Mainland Scandinavian Object Shift, Match Theory and Prosodic Displacement

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The talk in a nutshell

• **Claim**: A case of *word order microvariation* in Mainland Scandinavian (MSc) – optional vs. obligatory Object Shift (OS) – is a phonological phenomenon (= not syntax)

• **Observation**: Varieties with optional OS also have a tonal accent contrast

• **Proposal**: tonal accent (TA) can create a *prosodic domain* that spans from one accent item to the next → optional OS
Background: Properties of OS in Mainland Scandinavian

OS depends on verb movement
(Holmberg’s generalization, Holmberg 1986)

Obligatory OS in Danish:

1a    Peter mødte ikke Marie.
   Peter met     not Marie
   ‘Peter didn’t meet Marie.’

   b    Peter mødte ham ikke./*Peter mødte ikke ham.
   Peter met     him not

2a    Peter har ikke mødt ham./*Peter har ham ikke mødt.
   Peter has not met him

   b    ...at Peter ikke mødte ham/*...at Peter ham ikke mødte
   that Peter not     met     him
Long research history

• Syntactic accounts

• Information Structure/interpretation

• Accounts involving prosodic features
Holmberg’s generalization

- Main problem for syntactic analysis: no obvious way of linking the occurrence of one rule (verb movement) to the occurrence of another (OS)
Background: Properties of OS in Mainland Scandinavian

Optional OS in STANDARD Swedish:

1a Jag mötte honom inte.
   I met him not
   ’I didn’t meet him.’

b Jag mötte inte honom.
   I met not him
   ’I didn’t meet him.’
A second type of microvariation: tonal accent

• Microvariation I: OS (as discussed above)
  – Swedish, certain South Danish dialects: OS is optional
  – Standard Danish: OS is obligatory

• Microvariation II: tonal accent
  – Swedish, certain South Danish dialects: tonal accent
  – Standard Danish: no tonal accent
Microvariation II: tonal accent

• Most dialects of Swedish and Norwegian, as well as some Southern Danish dialects, distinguish two tonal accents

Swedish:

anden ‘the duck’ → Accent 1
anden ‘the ghost’ → Accent 2

Ærø Danish:

sten ‘stone’ → Accent 1
sten ‘stones’ → Accent 2
Tonal accent as the source of optional OS

- Weak pronouns must incorporate into a host.
- Adverbs are not legitimate hosts for weak pronoun incorporation: the in-situ order is * in standard Danish.
- Simply ‘allowing’ the adverb to provide a host in those dialects in which OS is optional would be a stipulation.
- Prosodic incorporation of a pronoun into an element which ‘normally’ does not provide a legitimate host requires some extra mechanism.
- Our proposal: Occurrence of a tonal accent allows the formation of a higher-level prosodic unit.

→ adverbs (with tonal accent) can be hosts.
Tonal accent and higher-level units

• Higher-level prosodic units are headed by a tonal accent item = Tone Accent Unit (TAU)
• Recognized in the literature; different names
  – Maximal prosodic ω: Myrberg & Riad 2013
  – Prosodic Word Group (Vigário 2010)
  – Tonal Foot / Accent Unit (e.g. Fretheim & Nilsen 1989)
• Crucial: these units need not correspond to syntactic phrases
Basic assumption: 
OS = prosodic incorporation

- Weak pronouns must form a prosodic unit with a legitimate host = cliticization
- Shifted word order – the pronoun is incorporated into a verbal or nominal host:
  1a Jeg mødte=ham ikke  \[\text{Standard Danish}\]
   I met him not
  b Hvorfor mødte Peter=ham ikke
   why met Peter him not
- Recall – adverbs cannot host clitics:
  2 *Jeg mødte ikke ham.
   I met not him
Tone:
Summary of important properties

- Host and clitic form one prosodic constituent.
- The elements of this unit are united by the assignment of a single tonal accent.
- What is important is that it can unify elements that are not unified in languages without the tonal properties.
- As an intuitive notion expressing the interaction of tonal accent and prosodic phrasing, we refer to the relevant unit as *Tone Accent Unit (TAU)*.
Our proposal in a nutshell

- Adverb + weak pronoun can form a TAU in varieties that have a tonal accent contrast
- Accent of first element also determines accent of TAU / ω (cf. Myrberg & Riad 2015):

\[2( \text{inte})_ω + 2(\text{henne})_ω \implies 2((\text{in.t)e.ne})_ω \quad \text{Swedish}\]
not her

\[1(\text{faktiskt})_ω + 2(\text{henne})_ω \implies 1((\text{fak.tis.t)e.ne})_ω \quad \text{in.fact her}\]
The influence of “Tone Accent Units (TAUs)”

• TAU: A tone accent unit unites all terminal elements from one tonal accent to the next

• Licenses prosodic incorporation

• Possible question: Is it a (language-specific) formal constraint TAU (think of Japanese Rendaku), or is it more of a “functional force” that influences prosodic phrasing without being an active part of the grammar

• Here, we regard it as a functional force to keep high-level prosodic units universal
SVEDISH
In situ (Accent 1 adverb + clitic)

<table>
<thead>
<tr>
<th>Anders</th>
<th>hämtar</th>
<th>åter = dem</th>
<th>på</th>
<th>stan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anders</td>
<td>fetches</td>
<td>once more = them</td>
<td>on</td>
<td>town</td>
</tr>
</tbody>
</table>
In situ (Accent 2 adverb + clitic)

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<tr>
<th></th>
<th>köper</th>
<th>inte = dom</th>
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</thead>
<tbody>
<tr>
<td>Anders</td>
<td>buys</td>
<td>them = not</td>
</tr>
</tbody>
</table>

H*L
Shifted (Accent 1 verb + clitic)

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<tr>
<th>Time (s)</th>
<th>F0 (Hz)</th>
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<tr>
<td>1.357</td>
<td>5000</td>
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</table>

<table>
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<tr>
<th>Anders</th>
<th>köper = dom</th>
<th>för</th>
<th>övrigt</th>
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</thead>
<tbody>
<tr>
<td>Anders</td>
<td>buys-them</td>
<td></td>
<td>by-the-way</td>
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</table>
Shifted (Accent 2 verb + clitic)

<table>
<thead>
<tr>
<th>Anders</th>
<th>köpte = dom</th>
<th>också</th>
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<tbody>
<tr>
<td>Anders</td>
<td>bought-them</td>
<td>also</td>
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The South Danish dialect of Ærø

• Ærø Danish differs from Standard Danish in two ways:
  – Tonal distinctions between Accent 1 and Accent 2
  – Weak pronouns can incorporate into a preceding adverb (OS optional, in situ pronunciation possible)
  – Tonal accent of the unit depends on the tonal accent of the first element = Swedish

• → Strong case in favor of our proposal
Realization of tonal contrast

• Kroman 1947
  – Accent 1 rises until the stressed syllable and then falls
  – Accent 2 has an initial falling tone followed by a rise (= fall-rise)
  – Fall is more pronounced in Accent 1, and rise is more pronounced in Accent 2
In situ (Accent 1 adverb + clitic)
In situ (Accent 2 adverb + clitic)

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<tbody>
<tr>
<td>anørs</td>
<td>købør</td>
<td>aldrim</td>
</tr>
<tr>
<td>Anders</td>
<td>buys</td>
<td>never = them</td>
</tr>
</tbody>
</table>
Shifted (Accent 1 verb + clitic)
Shifted (Accent 2 verb + clitic)
Question

• Why is in situ possible if a variety has tonal accent?

• We have seen evidence that...
  – tonal accent creates higher-level domains that do not have to match syntactic phrases
  – such domains allow encliticization of weak pronouns onto preceding adverbs
Remaining question

• Why can’t adverbs host pronominal clitics in non-accent varieties of MSc?
• Answer must lie in the syntax-phonology interface
What is the role of syntax?

• The fact that adverbs are less suitable hosts for clitics than nouns or verbs is, arguably, not solely determined by the phonology.
• Why would phonology care about different classes of lexical words?
• AdvP’s are adjuncts – this we believe the reason their prosody is different.

The syntax-to-phonology mapping of AdvPs is different from that of VPs and NPs.
Syntactic structure
Syntax-phonology mapping
(based on Match Theory, Selkirk 2011)

- Adjunction creates a structure with recursive VPs
- In a faithful mapping, recursive XPs are NOT ignored in the syntax-to-prosody mapping.
Maximal and Minimal Phrases
Elfner 2012

• We propose that incorporation of weak pronouns requires that the weak pronoun and its incorporating host be included in the same minimal prosodic phrase.

→ As a default, a verb but not an adverb can host a weak pronoun
Shifting = Prosodic Repair
Bennet, Elfner & McCloskey 2016

• Adapting Bennet et. al.’s proposal for Irish weak pronoun postposing, weak pronouns in MSc are right adjoined to the verb at the prosodic word level:

\[
\begin{align*}
\varphi & \quad \varphi \\
\omega & \quad \omega \\
\sigma & \quad \omega \\
\text{så=ham} & \quad \text{aldri}
\end{align*}
\]
Holmberg’s Generalization
Our Account

• In subordinate clauses and in main clauses with auxiliaries, the weak pronoun is already adjacent to the verb which provides a legitimate host.

  ... at Peter ikke så=den
  Peter har ikke set=den

  \[\rightarrow\text{ No need for repair.}\]
Variation explained

- For Swedish and Ærø Danish shifting the object is only one of two possible repairs.
- The other option is that the adverb + the weak pronoun form a TAU (\(= \omega\)), with the weak pronoun in situ.

![Diagram](image)
Conclusion

• If the weak pronoun object ends up in a position in which it PI$ into a legitimate host, the string passes the phonological criteria and is therefore pronounceable.
• If not, prosodic repair applies to the pronoun:
  - the pronoun is right-adjoined to a legitimate host
  - a tone-unit is formed containing both the host and the pronoun.
• What drives word order variation is the micro-parametric prosodic properties of each dialect.
We have demonstrated that the word order of weak objects in MSc is phonologically determined and that what drives the variation in word order is the microparametric prosodic properties of each dialect.

It is important to identify what other word order phenomena might also belong at PF and why they should not be accounted for by narrow syntax.
Clues that OS is not syntactic

1. No syntactic motivation.
2. Dependence on verb movement.
3. Applies only to weak pronouns.
4. Optionality of OS is governed by language/dialect-specific prosodic properties.

[See Bennett et al. 2016 for similar arguments against a syntactic account of Irish weak pronoun rightward movement.]
We would like to tell you more

1. How we account for what might look like counterexamples, e.g., Dialects with no tone, yet in situ option.

2. Offer an OT analysis

Feel free to ask us about these.
Thank you
1. Potential counterexamples

- Falster Danish no tonal distinctions but has been claimed to allow weak pronouns in situ
- Pedersen 1993, 205 illustrates:
  
  \[
  [\textit{jæ ve' jund da}] \text{ jeg ved jo-inte-det (Falster)}
  \]
  I know as.you.know not it

- The dialect has apocope, \textit{jo} & \textit{int} are clitics
- A clitic cluster is formed with the weak pronoun
Falster Danish

• Falster Danish does not have tonal distinctions.
• It has been claimed, however, to allow weak pronouns to remain in situ.
• Pedersen 1993, 205 illustrates:
  \[jæ\ ve’ jund da\] jeg ved jo-inte det (Falster)
  I know as.you.know not it
• The dialect has apocope, *jo* & *int* are clitics
Clitic clusters

• When the adverb and pronoun are both clitics, they form a clitic cluster hosted by the verb

\[
\begin{array}{c}
\varnothing \\
\omega \\
fik=int=ed
\end{array}
\]
Björn: Please redostructure with ved=jo=int=de
Nomi Shir, 2/20/2017
Oevdalian

• Has tonal distinctions & in situ option but based on Levander 1909 is claimed to have no OS (e.g., Hosono 2013).

• But Levander only says ”The negation inte is always placed before the object” & exemplifies:
  \[ \text{ig-}^{1}\text{fik-int-ed} \]
  \[ \text{1sg-got-not-it} \]
  ‘I didn’t get it.’
  \[ = \text{prosodic unit } \rightarrow \]
  \[ \text{int is a clitic} \]

• With clitic adverbs, Oevdalian prefers in situ pronouns ≈ Falster Danish
Fenno-Swedish

• Fenno-Swedish (Helsinki) differs from other Swedish dialects in having no tonal distinctions, yet the pronouns are pronounced in situ.

• Function words, including pronouns, in Helsinki Swedish have short syllables and the degree of reduction of stress in non-stressed syllables is much lower compared to standard Swedish. Kiparsky 2008, 17, Kuronen & Leinonen 2008.

• We conclude that the lack of stress reduction is what precludes the need for incorporation.
2. Formal analysis

• Match Theory (Selkirk 2011) has been shown to handle various cases of syntax-prosody mismatches.

• Main challenge: express the relationship between TAUs, which (arguably) are not formal units in the prosodic hierarchy, and adverb + clitic clusters.
OT approach to OS

• In Standard OT, we cannot make reference to
  – the pronoun first moving out of its position
  – and then deleting the empty phrasal node

• As a default, the option with the adverb as a host will always be a possible output

• Therefore, we need to express the (prototypical) non-host-status of adverbs in a different way

• We propose “No Skip (AdjXP)”
Constraint I:
“No Skip (AdjXP)”

• No Skip (AdjXP): Do not associate a phonological exponent $\alpha$ (clitic) to a $\omega \beta$ if $\omega \beta$ corresponds to a terminal element $\beta$ in a syntactic projection AdjXP that is of the same type as a syntactic projection XP containing the terminal element corresponding to the phonological exponent $\alpha$. 
Constraint III: “No Skip(AdjXP)”

→ violates constraint
Constraint II:

“ϕ → ω”

• ϕ → ω: Every phonological phrase ϕ contains a phonological word ω

→ violates constraint
Constraint II: “Match Phrase” (Selkirk 2011)

- Match Phrase: $\phi$ corresponds to (maximal) XP

- Violated by Object Shift
Constraint IV: “No Shift” (Bennett et al. 2015)

- No Shift: Preserve word order provided by syntax

- Syntax ABC $\rightarrow$ ACB violates constraint
The influence of “Tone Accent Units (TAUs)’’

- TAU: A tone accent unit unites all terminal elements from one tonal accent to the next
- Licenses prosodic incorporation
- Possible question: Is it a (language-specific) formal constraint TAU (think of Japanese Rendaku), or is it more of a “functional force” that influences prosodic phrasing without being an active part of the grammar
- Here, we regard it as a functional force to keep high-level prosodic units universal
The influence of “Tone Accent Units (TAUs)”

Without TAU

With TAU
Standard Danish – shift obligatory

<table>
<thead>
<tr>
<th></th>
<th>( \varphi \rightarrow \omega )</th>
<th>No Skip (AdjXP)</th>
<th>No Shift</th>
<th>MATCH PHRASE</th>
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<tbody>
<tr>
<td><strong>a.</strong></td>
<td><img src="image" alt="Diagram a" /></td>
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</tbody>
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Ærø Danish (= all varieties with TA) – shift optional since TAU ‘licenses’ unshifted pronunciation

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<tr>
<th></th>
<th>VP</th>
<th>φ → ω</th>
<th>No Skip (AdjXP)</th>
<th>No Shift</th>
<th>MATCH PHRASE</th>
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<td>a.→</td>
<td>Adv VP</td>
<td>ω</td>
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<td>c.</td>
<td>Adv VP</td>
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<td>aldrig ham</td>
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