Donegal Irish and the Syntax/Prosody Interface
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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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1 Many thanks to Jim McCloskey, whose data, guidance, and pecuniary largesse made this work possible.
2 Syntactic assumptions, and predictions of Align-XP

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

(1)

- $\text{DP}_{\text{sub}}$ 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. \(^2\)

\(^2\) $\pi P =$ 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.  

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.  

- 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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3 In a trivial sense, utterance-final \(DP_{obj}\) would always be followed by a pause.

4 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…)

  o D&N: successive pitch accents are not downstepped in Donegal Irish.
  o 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

  o IP boundaries should be marked by pitch reset.
  o Downstep freely occurs across MajP boundaries, i.e. pauses.

• A question: when doesn’t downstep occur, and why?

  o Sometimes, no downstep between V and S: 5

    (2) Bhí an ^ Bhanríon seo ag siúl thart lá amháin.
    was the Queen DEM walk [PROG] around day one.

    ‘This Queen was walking around one day.’

  o 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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5 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[COND]  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 MajP]
  - 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: 6

(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:

Bhí [ [an caiftín [DP] agus [na mairnéalaigh [DP] [ DP] ] …
be[PST] the captain and the sailors…
‘The captain and the sailors were…

6 More notation: open right brackets ‘ ]’ indicate pauses.
• So DPs were the XP most reliably correlated with right-aligned MajP (i.e. pauses)
  
  o 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_AP] 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)

  o Relative clauses (might) support using category-specific Align-R (DP, MajP)

    • In RCs, no pause found after head NP:

    (11) [an [ [fhear NP] [a ba shine acu CP] NP] DP]
        a. [ar an fhear a ba shine acu MajP]
        b. *[ar an fhear MajP] [a ba shine acu MajP]

• A cautionary note: pauses may not be a fully dependable diagnostic for MajP edges.

  o 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 caifín

      (13) Chuir an Gadaí Dubh ] ceist ar an] chaifín …
          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.

‘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 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…

  ‘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] [^ triúr chlann Rí na hEireanna]

  put the Thief Black Duggan three family King of Ireland

  [isteach i ^ mbascaidí na mónadh]

  into in baskets the turf

  ‘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:

\[
(18) \quad [\text{Chuir seo}_\text{MajP}] \quad [\text{fearg}_\text{ar an}_\text{Bhanríon}_\text{MajP}] \\
[\text{Chuir} \quad [\text{seo}_\text{DP}] \quad [[\text{fearg}_\text{DP}] \quad [\text{ar an}_\text{Bhanríon}_\text{PP} \quad \text{VP}] \quad \text{vP}] \\
\text{put this anger on the Queen} \\
\text{‘This angered the Queen.’}
\]

- 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:

\[
(19) \quad \text{Bhí an Bhanríon seo} \quad \text{ag siúl thart} \quad \text{lá amháin.}
\]
• But an unrevised phase-to-MajP account doesn’t explain why DPs are strongly correlated with MajP boundaries.
  
  o 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)?
  
  o 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?
  
  o 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.
  
  o 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).
  
  o 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_{obj}) not yet examined.

References


