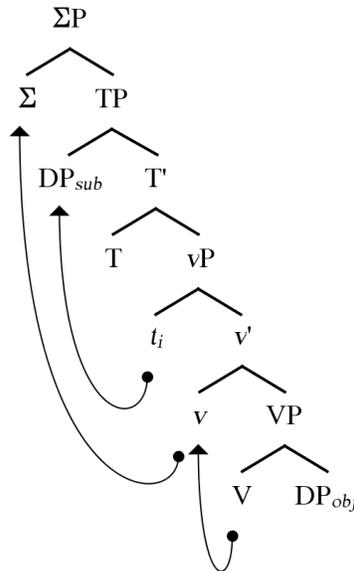
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## 2 Syntactic assumptions, and predictions of Align-XP

- We assume (something like) the following syntactic structure for finite VSO clauses in Irish:

(1)



- $DP_{sub}$  raises to [SPEC, TP]
- $V^0$  raises somewhere above TP
  - Here,  $V^0$  head-adjoins to  $v^0$ , which then head-adjoins to the polarity head  $\Sigma^0$ .
- In some cases, pronominal subjects appear to incorporate into  $V^0$ 
  - Such pronominal subjects are prosodically weak:
    - Segmentally reduced.
    - Might parse into a single prosodic word with the verb.
  - Part of the larger project; not thoroughly discussed here.
- How do we get from syntax to prosody?
  - Cross-categorial alignment (e.g. Selkirk 2005)
    - Constraints of the form ALIGN-R/L (XP,  $\pi P$ ) force construction of prosodic boundaries at the edges of syntactic constituents.<sup>2</sup>

<sup>2</sup>  $\pi P$  = some prosodic constituent, i.e. MajP, IP, etc.

- Phase-based account (e.g. Kratzer and Selkirk 2007)
  - Syntactic derivations occur in phases.
  - When a phase is spelled-out, the complement of the phase-head (at least  $v^0$ ,  $C^0$ ) is parsed as a MajP
- We will focus on an alignment approach, though a phase-based account is discussed in §6.
- Let's assume that robust post-subject pauses in Irish indicate a MajP boundary.
  - Align-R (XP, MajP) *correctly* predicts a boundary at the right edge of  $DP_{sub}$ , between S and O.
  - Align-L (XP, MajP) *wrongly* predicts a boundary at the left edge of  $DP_{sub}$ , between V and S.
- Another prediction of Align-R (XP, MajP):
  - All DPs should have right-aligned MajP boundaries...
  - ...so when  $DP_{obj}$  is non-final, it should be followed by a pause.<sup>3</sup>

### 3 Pitch Accent

- See Dalton & Ní Chaisaide (2005, 2007) for a fine-grained phonetic study of pitch accent in a number of Irish dialects.
  - The data considered here is largely consistent with the findings of D&N. Discrepancies will be noted.
- In Donegal Irish, pitch accents are realized as L\*+H.
- L\* target tone of L\*+H pitch accent is (phonologically) aligned with the first syllable of the word bearing the accent.<sup>4</sup>
- Most, but not all lexical words receive a pitch accent.
  - No obvious generalization about which lexical words lack pitch accent.
  - Utterance tokens were part of a larger discourse – there may be interactions with focus/givenness that we're missing.

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<sup>3</sup> In a trivial sense, utterance-final  $DP_{obj}$  would always be followed by a pause.

<sup>4</sup> In most dialects of Irish, primary stress is also realized word-initially.

- Usually no final boundary tone (0%), though occasionally a final L% boundary tone is found.

#### 4 IP and Downstep

- In the data we looked at, downstep of successive pitch accents is rampant (though not always consistent...)
  - D&N: successive pitch accents are *not* downstepped in Donegal Irish.
  - This may reflect a change in progress: the speakers D&N consulted were 28-55 years old, while our speaker is in his mid-to-late 50s.
- Downstep is more strongly correlated with a lowered trailing +H tone than a lowered \*L target tone, though both are found.
- In most cases downstep occurred throughout the utterance (16/24 tokens, with 1 ambiguous case).
- Hypothesis: the domain of downstep is IP
  - IP boundaries should be marked by pitch reset.
  - Downstep freely occurs across MajP boundaries, i.e. pauses.
- A question: when *doesn't* downstep occur, and *why*?
  - Sometimes, no downstep between V and S: <sup>5</sup>

(2) Bhí an ^ Bhanríon seo ag siúl thart lá amháin.  
 was the Queen DEM walk<sub>[PROG]</sub> around day one.  
 'This Queen was walking around one day.'
  - Could be phonetic: is there enough time for downstep to occur?
    - D&N (2007), among others, have found that the phonetic alignment of the first pitch accent in an utterance can be affected by the number of syllables preceding it.
    - Short duration of segmental material on V might force accent to be realized before F0 reaches target peak...
    - ...or the trailing +H tone of the initial pitch accent might 'overlap' with the following target L\* tone on the subject.

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<sup>5</sup> A note on notation: underscoring indicates words bearing pitch accent (e.g. 'an Bhanríon '); and a carat indicates that the pitch accent is *not* downstepped relative to the previous pitch accent (e.g. Bhí an ^ Bhanríon ] ).

- But downstep also fails to occur in some tokens in which V isn't utterance-initial.

(3) Ach rachadh an ^ leanbh a' gháirí léithi.  
 but go<sub>[COND]</sub> the child laughing with-her  
 'but the child would start laughing at her'

- Needs to be systematically tested with longer verbs to eliminate timing confound.

- Sometimes downstep also failed to occur later in the utterance, and across longer stretches:

(4) Chuir seisean fáilte rompu mar an ^ gcéanna  
 put he welcome before-them as the same  
 'He similarly welcomed them'

- These seemed to be cases in which downstep failed to apply within a MajP (as diagnosed by pauses)

– E.g. [fáilte rompu mar an ^ gcéanna <sub>MajP</sub>]

– But downstep normally occurs across *every* MajP in the utterance!

- Is this interesting, or just noise?
  - Another logical possibility: pitch reset marks IP boundaries, but also serves some purpose beyond demarcating prosodic boundaries, thereby muddling the data.

## 5 MajP and alignment

- Recall that post-subject position is reliably correlated with a significant pause.
- Our hypotheses:
  - Pauses indicate MajP boundaries.
  - MajP boundaries are constructed in accord with Align-R (XP, MajP)

- Pauses followed both non-pronominal and pronominal subjects: <sup>6</sup>
  - (5) Bhí bean] ina seasamh sa doras.  
was woman in-her standing in-the door  
'There was a woman standing in the doorway.'
  - (6) D'imir siad] an darna cluiche cardaí.  
played they the second game cards  
'They played the second game of cards.'
  - If these pronominal subjects are incorporated into  $V^0$ , it appears to make no difference for the construction of right-aligned MajPs.
- Recall that Align-R (XP, MajP) predicts that all non-final  $DP_{obj}$  should be followed by a MajP boundary, i.e. a pause.
  - Non-final  $DP_{obj}$  followed by a pause in 3/8 utterances.
  - A somewhat tepid finding – what should we conclude?
- Pauses also occur in other positions:
  - Right-edge of PPs:
    - (7) [Chuir an Rí MajP] [ na triúr mac MajP] [ isteach i bpríosún MajP] ...  
[Chuir [an Rí DP] [ [na triúr mac DP] [ isteach i [bpríosún DP] PP]...vP]  
put the King the three sons in in prison...  
'The King put the three sons into a prison...'
    - (8) [D'iarr an Gadaí Dubh Ó Dúgáin MajP] [ar an fhear a ba shine acu MajP] ...  
[D'iarr [an Gadaí Dubh Ó Dúgáin DP] [ar [an fhear a ba shine acu DP] PP]...  
asked the Thief Black Duggan on the man oldest of-them ...  
'Duggan the Black Thief asked the oldest of them...'
    - Since PPs are left-headed, the right-edge of a PP is also the right-edge of a DP!
  - After the first DP conjunct in coordinate subjects:
    - (9) Bhí an caiftín MajP] agus na mairnéalaigh MajP] ...  
Bhí [[an caiftín DP] agus [na mairnéalaigh DP] DP] ...  
be<sub>[PST]</sub> the captain and the sailors...  
'The captain and the sailors were...'

<sup>6</sup> More notation: open right brackets ' ]' indicate pauses.

- So DPs were the XP most reliably correlated with right-aligned MajP (i.e. pauses)
  - Since XPs are left-headed, and most take DP complements, the right edge of a DP will often also be the right edge of other maximal projections:

(10) [ar [an [fathach [mór<sub>AP</sub>] NP] DP] PP]  
 on the giant big  
 ‘on the big giant’

- It’s not clear if Align-R (XP, MajP) is sufficient, or if we need a differentiated Align-R (DP, MajP)
  - Relative clauses (might) support using category-specific Align-R (DP, MajP)
    - In RCs, no pause found after head NP:

(11) [an [ [fhear<sub>NP</sub>] [a ba shine acu<sub>CP</sub>] NP] DP]  
 a. [ar an fhear a ba shine acu<sub>MajP</sub>]  
 b. \*[ar an fhear<sub>MajP</sub>] [a ba shine acu<sub>MajP</sub>]

- A cautionary note: pauses may not be a fully dependable diagnostic for MajP edges.
  - Pauses were also found:

- Between V and S:

(12) Shleamháin ] an Bhanríon ar an fhéar  
 slipped the Queen on the grass  
 ‘The Queen slipped on the grass.’

- Between DET *an* and NP *caiftín*

(13) Chuir an Gadaí Dubh ] ceist ar an] chaiftín ...  
 put the Thief Black question on the captain  
 ‘The Black Thief asked the captain...’

- Align-R (XP, MajP), by itself, predicts that such post-verbal and post-DET pauses should *never* occur.
- But an informant fluent in Irish (...ahem...) reports that such pauses sound very strange.

- More interestingly, progressive verbal complements are sometimes followed by a pause:

(14) Bhí an ^ Bhanríon seo ] ag siúl thart ] lá amháin.  
 was the Queen DEM walk<sub>[PROG]</sub> around day one.  
 ‘This Queen was walking around one day.’

- Returned to in §6

- MajPs appear to be right-headed.

- Pauses are usually immediately preceded by an element bearing pitch accent
- Utterance-final words usually bear pitch accent.
- Exceptions usually involve function words, pronouns, inflected prepositions, or parts of proper names.

(15) Ach dá bheicfeadh sibh ] an Gadaí Dubh Ó Dúgáin]  
 but if see<sub>[COND]</sub> you<sub>[PL]</sub> the Thief Black Duggan  
 ‘but if you should see Duggan the Black Thief ’

- In noun-adjective constructions, the adjective bears the pitch accent, and not the noun:

(16) Dúirt an fathach mór ] leis an dárna fear acu...  
 said the giant big with the second man of-them  
 ‘The big giant said to the second of them...’

- Kahnemuyipour (2003:370): “languages that have alignment of right edges of phonological phrases with the right edges of XP’s...assign prominence rightmost within the phonological phrase”

- In some cases there seems to be stylistic promotion of MajP to IP, as in Selkirk (2005: 31), because pitch reset occurs following a pause.

(17) [Chuir an Gadaí Dubh Ó Dúgáin IP] [ ^ triúr chlann Rí na hEireanna IP]  
 put the Thief Black Duggan three family King the Ireland<sub>[GEN]</sub>

[isteach i ^ mbascaidí na mónadh IP]  
 into in baskets the turf<sub>[GEN]</sub>

‘Duggan the Black Thief put the three sons of the King of Ireland into the turf baskets.’

- May be an effect of constituent weight: Irish does have heavy-NP shift in subject position.

## 6 A phase-based account?

- $vP$  constitutes a phase (Chomsky 2001, Kratzer and Selkirk 2007...)
- Kratzer and Selkirk (2007): the complement of the phase-head is parsed into a MajP
  - The complement of  $v^0$  includes the direct object, and subsequent lexical material contained in  $vP$ .

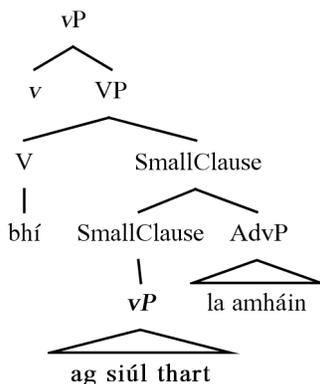
- Correctly predicts the presence of a post-subject MajP boundary:

(18) [ Chuir seo <sub>MajP</sub> ] [ fearg ar an Bhanríon <sub>MajP</sub> ]  
 [Chuir [seo <sub>DP</sub> ] [[fearg <sub>DP</sub> ] [ar an Bhanríon <sub>PP</sub> ] <sub>vP</sub> ] <sub>vP</sub> ]  
 put this anger on the Queen  
 ‘This angered the Queen.’

- A phase-based approach has several advantages over an Align-R (XP, MajP) approach.
  - Would predict a pause after  $DP_{obj}$  if the following material were not contained in  $vP$ , e.g. if it were a high-attached adverb.
    - So (some) variability in presence of post-object pauses is predicted.
    - But in this data, pauses follow  $DP_{obj}$  in cases in which post-object material is likely contained in  $vP$  (see (7) above)

- Correctly predicts a pause following progressive verbal complements:

(19) Bhí an Bhanríon seo ] ag siúl thart ] lá amháin.



- But an unrevised phase-to-MajP account doesn't explain why DPs are strongly correlated with MajP boundaries.
  - In particular, pauses after the first DP conjunct of a coordinate subject are not predicted.
  
- What if DP were itself a phase (as in Adger 2007)?
  - If DP is a phase, and the syntactic *complement* of the phase head is spelled-out (without the phase head itself), we should expect the definite article to be phrased separately from its NP complement.
    - Happens only once in this data ((13) above), and is probably noise.
  
- What if we included the phase-head  $D^0$  in the spell-out domain of the phase?
  - We would also expect  $v^0$  to be in the spell-out domain of the  $vP$  phase.
    - $V^0$  must head-adjoin to  $v^0$  (or  $T^0$ ) to derive surface VSO order...
    - ...but if  $v^0$  were included in the spell-out domain,  $V^0$  would be trapped inside the  $vP$  phase!

## 7 Appendix: lengthening

- Lengthening was determined by measuring duration of sonorant segments in final syllables, and comparing their length to a reference segment elsewhere in the utterance.
  - Imprecise, but efforts were made to control for:
    - Tense/lax distinction in Irish sonorant consonants (essentially a length distinction)
    - Degree of stress
  
- Final syllables of subjects often showed indications of lengthening (15/25).
  - Still holds if only non-pronominal subjects are considered (14/22)
    - The single token in which a pronominal subject wasn't lengthened might be an example of the pronoun incorporating into the verb.
      - In 2 tokens, subject and pronominal subject formed a single unit for the placement of pitch accent (Exx. (4) and (6) above).

- Lengthening is somewhat less reliable than pauses for diagnosing phrase boundaries, but still fairly regular.
- Possible lengthening in other positions (e.g. on DP<sub>obj</sub>) not yet examined.

## References

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