The Interaction of Linearization and Prosody: Evidence from Pronoun Postposing in Modern Irish and Scottish Gaelic*
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1. Introduction

This paper presents a prosodic account of weak object pronoun postposing in Modern Irish and Scottish Gaelic (Chung & McCloskey 1987; Duffield 1995; Adger 1997, 2007; Doyle 1998, 2002; McCloskey 1999). I show that weak object pronouns can be analyzed as second-position clitics in the Spell-Out domain of the vP phase (Chomsky 2000), and that the patterns can be accounted for using violable constraint interaction under an Optimality Theoretic (OT, Prince & Smolensky 1993/2004) framework. By assuming a phasal Multiple Spell-Out model where potential candidates for surface linearized form are evaluated by a single ranked constraint hierarchy at each phase, “normal” word order can be altered to fulfill prosodic requirements when prosodic constraints outrank constraints on linearization. I propose that this occurs in Modern Irish and Scottish Gaelic.

Weak pronominal objects in Modern Irish and Scottish Gaelic occupy different positions in the sentence as compared to full DP or strong pronominal objects: for example, full DPs and strong pronouns precede an adverbial or complement phrase as in (1)a, while weak pronouns follow, either medially, as in (1)b, or sentence-finally, as in (1)c:¹

(1) a. Léigh Liam leabhar/seisean/?é ar an traein aréir.
   read Liam book/IT-EMPH/IT-NONEMPH on the train last-night
   b. Léigh Liam ar an traein *leabhar/*seisean/é aréir.
   read Liam on the train book/IT-EMPH/IT-NONEMPH last-night
   c. Léigh Liam ar an traein aréir *leabhar/*seisean/é.
   read Liam on the train last-night book/IT-EMPH/IT-NONEMPH
   ‘Liam read a book/IT/IT on the train last night.’

Previous accounts of these data have suggested that the placement of the weak pronoun is defined by phonological rather than syntactic or discourse factors (Adger 1997, 2007; Doyle 1998; McCloskey 1999; cf. Duffield 1995 for a syntactic account). Nonetheless, the best-developed accounts have assumed that syntactic movement operations are responsible for the patterns described above by allowing them to be influenced by phonological information; for instance, Adger (1997) proposes that leftward movement of the weak pronoun to pre-adverb position is blocked in the syntax by phonological

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¹ Data are from Modern Irish unless otherwise indicated.
factors. This notion runs counter to the assumptions of the Y-model of the grammar which assumes that syntax, the only generative component of the grammar, feeds into the autonomous phonological and interpretive components. Yet, the phonologically-motivated word-order asymmetries in Modern Irish and Scottish Gaelic are best captured under a framework compatible with the Y-model: because there is no difference in interpretation between (1)a and (1)b-c, weak pronouns, full DPs, and strong pronouns should be treated identically with respect to the syntax. If the motivation for the asymmetries in (1) is truly phonological, the patterns should be derivable based on constraints at Spell-Out, without requiring phonological look-ahead in the syntax.

The analysis developed here proposes that the motivation for the word-order asymmetry in (1) occurs during Spell-Out, and that an OT interaction between prosodic constraints on the one hand, and linearization of syntactic structure on the other, can capture these patterns. Moreover, the assumption that this linearization is phasal captures locality conditions on pronoun postposing as seen in other sentence types in the languages, including other conditioning environments (e.g. small clauses, progressives) and blocking environments (e.g. subject pronouns, agus ‘and’ constructions).

In terms of prosodic constraints, I propose that “normal” linearization of the weak pronoun object based on syntactic linearization by the Linear Correspondence Axiom (LCA, Kayne 1994) would result in a prosodically-suboptimal surface linearized form. This follows from the assumption that under the Multiple Spell-Out hypothesis, syntactic structure is spelled-out in chunks corresponding to phases. Following Chomsky (2000), I assume that VP is a phase, and that the complement of VP constitutes a Spell-Out domain which is spelled-out as a prosodic Phonological Phrase (PhP) (Adger 2006, Ishihara 2007). Because objects in Modern Irish and Scottish Gaelic are syntactically initial in the complement of VP, unpostposed weak pronouns would be initial in the PhP, a prosodically prominent position.

Like other prosodic constituents, the PhP has a dispreference for weak independent elements that are initial within its domain: parallel cases can be seen at the Prosodic Word (PWd) and phrasal level in English word stress (Bolinger 1965, Shattuck-Hufnagel et al. 1994) and at the Intonational Phrase level in Serbo-Croatian second-position clitics (Boskovic 2001). Non-focus syntactic function words differ from lexical words and focused function words (such as strong pronouns) by not being spelled-out as PWds (Selkirk 1995). The absence of weak pronouns in PhP-initial position in Modern Irish and Scottish Gaelic can be interpreted as a phonological requirement that the initial element in a PhP have at least PWd status: by spelling-out the weak pronoun in second-position, the constraint against initial prosodically-weak elements is satisfied. This constraint against initial position can be seen as part of the larger phenomenon of second-position clitics, where, in this case, second-position can be defined as following a PhP, which can be composed of one adjunct (1)b or more than one (1)c (McCloskey 1999 and section 5 of this paper; see also Halpern 1995 on the relevance of prosodic units in second-position effects).

The placement of the weak pronoun in non-initial position can be captured using violable constraints in an OT framework. The hierarchical structure generated by the syntax is linearized at the Spell-Out of each phase by ranked constraints evaluating prosodic structure assignment and possible linear orders as defined by the LCA (Kayne 1994). When prosodic constraints dominate the LCA, linear word order is minimally
subverted, as when the weak pronoun would occur in initial position in (1)b-c. However, when no higher-ranked prosodic constraint is violated, word order arises as expected: full DP objects and strong pronouns obey the LCA and precede adverbs as in (1)a.

The paper is organized as follows. Section 2 develops the prosodic analysis of pronoun postposing motivated by prosodic markedness and syntax-prosody correspondence constraints. Section 3 gives the OT analysis, where the prosodic constraints discussed in section 2 interact with a violable constraint on linearization, modeled after the LCA. Section 4 expands the analysis other types of syntactic constructions in Modern Irish, and shows that the present account correctly predicts where pronoun postposing occurs, and when it does not. Section 5 discusses partial postposing in sentences with multiple adjuncts, where the weak pronoun has the option of surfacing medially or sentence-finally. Section 6 compares the present approach to previous approaches. Section 7 concludes the paper.

2. A Prosodic Analysis of Pronoun Postposing

2.1. Multiple Spell-Out

Prosodic theory assumes the existence of a universal prosodic hierarchy, consisting minimally as follows (Selkirk 1978, cf. Selkirk 2005):

(2) The Prosodic Hierarchy
   Intonational Phrase (IP)
   Phonological Phrase (PhP)
   Prosodic Word (PWd)
   Foot (Ft)
   Syllable (σ)

Each level in the hierarchy corresponds to a level of prominence. For example, consider the following English sentence:

(3) ( x ) IP
    ( x ) ( x ) PhP
    ( x ) ( x ) PWd
    ( x ) ( x ) Ft
    ( x x ) ( x ) σ
    CP[Mary saw the man].

At each level, syntactic objects are organised into prosodic constituents, marked above by parentheses. Each prosodic constituent at each level has a head, which receives prominence (marked by x in the above diagram). Prosodic phrasing and prominence can be marked overtly in a number of ways using the phonetic correlates of pitch, intensity, and duration, or may be active only in the phonological component through phonological processes. This varies from language to language.

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2 The PhP is alternatively referred to as the Major Phrase (e.g. Kratzer & Selkirk 2007).
As can be seen in the above diagram, prosodic phrases correspond to some extent with syntactic constituency. The PWd level corresponds to the notion of lexical word (Prince & Smolensky 1993/2004, Selkirk 1995). The PhP operates at a higher level, and is defined by the notion of the phase (Kahnemuyipour 2004, Adger 2006, Ishihara 2007, Kratzer & Selkirk 2007).

Phase Theory (Chomsky 2000, Fox & Pesetsky 2005) proposes that restrictions on syntactic locality can be formalized by assuming the existence of phases. Following Chomsky (2000), I assume that phases are headed by the functional heads of vP and CP, and their introduction into the syntactic structure triggers Spell-Out of their complement, resulting in the creation of a phonological domain which is prosodically encoded by the Phonological Phrase. This is illustrated in the following tree for Irish:

(4) a. Léigh Liam leabhar aréir
     read Liam book last-night
     ‘Liam read a book last night.’

b. Phases and Spell-Out domains

Under this theory, Spell-Out is cyclic. The lower phase, containing VP, is spelled-out first. This output then feeds into the Spell-Out of the CP phase, which spells-out the syntactic structure contained within its complement that has not already been spelled-out. This continues until all syntactic structure has been spelled-out. The cyclicity of Spell-Out is encoded in the phonology by the means of prosodic phrasing.

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3 I assume, following McCloskey (1996) and others, that the verb raises to T and the subject remains in internal position. Because this paper is primarily concerned with the ordering of elements below vP, the details here are not crucial and alternative structures will be equally compatible.
In the ideal case, the prosodic constituents above the foot correspond to morphological and syntactic constituents. In this paper, I will be assuming the following conditions on syntax-prosody correspondence, as follows:

5. Morphological Word = PWd: a lexical word corresponds to a Prosodic Word.  


7. High Phrase Condition: the head of the prosodic PhP corresponds to the highest syntactic phrase in the Spell-Out domain (modification of Kratzer & Selkirk 2007).

Function words are not parsed as PWds at Spell-Out, and must therefore adjoin to existing prosodic structure. In the above diagram, the function word the adjoins to the PWd on its right (man). In other environments and languages, function words are subject to a number of different repairs: one option is promotion of the function word to the status of PWd, while another is to adjoin to preceding prosodic structure. See Selkirk (1995) for detailed discussion of the options available for the prosodic parsing of function words under an OT analysis.

2.2. Mismatch and Weak Pronouns

In Irish as in English, function words do not form prosodic words on their own under normal circumstances. In the case of prepositions and determiners, they can be parsed prosodically by adjoining to the noun that they modify:

8. Correspondence between syntactic structure and prosodic structure for the PP *ar an traein* ‘on the train’:

At the level of the PhP, a PP adjunct forms the head of a PhP if it is the highest phrase within the Spell-Out domain of a phase. Within the vP phase, this can occur if the PP is the only phrasal element, either because all other elements have moved out (as in an intransitive sentence) or because the object is a weak pronoun. If the object is a weak pronoun, it is a function word and not a phrase capable of being phrased as a PhP.

For example, consider the following tree structure:

```
PP
  ar DP
    an traein

(x) (x) (x) σ
ar an traein
on the train
```

In considering the Spell-Out of the vP phase, there are several options with respect to how the weak pronoun should be parsed into prosodic structure. One is to adjoin the weak pronoun to the adjacent prosodic word, which contains not only the lexical word *traein* ‘train’ but two function words that are contained within its syntactic phrase, *ar* ‘on’ and *an* ‘the’. However, adjoining the weak pronoun onto the prosodic word results in a mismatch between the head of the PhP and the syntactic highest phrase, which does not contain the object pronoun (see (6)b above). This is illustrated below:

(10) Bad syntax-prosody correspondence:
Another option is to adjoin the weak pronoun at the level of the PhP, as follows:

(11) Adjunction of weak pronoun onto PhP

\[
\begin{array}{c}
\text{XP} \\
\text{é} \\
\text{VP} \\
\text{PP} \\
\text{ar an traéin} \\
\text{it on the traín}
\end{array} \quad \rightarrow \quad \begin{array}{c}
\text{PhP} \\
( ( ( x ))) \\
\text{PWd} \\
( ( ( ( x ))) ) \\
\text{Ft} \\
( x ) \\
\sigma
\end{array}
\]

This satisfies the conditions on syntax-prosody correspondence by phrasing the syntactic PP as the head of the PhP. However, this structure is not tolerated in Irish: the weak pronoun instead is realized in a position following the head of the PhP. In the next section, I propose that this structure is ill-formed prosodically due to the existence of a constraint requiring initial position within the PhP to have a minimum level of prosodic prominence.

2.3. Initiality Effects

Initial position holds special status in phonology by being perceptually prominent: elements that occupy this position are both less subject to neutralization (Beckman 1998) and more subject to strengthening (Smith 2002) as compared to elements in non-initial position. Weak elements are often banned from occurring in initial position, even though they may occur elsewhere in the language. For instance, word-initial syllables in Arapaho must always have an onset, even though onsetless syllables are allowed word-medially (Smith 2002:5):

(12) a. xooó ‘skunk’
    b. hé! ‘dog’
    c. nówo ‘fish’
    cf. *ówo

There is good reason to believe that sentence-initial position is also subject to more stringent constraints with respect to prominence conditions than is present in the rest of the sentence. In English, an initial strengthening effect results in an initial pitch accent in Intonational Phrase-initial position (Bolinger 1965, Shattuck-Hufnagel et al. 1994). This occurs on even if the word is given in the discourse or would not otherwise bear stress. Example (13) illustrates the preference for phrase initial words to bear a pitch accent, even when given in the discourse, while example (14) illustrates the possibility for a pitch accent to be realized early in a word with non-initial lexical stress (data cited from Selkirk 2008):

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4 Other “strong” positions, such as (non-initial) stressed syllables, show similar effects. See Beckman (1998) and Smith (2002) for discussion.
A: I'm looking for Mary.
B: Mary's gone.
   Mary's gone to school.
cf. I think Mary's gone.

A: Besides apples, there isn't a significant fruit production in Massachusetts.
B: Massachusetts produces cranberries! ~ Massachusetts produces cranberries!

Second-position clitic phenomena have also been accounted for with respect to initial strength effects. For instance, the behaviour of second-position clitics in languages like Bosnian, Serbian, and Croatian, where weak elements consistently occur in second position, follows from a prosodic constraint requiring prosodic prominence in initial position, arguably IPh-initial position (Radanovic-Kocic 1988) or PPh-initial position (Werle 2008). The following example from Serbo-Croatian (Zec & Inkelas 1990, Zec 2002) shows the positioning of the auxiliary clitic je immediately after either the first syntactic constituent (13)a or the first prosodic word (13)b in the sentence (Zec 2002:11):

(15) a. Plava kuća je neobično lepa.
   blue house is.CL unusually beautiful
   ‘The blue house is unusually nice.’
b. Plava je kuća neobično lepa.
   blue is.CL house unusually beautiful
   ‘The blue house is unusually nice.’

In Serbo-Croatian, the dispreference for a weak element in a prosodic phrase-initial position is resolved by realizing the weak element in non-initial position. In Irish and Scottish Gaelic, this dispreference operates at the level of the PhP. While other possible repairs are conceivable, and are employed in other languages such as English, Irish and Scottish Gaelic satisfy the initiality effect by realizing the weak object pronoun in non-initial position:

(16) Realizing the weak object pronoun in non-initial position of the PhP satisfies the prosodic initiality constraint

This preference for initial strength can be formalized as follows:
(17) **Initiality:** the left edge of a PhP must correspond to the left edge of a PWd.\(^5\)

The formulation of this constraint captures the observation that the only the edge of the PWd must be initial within the PhP, not the head of the PWd. This allows for PWds where the lexical stress is non-initial to satisfy the Initiality constraint, while independent syntactic elements such as weak object pronouns do not.

### 2.4. Full DPs and Strong Pronouns

This analysis of pronoun postposing captures the contrast between weak pronouns on the one hand, and full DP objects and strong pronouns on the other: no matter their status in the discourse, full DPs and strong pronouns will always minimally have prosodic word status. Consider a sentence where the object is a full DP such as *leabhar* ‘a book’. If it is new information, it will correspond to the head of the PhP. It will therefore have Phonological Phrase-level prominence, and satisfy Initiality:

(18) Discourse-new full DP object satisfies Initiality:

\[
\begin{align*}
\text{XP} & \quad (x) \quad \text{PhP} \\
\text{leabhar}_j \quad \text{VP} & \quad (x) \quad (\ (x)) \quad \text{PWd} \\
\text{PP} \quad \text{VP} & \quad (x) \quad (x) \quad \text{Ft} \\
\text{ar an traein} \quad \text{t}_i \quad \text{t}_j & \quad \text{leabhar} \quad \text{ar an traein} \\
& \quad \text{a.book} \quad \text{on the traein}
\end{align*}
\]

Even if the full DP object is discourse-given, and therefore not eligible for PhP-level prominence (see Féry & Samek-Lodovici 2006, Selkirk 2006), its status as a PWd still allows the DP to satisfy Initiality:

(19) Discourse-given full DP object satisfies Initiality:

\[
\begin{align*}
\text{XP} & \quad (\ ) \quad \text{PhP} \\
\text{leabhar}_g \quad \text{VP} & \quad (x) \quad (\ (x)) \quad \text{PWd} \\
\text{PP} \quad \text{VP} & \quad (x) \quad (x) \quad \text{Ft} \\
\text{ar an traein} \quad \text{t}_i \quad \text{t}_j & \quad \text{leabhar}_g \quad \text{ar an traein} \\
& \quad \text{a.book} \quad \text{on the traein}
\end{align*}
\]

---

\(^5\) Werle (2008) proposes that a nearly identical constraint (formulated as an alignment constraint) is responsible for motivating second-position clitic phenomena in Serbo-Croatian. This provides a promising avenue for parallels between treating weak object pronouns in Irish and Scottish Gaelic as vP phase second-position clitics and second-position clitics in other languages.
Similarly, a strong pronoun satisfies Initiality and does not need to be postposed. Even though it is a function word, strong pronouns are used in emphatic contexts. Because of this, they are promoted to a higher level of prominence (Truckenbrodt 1995; Rooth 1996). Strong pronouns bear PWd and possibly also PhP-level prominence, and satisfy Initiality:

(20) Strong pronoun objects satisfy Initiality:

\[
\begin{array}{c}
\text{XP} \\
\text{seisean}_F \quad \text{VP} \\
\text{PP} \\
\text{ar an traein} \\
\end{array}
\rightarrow
\begin{array}{c}
(\ x\ ) \\
(\ x\ ) \\
(\ x\ ) \\
\end{array}
\rightarrow
\begin{array}{c}
\text{PhP} \\
\text{PWd} \\
\text{Ft} \\
\end{array}
\rightarrow
\begin{array}{c}
(\ x\ ) \\
(\ x\ ) \\
(\ x\ ) \\
\end{array}
\rightarrow
\begin{array}{c}
\sigma \\
\text{it-EMPH on the traein} \\
\end{array}
\]

Full DP and strong pronoun objects satisfy Initiality. Unlike weak pronouns, there is no reason to realize them in non-initial position. As argued in the next section, the fixed position of full DPs and strong pronouns results from the pressure of syntactic linearization, which is undominated when there is no prosodic constraint of more importance. Realizing full DP or strong pronoun objects in other than initial position would subvert the pressures of linearization for no gain. In the case of weak pronouns, postposing is tolerated to satisfy the prosodic constraint on Initiality.

3. Linearization and Constraint Interaction

The previous section proposed that weak pronouns, but not full DP and strong pronominal objects, are prosodically ill-formed in initial position of the Spell-Out domain: they violate Initiality, a constraint against prosodically weak elements in phrase-initial position. In order to satisfy this constraint, weak pronouns in Irish are realized in non-PhP-initial position. This assertion relies on the notion that linearization is a process that occurs at Spell-Out and can be subverted by highly-ranked prosodic markedness and syntax-prosody correspondence constraints. This section discusses how linearization can be formulated as a violable syntax-phonology correspondence constraint.

Kayne's (1994) Linear Correspondence Axiom provides an algorithm by which syntactic structure is computed into linear order. This is done via the establishment of precedence relationships based on asymmetrical c-command relationships:

(21) Linear Correspondence Axiom (LCA, Kayne 1994):

If a syntactic node \( \alpha \) asymmetrically c-commands a syntactic node \( \beta \), then every terminal in \( \alpha \) precedes every terminal in \( \beta \).\(^6\)

\(^6\) Assuming that intermediate projections are ignored.
The notions of c-command and asymmetric c-command are defined as follows:

(22) C-Command:
A syntactic node $\alpha$ c-commands a syntactic node $\beta$ iff every phrase dominating $\alpha$ dominates $\beta$ and $\alpha$ does not contain $\beta$.

(23) Asymmetric C-Command:
A syntactic node $\alpha$ c-commands a syntactic node $\beta$ iff $\alpha$ c-commands $\beta$, and $\beta$ does not c-command $\alpha$.

Essentially, the LCA establishes precedence relationships such that syntactic terminal nodes that are higher in the tree precede terminal nodes that are lower in the tree.

The base order in Irish requires objects to precede adjuncts. In order to conform to the LCA, which allows only leftward movement, I will assume that this preference is encoded by the syntax by raising of the object to Spec,XP\(^7\), such that an asymmetrical c-command relationship between the object and the adjunct results in the correct precedence relationship (see Johnson 1991 for a similar argument regarding object movement in other languages).\(^8\) The tree structure for a typical sentence is given below:

\(^7\) I remain agnostic with respect to the identity of XP. One possibility is that it is $\mu$P, which Johnson (1991) argues is related to accusative Case assignment.

\(^8\) This proposal does not crucially rely on this syntactic analysis. The key claim is that weak pronoun objects and other types of objects be treated identically by the syntax, and that objects by default precede adjuncts in Irish.
Because *leabhar* ‘book’ c-commands the PP *ar an traein* ‘on the train’, it will precede the elements in the PP by virtue of the LCA.

When the object is a weak pronoun, it will occupy the same position in the syntactic tree because the syntax does not on its own distinguish between weak pronouns on the one hand, and full DPs and strong pronouns on the other (by virtue of the assumptions of the Y-model). The tree structure from (9) is repeated below:
During Spell-Out of the VP phase, the prosodic status of the weak pronoun results in a violation of Initiality. In order to satisfy this constraint, linearization is violated, because the pronoun does not precede the terminals in the PP but rather follows them.

The interaction of the constraints at Spell-Out can be illustrated using the OT framework, assuming that all of the constraints at play are in principle violable and that the patterns found in Irish arise through constraint ranking. The constraints at play are defined as below:

(26) a. **LINEARCORRESPONDENCE (LINCORR):** (following Kayne 1994)
Given two syntactic nodes $\alpha$ and $\beta$, where $\alpha$ asymmetrically c-commands $\beta$, assign one violation mark for every terminal in $\beta$ which precedes a terminal node in $\alpha$ in the output.

b. **HIGHPHRASE=HEADPHP (HIGH=HDPHP):** (Kratzer and Selkirk 2007)
Assign one violation mark for every head of a Phonological Phrase which does not correspond to the highest eligible\(^9\) phrase\(^10\) in the Spell-Out domain of a phase.

\(^9\) I follow Kratzer and Selkirk (2007) by assuming that some syntactic phrases are not eligible candidates for phonological prominence, and are not phrased as prosodic phrase heads. For instance, syntactic phrases that are given in the discourse cannot assigned phonological prominence (Samek-Lodovici 2006,
c. **INITIALITY:**
Assign one violation mark for every Phonological Phrase whose left edge does not correspond with the left edge of a Prosodic Word.

The following OT tableau illustrates the competition between several candidates for surface linearized form in the Spell-Out of the vP phase of the sentence in (25). The two prosodic constraints $HIGH=HDPHP$ and INITIALITY outrank the linearization constraint LINCORR. Candidate (a) wins because it satisfies the two high-ranked prosodic constraints, even though its surface linearized form violates the lower-ranked LINCORR because the pronoun follows rather than precedes the terminal elements in the PP. Candidate (b), where the pronoun is in initial position but adjoins to the adjacent PWd, violates $HIGH=HDPHP$ because the head of the PhP no longer corresponds the highest syntactic phrase (the PP). It satisfies both INITIALITY and LINCORR. Finally, candidate (c), where the pronoun is in initial position and adjoins to the PhP, satisfies $HIGH=HDPHP$ and LINCORR but violates INITIALITY ({} = PhP; ( ) = PWd; underline = Head of PhP):

(27) Pronoun postposing as the optimal candidate

| $vP[XP[é VP[PP[ar an traein]]]]$ | $HIGH=HDPHP$ | $INITIALITY$ | LINCORR |
|----------------------------------|---------------|--------------|
| $\prec a. \text{PhP}\{P_{WD}(ar an traein) \, é\}$ | $\ldots$ | $\ldots$ | $\ldots$ |
| $b. \text{PhP}\{P_{WD}(é ar an traein)\}$ | $\star!$ | $\ldots$ | $\ldots$ |
| $c. \text{PhP}\{é P_{WD}(ar an traein)\}$ | $\ldots$ | $\star!$ | $\ldots$ |

As discussed in the previous section, discourse-new full DP objects are prosodically well-formed in initial position because it can be parsed as the head of PhP ($HIGH=HDPHP$ is satisfied) and it has PWd status ($INITIALITY$ is satisfied). Candidate (a) wins because it does not violate any of the constraints considered here. Candidate (b) illustrates a failed candidate that parses the PP as the head of PhP, incurring a fatal violation of $HIGH=HDPHP$. Candidate (c) is another failed candidate that gratuitously violates LINCORR by linearizing the full DP object out of its syntactic base position without any prosodic gain. This candidate can never win under any ranking of the constraints, because is harmonically bounded by candidate (a):

Selkirk 2006). Here, I interpret this as an inviolable condition that blocks the phrase from becoming the head of the PhP. In the analysis below, I assume that candidates that would violate this condition by allowing ineligible phrases to be parsed as the head of PhP (e.g. by parsing a given phrase as the head of PhP) are not generated by the grammar, and that parsing the next-highest phrase as the head of PhP do not violate the $HIGH=HDPHP$ constraint. It is possible that this condition is better analyzed as a violable constraint, but further investigation is beyond the scope of the present paper.

10 I assume here that pronouns are not syntactic phrases.
Discourse-new full DP objects satisfy LinCorr

\[
\begin{array}{cccc}
\text{a. } \text{PhP}\{ \text{leabhar} \} \text{ PWd}(\text{ar an traein}) & \text{HIGH=HDHP} & \text{INITIALITY} & \text{LinCorr} \\
\text{b. } \text{PhP}\{ \text{ar an traein} \} \text{ PWd}(\text{leabhar}) & *! & *!** \\
\text{c. } \text{PhP}\{ \text{PWd}(\text{ar an traein}) \} \text{ PWd}(\text{leabhar}) & & & \\
\end{array}
\]

Discourse-given DPs shun PhP prominence because they are givenmarked (Féry & Samek-Lodovici 2006, Selkirk 2006), and therefore cannot be phrased as the head of a PhP. The next highest phrase, the PP adjunct, is phrased as the head to satisfy HIGH=HDHP, as in the winning candidate (a). Because both high-ranked constraints are satisfied, any candidate that violates LinCorr will be harmonically-bounded (illustrated here by candidate (b)).

Discourse-given full DP objects satisfy LinCorr

\[
\begin{array}{cccc}
\text{a. } \text{PhP}\{ \text{leabhar} \} \text{ PWd}(\text{ar an traein}) & \text{HIGH=HDHP} & \text{INITIALITY} & \text{LinCorr} \\
\text{b. } \text{PhP}\{ \text{ar an traein} \} \text{ PWd}(\text{leabhar}) & *! & *!** \\
\text{c. } \text{PhP}\{ \text{PWd}(\text{ar an traein}) \} \text{ PWd}(\text{leabhar}) & & & \\
\end{array}
\]

Note that the next-highest syntactic phrase is parsed as the head of PhP, and that this candidate does not violate HIGH=HDHP.

Finally, strong pronouns remain in initial position. Because they are used in emphatic contexts, they are promoted to PWd status in order to bear prominence. This makes them eligible to be phrased as the head of PhP, as in the winning candidate (a):

Strong pronoun objects satisfy LinCorr

\[
\begin{array}{cccc}
\text{a. } \text{PhP}\{ \text{seisean} \} \text{ PWd}(\text{ar an traein}) & \text{HIGH=HDHP} & \text{INITIALITY} & \text{LinCorr} \\
\text{b. } \text{PhP}\{ \text{ar an traein} \} \text{ PWd}(\text{seisean}) & *! & *!** \\
\text{c. } \text{PhP}\{ \text{PWd}(\text{ar an traein}) \} \text{ PWd}(\text{seisean}) & & & \\
\end{array}
\]

In summary, I have shown in this section that the interaction of a violable constraint on linearization with syntax-prosody correspondence constraints and prosodic markedness constraints accurately derives the pattern of weak pronoun postposing but static placement of full DP or strong pronominal objects. In the next section, I discuss other syntactic structures in Irish and argue that this analysis correctly predicts when pronoun postposing occurs, and when it is blocked.

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11 As stated earlier, I assume that DESTRESS-GIVEN is an inviolable constraint: given-marked syntactic items cannot be phrased as heads of PhP; under Kratzer & Selkirk's (2007) analysis, this is because they are ineligible.
4. Pronoun Postposing in Other Environments

Pronoun postposing is not limited to sentences with adjuncts of the type discussed above, but is also found in other contexts, including sentences where the verb is ditransitive, and when the weak pronoun is the object of a finite embedded clause or the subject of a small clause (Chung & McCloskey 1987) or a progressive phrase (Duffield 1995). The process is blocked in certain environments, such as when the weak pronoun is the subject of the main clause and when it is the subject of a non-finite clause. This section extends the above analysis to these constructions, and shows that the analysis correctly predicts when pronoun postposing will and will not occur.

4.1. Subject Pronouns

An important consequence of this analysis is that it correctly predicts that weak subject pronouns in Irish never postpose:

(31) a. Léigh sí leabhar.
   read she book
   ‘She read a book.’

b. *Léigh leabhar sí.
   read book she
   ‘She read a book.’

This asymmetry between subjects and objects falls out easily from the current analysis, which accounts for pronoun postposing under a version of the Multiple Spell-Out hypothesis where the complement of VP is spelled-out at the VP phase. Assuming that the subject minimally occupies Spec, VP, as assumed in the structures above (e.g. (25)), the weak pronoun will not be spelled-out with the VP phase, but rather with the CP phase. Subject pronouns differ from object pronouns in this respect: they will not be spelled-out in initial position of the Spell-Out domain of VP, and cannot therefore be spelled-out as part of the corresponding PhP. The phase-based account of Spell-Out assumed here makes clear predictions regarding locality: violations of LINCORR can only occur during the Spell-Out of each phase. Even if LINCORR would require the weak subject pronoun to surface in non-initial position of the CP phase (depending on whether the main verb occupies a position within the complement of the CP phase), it is predicted that the linear order of the lower phase will no longer be subject to alterations.

---

12 If the main verb in Irish and Scottish Gaelic occupies a position below CP (as proposed by e.g. McCloskey 1996), it will be spelled-out with the CP phase and will be initial within the PhP, meaning that the weak subject pronoun will not be in PhP-initial position. On the other hand, if the main verb occupies a position above C, the subject and the main verb would be spelled-out in different phases. In this case, the weak subject pronoun could become “stranded” in PhP-initial position if there is no other strong element within its Spell-Out domain.
4.2. Ditransitives

Ditransitives in Irish have the structure DP-PP, as in the following sentence:

(32) Thug Liam an leabhar do Úna.
    gave Liam the book to Úna
    ‘Liam gave the book to Una.’

If the direct object is a weak pronoun, it postposes, just as when the PP is an adjunct:

(33) Thug Liam do Úna é.
    gave Liam to Úna it
    ‘Liam gave it to Una.’

Given that ditransitives in Irish have a structure such as the following, it is not surprising that the weak pronoun also postposes in this environment:

(34) a. Thug Liam do Úna é
    gave Liam to Úna it
    ‘Liam gave it to Una.’

b. Syntax: object raises to XP

This is illustrated in the following tableau:
(35) Spell-Out of vP phase with a ditransitive verb

<table>
<thead>
<tr>
<th></th>
<th>HIGH = HDPHP</th>
<th>INITIALITY</th>
<th>LINCORR</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td></td>
<td></td>
<td>***</td>
</tr>
<tr>
<td>b.</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>0</td>
<td></td>
<td>!</td>
</tr>
</tbody>
</table>

These data support the assertion that pronoun postposing is motivated by prosodic considerations rather than the syntactic status of the PP (adjunct versus argument).

4.3. Embedded Clauses

Irish allows a number of different types of embedded clauses that contrast with respect to whether or not pronoun postposing is observed. Pronominal objects in finite embedded clauses and pronominal subjects in small clauses (Chung & McCloskey 1987), and progressives (Duffield 1995) show postposing, while pronouns in non-finite embedded clauses do not (Ó Siadhail 1989).

4.3.1. Finite Embedded Clauses

Finite embedded clauses take a complementizer, and contain an embedded sentence with VSO word order. As expected, pronoun postposing around an adjunct is the preferred word order:

(36) a. Chuala Úna [gur bhuaigh Liam ?*é ar an raidio].
    heard Una that won Liam it on the radio
    ‘Una heard that Liam won it on the radio.’

   b. Chuala Úna [gur bhuaigh Liam ar an raidio é].
    heard Una that won Liam on the radio it
    ‘Una heard that Liam won it on the radio.’

Pronoun postposing is blocked when the adjunct exclusively modifies the main clause but not the embedded clause. For example, the above sentence is only considered to be consistent with the interpretation that Liam won something in a radio contest. If the context is altered such that Liam won something unrelated to the radio (such as a race) that was announced on the radio while Una was listening, pronoun postposing is blocked:

(37) a. Chuala Úna [CP [gur bhuaigh Liam [V [ é]] ar an raidio].
    heard Una that won Liam it on the radio
    ‘Una heard on the radio that Liam won it.’

This contrast is predicted by the current analysis: if the adjunct is adjoined to the VP of the main clause, the adjunct will not be visible when the pronoun is linearized during the Spell-Out of vP. Pronoun postposing is therefore impossible, because there is nowhere for the weak pronoun to postpose to. Because the weak pronoun is alone
within its Spell-Out domain, it will be Spelled-Out phonologically but no prominence will be assigned to that domain.\textsuperscript{13} This suggests that pronoun postposing is strictly a local process, and provides support for the Multiple Spell-Out hypothesis as pursued here.

4.3.2. Small Clauses and Progressives

Small clauses (Chung & McCloskey 1987) and progressive phrases (Duffield 1995) normally show the order subject-verbal element:

(38) a. Ba annamh [Liam ina thost]
   was rare Liam silent
   ‘Liam was rarely silent.’

b. *Ba annamh [ina thost Liam]
   was rare silent Liam
   ‘Liam was rarely silent.’

(39) a. Chuala mé [Liam ag ceol].
   heard I Liam at singing
   ‘I heard him singing.’

b. *Chuala mé [ag ceol Liam].
   heard I at singing him
   ‘I heard him singing.’

When the subject is a weak pronoun, the subject can follow the verbal element, as in the following sentences. Unlike the other cases of pronoun discussed so far, both positions of the weak pronoun are well-formed:

(40) a. Ba annamh [é ina thost]
   was rare him silent
   ‘He was rarely silent.’

b. Ba annamh [ina thost é].
   was rare silent him
   ‘He was rarely silent.’ (Chung & McCloskey 1987)

(41) a. Chuala mé [é ag ceol].
   heard I him at singing
   ‘I heard him singing.’

b. Chuala mé [ag ceol é].
   heard I at singing him
   ‘I heard him singing.’ (Duffield 1995)

The structures of these clauses are superficially very similar: pronoun postposing is allowed in both cases, but has more of an optional character as compared to the other

\textsuperscript{13} Either the PhP will be headless or no PhP will be spelled-out at all—this question is not pursued here.
constructions which allow pronoun postposing (Duffield 1995). I propose that the subject pronoun and the verbal element form a syntactic constituent, a Small Clause Phrase (SCP) or a Progressive Phrase (ProgP), which is merged as a complement to V as objects are normally. Optionally, either the subject of the SCP or ProgP, or the SCP or ProgP in its entirety raises to Spec, XP:

(42) a. Chuala mé [é ag ceol ]
heard I him at singing
‘I heard him singing.’

b. Syntax: ProgP raises to XP

Because the weak pronoun and the verbal element form a syntactic constituent, they are together the highest phrase in the Spell-Out domain of vP, and the entire constituent can be parsed as the head of the PhP. In this case, the initial weak pronoun does not violate INITIALITY for the same reason that determiners and prepositions do not violate this constraint: even if it cannot itself bear PWd status, it is part of a syntactic unit that does bear PWd status. As illustrated in the following tableau, the non-postposed candidate (a) is optimal under this analysis. Candidate (b) violates HIGH = HDPhP by not phrasing the entire high phrase as the head of PhP, and also violates LINCORR. Candidate (c) violates LINCORR needlessly:
(43) Spell-Out of vP phase containing a moved ProgP

<table>
<thead>
<tr>
<th></th>
<th>HIGH= HDPHP</th>
<th>INITIALITY</th>
<th>LINCORR</th>
</tr>
</thead>
<tbody>
<tr>
<td>(43a)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(43b)</td>
<td>!</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>(43c)</td>
<td></td>
<td></td>
<td>!!*</td>
</tr>
</tbody>
</table>

On the other hand, pronoun postposing ((40)b and (41)b) is optimal when the weak pronoun raises to Spec,XP, but the ProgP containing ag ceol ‘singing’ is left behind. This is illustrated in the following tree structure:

(44) a. Chuala mé [ag ceol é]
    heard I at singing him
    ‘I heard him singing.’

b. Syntax: Pronoun raises to XP

In this structure, the weak pronoun and the verbal element are not a single syntactic constituent, and the weak pronoun cannot be part of the PrWd formed by ceol ‘singing’ without violating HIGH= HDPHP (candidate b below), nor can it be parsed initially in the PhP without violating INITIALITY (candidate c below). As illustrated in the following tableau, candidate (a), where the weak pronoun surfaces in final position and adjoins to the PhP, is optimal, just as in other cases of pronoun postposing:
As with adjuncts and double objects, neither full DP nor strong pronominal objects postpose in small clauses or progressives. This is expected, even when we consider the two possible structures for these constructions, with and without movement of the ProgP or SCP. If the SCP or the ProgP in its entirety moved in its entirety to Spec,XP, the constituent as a whole will phrased as the head of PhP, and neither HIGH = HD PHP nor INITIALITY will be violated. If only the DP or strong pronoun is moved with the head of ProgP or SCP is left behind, the object will have sufficient prominence such that INITIALITY will not be violated, and the object will surface in initial position.

Another interesting piece of data that supports the above analysis is the blocking of pronoun postposing in small clauses and progressives that are ‘selected’ by agus ‘and’ or ach ‘but’ (Chung & McCloskey 1987, Duffield 1995, Adger 1997):

(46) a. Agus [é ina thost].
    and him silent
   ‘And him silent.’
 b. *Agus [ina thost é].
  and silent him
   ‘And him silent.’

(47) a. Agus [é ag ceol].
    and him at singing
  ‘And him singing.’
 b. *Agus [ag ceol é].
    and singing him
  ‘And him singing.’

This fact follows from the above analysis: if there is no TP or vP, agus ‘and’ will be spelled-out in the same phase as the small clause or the progressive. Even if the weak pronoun raises into Spec,XP without the verbal element as in (44), the weak pronoun will not surface in initial position, thereby satisfying INITIALITY.14

4.3.3. Non-finite Clauses

Non-finite clauses are formed using the verbal noun, as was the case with progressives. However, the syntax of these clauses differs from the syntax of the

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14 Even though agus ‘and’ is also a function word, it is possible that the combination of the two weak function words in initial position is sufficient to satisfy INITIALITY. The prosody of these constructions needs to be studied, however.
progressive clause. The clauses variably can take either PRO or an overt subject, and can additionally take an overt object, depending on the transitivity of the verb. In sentences with an overt object, the verbal noun is preceded by the particle a. The following examples show the patterns exhibited in southern Irish dialects: (48)a shows the verbal noun without the particle a when the subject is PRO, (48)b shows the appearance of the particle when the subject is overt and distinct from the subject of the matrix clause, (48)c shows the presence of the particle with PRO as the subject and an overt preverbal direct object, and (48)d shows SVO order when both the subject and the object are overt. Note that the postverbal object takes genitive case (examples are from Bondaruk 2006:1847):

(48) a. Ba mhaith liom [PRO fanacht].
   COP good with-me stay-VN
   ‘I would like to stay.’

   b. Ba mhaith liom [é a fhanacht].
   COP good with-me him PRT stay-VN
   ‘I would like him to stay.’

   c. Ba mhaith liom [PRO an doras a phéinteáil].
   COP good with-me the door PRT paint-VN
   ‘I would like to paint the door.’

   d. Ba mhaith liom [sibh a phéinteáil an dorais].
   COP good with-me you.PL PRT paint-VN the door-GEN
   ‘I would like you to paint the door.’

Northern dialects behave similarly, except that the SVO order in (48)d is ungrammatical: the object always occurs preverbally, and without genitive case (Ó Siadhail 1989:257):

(49) Ba mhaith liom [sibh an doras a phéinteáil].
   COP good with-me you-PL the door PRT paint-VN
   ‘I would like you to paint the door.’

Pronoun postposing is never allowed within a non-finite clause, whether or not the subject is overt (Bondaruk 2006:1854):

(50) a. Caithfidh mé [PRO é a léamh].
    must I it PRT read-VN
    ‘I must read it.’

    b. *Caithfidh mé [PRO a léamh é].
    must I PRT read-VN it
    ‘I must read it.’
(51) a. Ba mhaith liom [Máire é a léamh].
   COP good with-me Mary it PRT read-VN
   ‘I would like Mary to read it.’

b. *Ba mhaith liom [Máire a léamh é].
   COP good with-me Mary PRT read-VN it
   ‘I would like Mary to read it.’

Note that the SVO word order found in Southern dialects is not a case of pronoun postposing: both full DP objects and weak pronouns occur postverbally in this context, and are marked with genitive case, suggesting that they occur in this position for syntactic reasons. Similarly, full DP objects and weak pronominal objects behave identically with respect to linear order when in preverbal position.

Adger (1996:6) presents data from Scottish Gaelic that suggest that the object and the particle-verbal noun form a phrasal constituent: they can right-node-raise as in (52)a, and form clefts and pseudoclefts, as in (52)b and (52)c:

(52) a. ‘s e [a’ cheist sin a fhreagairt] a tha doirbh.
   It’s that question PRT answer-VN Comp be-PRES difficult
   ‘It’s answering that question that’s difficult.’

b. ‘s e tha doirbh ach [a’ cheist sin a fhreagairt].
   It’s be-PRES difficult but that question PRT answer-VN
   ‘What’s difficult is to answer that question.’

c. Tha e doirbh ach tha e math [a’ cheist sin a fhreagairt].
   be-PRES it difficult but be-PRES it good that question PRT answer-VN
   ‘It is hard, but it is good, to answer that question.’

Provided that the facts are similar in Irish,15 this suggests that the pre-verbal object forms a syntactic constituent with the verbal noun. If this is the case, then it is not surprising that weak pronominal objects do not postpose in this context: the weak pronoun with the verbal noun forms a PrWd, and in this way satisfy both HIGH=HDPHP and INITIALITY. This representation is supported by the observation that a preverbal weak pronominal object can fuse with the particle, as in the following example (Bondaruk 2006:1854, citing Doyle 2002):

(53) a. Caithfidh mé [PRO a léamh]. (Northern dialects)
   must I its read-VN
   ‘I must read it.’

b. Ba mhaith liom [Máire á léamh]. (Southern dialects)
   COP good with-me Mary it PRT read-VN
   ‘I would like Mary to read it.’

15 These facts need to be checked.
In (53)a, the particle is interpreted as the possessive form of the pronoun. In (53)b, the object combines with the particle. This contrasts with the sentences in (50) and (51), where both the weak pronoun and the particle are pronounced separately. Overall, there appears to be evidence supporting the assertion that preverbal weak pronouns form a syntactic constituent with the particle and the verbal noun, and can be parsed into the same prosodic constituent. If the weak pronoun can be parsed in the same prosodic phrase as the verbal noun, it will have PWd status and satisfy HIGH = HDPHP.

It is less clear whether or not subject pronouns also form a constituent with the verbal noun. However, given the nominal nature of the non-finite clause in Irish, it is likely that the absence of pronoun postposing in sentences such as the following can also be attributed to phrasing the non-finite clause as a prosodic constituent (Bandaruk 2006:1847, repeated from (48)a above):

(54) Ba mhaith liom [é a fhanacht].
    COP good with-me him PRT stay-VN
    ‘I would like him to stay.’

Another possibility is that the subject pronoun is outside of the phase that spells-out the particle and the verbal noun. If we assume that the subject pronoun occupies Spec,vP, a phase boundary then intervenes between the subject pronoun and the particle-verbal noun constituent. In this case, pronoun postposing could be blocked because of a locality restriction: because the subject pronoun is not spelled-out with the verbal noun in the Spell-Out domain of the vP phase, it is not initial within the Spell-Out domain of that phase and therefore cannot be linearized to follow the verbal noun. When it is spelled-out in the next phase, its options are limited: it cannot be linearized to follow an element that has already been spelled-out, because no asymmetrical c-command relationship exists between the two elements. In this case, the subject pronoun remains in situ even though it violates INITIALITY. The decision as to which of these two analyses is accurate is left to future research.

5. Partial Postposing

In sentences with multiple adjuncts, pronouns can postpose to the right edge, but can also “stop off” at an intermediate position:

(55) a. Léigh Liam ?é ar an traein aréir.
    read Liam it on the train last-night
b. Léigh Liam ar an traein é aréir.
    read Liam on the train it last-night
c. Léigh Liam ar an traein aréir é.
    read Liam on the train last-night it
    ‘Liam read it on the train last night.’

The effect is the same with a larger number of adjuncts, where the pronoun can occur at any position excepting initial position (example from Ó Siadhail 1989:209):
Under the current analysis, the possibility of having the pronoun in initial position, as in (56)a, is eliminated by the combination of \textsc{High}=\textsc{HDPhP} and \textsc{Initiality}, just as in other sentences that allow pronoun postposing. Each of the intermediate positions and final position satisfy the phonological constraints and are therefore equally well-formed phonologically. However, given the presence of \textsc{LinCorr}, we expect that the candidate with minimal violations should emerge as the winner. This would be the intermediate candidate where the pronoun is realized immediately after the first PWd:

(57) Spell-Out of \textsc{vP} phase: Partial postposing

| \textsc{vP}L\{é \textsc{vP}L[ar an \textsc{treain}]_A\textsc{adv}[aréir]\}| \textsc{High}=\textsc{HDPhP} \textsc{Initiality} \textsc{LinCorr} |
|----------------------------------|------------------|----------------|---------------|
| a. \textsc{PhP}\{\textsc{PWd}(ar an \textsc{treain}) \ é \textsc{PWd}(aréir)\} | *** | |
| b. \textsc{PhP}\{\textsc{PWd}(ar an \textsc{treain}) \textsc{PWd}(aréir) \ é\} | ****! | |
| c. \textsc{PhP}\{\ é \textsc{PWd}(ar an \textsc{treain}) \textsc{PWd}(aréir)\} | *! | |
| d. \textsc{PhP}\{\textsc{PWd}(é ar an \textsc{treain}) \textsc{PWd}(aréir)\} | *! | |

In the tableau above, candidate (b) is harmonically bounded by candidate (a) because it incurs more violations of \textsc{LinCorr}, seemingly without purpose. However, there is reason to believe that the prosodic phrasing given in candidate (b) is not a complete and accurate representation of these types of sentences. McCloskey (1999) notes that there is a prosodic distinction between sentences like (55)b and (55)c above: in (55)c, the two adjuncts form a prosodic constituent, while in (55)b, they form distinct constituents. Under the present analysis, this could be interpreted to mean that the first adjunct forms the head of \textsc{PhP} in (55)b and that the two adjuncts together form the head in (55)c, perhaps resulting from the presence of an additional prosodic phrase. Under this interpretation, the pronoun is predicted to surface in the position immediately following the head of \textsc{PhP} because it cannot break up a prosodic constituent. Assuming that realizing the weak pronoun between the single-phrase constituents violates the syntax-prosody correspondence constraint \textsc{High}=\textsc{HDPhP}, candidate (b) emerges as the winner, as illustrated in the following tableau:

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16 This may indicate that there are other syntax-prosody correspondence constraints at play in these cases, or that adjunct phrasing is sensitive to factors that may be external to the syntax, such as discourse. Further research is needed to develop a coherent prosodic analysis of these facts.
This suggests that there are other factors at play which help to determine which possibility for prosodic phrasing surfaces as optimal. The phrasing of the adjunct may be additionally conditioned by factors including the relative heaviness of the adjuncts and discourse prominence of the adjunct (see Adger 1997, Doyle 1998, and McCloskey 1999 for some discussion of these factors).

Setting the details aside, the data from partial postposing provide evidence for an analysis of weak object pronouns in Irish and Scottish Gaelic as second-position clitics in the Spell-Out domain of \( \mathbf{vP} \). Here, second-position is defined by prosodic rather than syntactic constituents, and shows that pronoun postposing is distinct from the larger array of right-edge phenomena that normally target heavy structures, such as Heavy NP-Shift and extraposition (see McCloskey 1999 for discussion of right-edge phenomena in Irish). This analysis of partial postposing supports the present theory, which predicts that candidates for surface linearized form will violate \textsc{Lincorr} only to satisfy higher-ranked prosodic constraints. Second-position in the Spell-Out domain is optimal: even though \textsc{Lincorr} is violated, it is not violated gratuitously.

6. Alternative Analyses

Many previous approaches to pronoun postposing in Irish and Scottish Gaelic have proposed that pronoun postposing is in some way phonologically- or stylistically-motivated (Adger 1997, 2007; Doyle 1998; McCloskey 1999). The analysis developed in this paper makes a similar proposal: pronoun postposing does not take place in the syntax, but rather at Spell-Out, where linearization interacts with constraints on prosodic phrasing. I have argued that pronoun postposing does not involve movement at all, but rather competition between candidates for surface linearized form. As discussed above, the positioning of weak object pronouns in Irish and Scottish Gaelic is best analysed as a second-position phenomenon that operates within the Spell-Out domain of \( \mathbf{vP} \).

Adger (1997) similarly concludes that pronoun postposing is phonologically-motivated. This paper proposes that the weak pronoun is ill-formed in initial position because this position is the locus of nuclear stress assignment, and the weak pronoun cannot bear nuclear stress. I have argued that nuclear stress assignment is not sufficient to account for pronoun postposing, because discourse-given full DP objects, which also shun nuclear stress, are not postposed. By reformulating the phonological constraint as a constraint against initial weakness (defined by \textsc{PwD} status), discourse-given full DP objects are correctly predicted to precede the adjunct and not participate in pronoun postposing.

The analysis presented in Adger (1997) also assumes that the word order difference is encoded in the syntax: syntactic movement of weak pronominal objects to a higher position is blocked by phonological look-ahead. I have proposed that pronoun postposing derives from constraint interaction at Spell-Out, and that weak pronoun
objects, full DP objects, and strong pronoun objects are treated identically in the syntactic component. The analysis presented here is consistent with the Y-model of the grammar, which assumes independence of the syntactic and phonological components of the grammar. To the extent that this view is correct for other interface phenomena, the present paper provides support for this view of the grammar by showing that phonologically-motivated word order asymmetries such as weak pronoun postposing can be accounted for without requiring phonological look-ahead in the syntax.

Conversely, a purely syntactic analysis of pronoun postposing such as that proposed by Duffield (1995) is not ideal either. Under the syntactic analysis, weak pronouns are analysed as syntactic clitics that obligatorily move to the head of a clitic phrase dominating TP. This movement is then followed by fronting of the TP to the specifier of the clitic phrase. Setting aside the motivation for the mechanics of the movement operation, this analysis fails to account for the optional character of the process. Irish and Scottish Gaelic differ from French or other Romance languages with syntactic clitics in this respect: in these languages, the weak pronoun/clitic obligatorily occupies a specific syntactic position, and is ungrammatical in any other position. In Irish and Scottish Gaelic, the realization of the pronoun in initial position is strongly dispreferred, but not strictly ungrammatical. I suggest that this preference is better captured with respect to prosodic phrasing, where there is some degree of flexibility based on external factors, rather than syntactic movement, which is more rigid in its application.

A third possibility involves an optional process of rightward syntactic adjunction of the weak pronoun, as proposed in Chung and McCloskey (1987) and Doyle (1998). Doyle (1998) argues that while rightward movement is generally invalid as a syntactic operation, rightward movement is possible if the movement is stylistic, as in pronoun postposing. However, if we assume that Spell-Out includes an evaluation of candidates for surface linearized form, then there is no reason for pronoun postposing to be represented in the syntax, even if its motivation is stylistic. The present analysis avoids this redundancy between syntactic and Spell-Out operations.

The Copy-and-Deletion theory of second-position clitics (Franks 1998, 1999, 2000; Franks & King 2000; Bošković 2001) presents another possible analysis of pronoun postposing under the proposal that weak pronoun objects in Irish and Scottish Gaelic are second-position clitics in the Spell-Out domain of VP. This theory proposes that second-position phenomena are the result of spelling-out a lower copy of a movement chain when the higher member of the chain would create structure that is phonologically ill-formed. Conceivably, the rightward positioning of the weak pronoun in Irish and Scottish Gaelic could result from spelling-out a lower copy of the object under pressure from the prosodic initiality constraint proposed above. This analysis is distinct from the present analysis, where the position of the clitic is derived at Spell-Out from the conflict between prosodic constraints and linearization.

Under the Copy-and-Deletion theory, the highest member of a movement chain is spelled-out unless it is blocked by a phonological constraint, in which case a lower copy can be spelled-out. However, this proposal makes incorrect predictions with respect to the version of phase theory and Multiple Spell-Out assumed here. Under the assumption that VP constitutes a phase, movement chains may cross a phase boundary (as in object wh-movement or passives in English). This will leave copies of the moved element in the lower phase as well as the upper. However, when the VP phase is spelled-out, there
will be nothing to incite deletion of the lower copy, because the content of the upper phase will not yet have been spelled-out. Without additional stipulations or introducing a mechanism of phonological look-ahead in the syntactic component, this theory predicts that the lower copy will always be spelled-out when other members of the movement chain are not within its Spell-Out domain. This is clearly an undesirable result for a language like English, where lower copies are not spelled-out. On the other hand, trace theory, as assumed in this paper, makes no such predictions because traces are phonologically null. To the extent that the above analysis is correct, there is good evidence that \( vP \) is a phase that is spelled-out mid-derivation, and that clitic placement cannot be determined by movement chains, as under the Copy-and-Deletion account.

Finally, the present proposal may be compared to other prosodic analyses of second-position clitics such as the Prosodic Inversion hypothesis developed in Halpern (1995). Under this analysis, phonological clitics invert with an adjacent prosodic constituent, placing the clitic into second-position. The Prosodic Inversion account shares with the present account the intuition that second-position is defined with respect to prosodic rather than syntactic constituency. However, the theory fails to provide an explanation for why inversion is minimal but instead relies on subcategorization, where cliticization properties are specified on the lexical entry of the clitic. The constraint-ranking analysis proposed here does not require any notion of subcategorization, and correctly predicts the positioning of the clitic under the assumption that constraints at Spell-Out are ranked and violable.

7. Conclusion

In this paper, I have developed a theory of weak function word positioning that relies on constraint interaction under a version of Multiple Spell-Out where possible candidates for surface linearized form are evaluated at each phase. I have shown that the types of constraint interactions permitted under this phasal OT framework correctly account for the patterns of pronoun postposing in Modern Irish and Scottish Gaelic, including predictions for conditioning and blocking environments, and the patterns of partial postposing. In addition, this analysis is fully consistent with the Y-model of the grammar. By allowing linearization to interact as a violable constraint at Spell-Out, word order can be influenced by prosodic factors without requiring look-ahead in the syntactic component of the grammar.

This paper suggests that the interface between syntax and phonology can accurately be portrayed using the OT framework. An important advantage to using this framework is that it unifies word order displacement as in second-position cliticization phenomena with other possible prosodic repairs in the same environment (such as initial strengthening) and thus makes clear typological predictions: OT predicts that each permutation of the constraint rankings produces a different grammar. The analysis proposed here for Irish and Scottish Gaelic thus makes strong predictions that move beyond the language-specific patterns. This analysis predicts both that other languages will use other means to satisfy the prosodic constraints proposed here, and that linear order can be permuted to satisfy initiality constraints in different environments. These insights are particular to the OT analysis presented here, and are often absent in frameworks that assume that constraints are inviolable or language-specific.
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