

Lightest to the Right: An Apparently Anomalous Displacement In Irish

Ryan Bennett (Yale University)

Emily Elfner (McGill University)

Jim McCloskey (University of California, Santa Cruz)

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Sound-files corresponding to various examples cited in the paper are available at <http://ohlone.ucsc.edu/Downloads/PronPost/SoundFiles>. Their filenames are keyed to example numbers so that, for instance, the file corresponding to example (46a) is '46a.wav'. The sources from which the files were extracted are given in Appendix B. The files can also be accessed by clicking on the red *Sound-File* links associated with those examples in the text.

1 INTRODUCTION

What are the mechanisms that shape word order in natural language? A traditional and still widely favored answer to that question is that syntax has exclusive responsibility in this domain; in some traditions of investigation, in fact, syntax just *is* the study of word order. More recently the possibility has emerged, though, that word order is determined post-syntactically, in the process of what Berwick & Chomsky (2011) call ‘externalization’—the translation of the hierarchical and recursive representations characteristic of syntax and semantics into the kinds of serial representations that the sensorimotor systems can manipulate. Given that overall conception, it is natural that some aspects of constituent order should be shaped by demands particular to phonology, and in recent years there have been many studies arguing for the role of phonology in shaping word order.¹ We contribute to these debates here by analyzing one aspect of word order in Irish. The phenomenon at the heart of our investigations—the variable placement of pronouns—seems straightforward at first, but it has stubbornly resisted successful analysis despite a 25-year history of investigation. Our goal is to push as far as possible towards an exclusively phonological treatment of the phenomenon, one which involves no reference to any term from syntactic theory. We then assess the viability of that understanding, in terms of descriptive coverage and theoretical integration. Many questions and puzzles will remain in the end, but our core claim is that this purely phonological treatment is the most successful currently available, by both criteria.

One reason why this outcome, if correct, is interesting is that the phenomenon in question (a rightward displacement of certain kinds of pronouns) does not wear its phonological credentials on its sleeve. Its phonological aspects emerge only under fairly close scrutiny. If the case is typical (and we know of no reason to think it atypical), there are probably many similar phenomena awaiting discovery. And in broad terms, the research program that then unfolds is closely consistent with the conjecture of Berwick & Chomsky (2011) that a great deal of the variation found among languages is properly located in systems of externalization.

2 THE PHENOMENON

2.1 INITIAL OBSERVATIONS

The phenomenon at the heart of our investigation seems initially strange because it runs counter to certain well-established typological tendencies—the tendencies, in particular, for phonologically light elements (clitics and so on) to displace towards clause-initial position and for phonologically heavy elements to displace to clause-final position. Irish presents us with a case in which light pronouns displace to the right, sometimes all the way to clause-final position. Despite its typological oddity, pronoun postposing is characteristic of all the Gaelic languages and has been a stable feature of those languages for a thousand years or more. For Irish, the core observations can be made quickly.

(1) illustrates the normal position of the object in a finite vso clause:

- (1) Fuair sé nuachtán Meiriceánach óna dheartháir an lá cheana.
get.PAST he newspaper American from-his brother the-other-day
‘He got an American newspaper from his brother the other day.’

¹See, among many others, Zec & Inkelas (1990), Halpern (1995), Adger (1997, 2006, 2007), Zubizarreta (1998), Chung (2003), Gutiérrez-Bravo (2005), Vicente (2005), Culicover & Jackendoff (2005), Göbbel (2007), Anttila (2008), López (2009), Anttila et al. (2010), Agbayani & Golston (2010), Agbayani et al. (2010), Richards (2010), Kandybowicz (2009, 2010), Sabbagh (2011), Manetta (2012).

When the object is a simple pronoun, however, an alternative order is available, in which the object pronoun appears farther to the right than an object really ought to—in clause final position in (2):²

- (2) Fuair sé _ óna dheartháir an lá cheana [é].
 get.PAST he from-his brother the-other-day it
 ‘He got it from his brother the other day.’

Such displacements often leave pronominal objects quite distant from the verbs which select them:³

- (3) a. D’fháisceadh sé _ chuige lena ucht arís agus aríst eile go ceanúil [í].
 squeeze.PAST-HABIT he to-him to-his breast again and again other affectionately her
 ‘He would squeeze her affectionately to his breast time and time again.’ SJSJ 18
- b. nó gur fritheadh _ curtha i bpoll portaigh in aice Bhearna ina diaidh sin [é].
 until find.PAST-IMPERS buried in hole bog.GEN near after-that him
 ‘until he was found buried in a bog-hole near Bearnna after that’ M 240
- c. chuir sí _ ag freastal Aifrin na maidne sa tséipéal trasna an bhóthair
 put.PAST she PROG serve Mass the morning in-the chapel across the road
 ón scoil [é]
 from-the school him
 ‘She had him serve morning Mass in the chapel across the road from the school.’ AGMTS 65

but not always in absolute clause-final position:

- (4) a. D’fhuadaigh sé _ leis chun an bhaile [í] i ngan fhios
 abduct.PAST he with-him to the home her in secret
 ‘In secret he took her home with him by force.’ PNG 7
- b. Rugadh _ i nGabhla [é] sa bhliain 1784.
 bear.PAST-IMPERS in him in-the year
 ‘He was born in Gabhla in the year 1784.’ GAT 56
- c. Thugadh Stiofáin _ ag iascaireacht leis [é] go minic
 bring.PAST-HABIT Steven PROG fish with-him him often
 ‘Steven would often take him fishing with him.’ NGTTS 73
- d. Chroch Stiofáin agus Neilí _ leo abhaile go dtí a dteach féin [mé] ar an
 lift.PAST Steven and Nelly with-them home to their house REFLEX me on the
 tráthnóna úd.
 afternoon DEMON
 ‘Steven and Nelly carried me off home to their own house that afternoon.’ NGTTS 53

Finally, displacement of the pronoun, though often preferred, is never required. In the examples of (5), for example, the object pronoun appears in the normal position for direct objects, immediately following the subject (we will see many other such examples as we proceed).

- (5) a. D’fhág Wilhelm [iad] ansin
 leave.PAST them then
 ‘Wilhelm left them then.’ NGTTS 43

²Here and below we occasionally highlight the position of a postposed pronoun by placing it in a box; we also indicate the syntactically expected position of the pronoun by way of the symbol _.

³Many of the examples used in this paper have been taken from published sources. When this is the case, it is indicated by way of a tag consisting of an abbreviation of the title of the publication followed by the page number on which the example appears, or the date of broadcast in the case of material excerpted from radio broadcasts. The abbreviations are explained in Appendix B.

- b. go dtí gur goideadh í samhradh na bliana 1993
 until c steal.PAST-IMPERS it summer the .GEN year .GEN
 ‘until it was stolen in the summer of 1993’ PNG 511
- c. Thóg siad í ar bord.
 raise.PAST they her on board
 ‘They lifted her on board.’ OTA 176
- d. níor cluineadh ariamh í ag rádh go rabh fuath ar aon duine aice
 NEG hear.PAST-IMPERS ever her PROG say c was hatred on any person at-her
 ‘She was never heard to say that she hated anyone.’ SB 144

Putting all of this together, we can summarize the principal puzzle by way of the informal diagram in (6), where the arrows indicate three possible ‘trajectories’ (in a pre-theoretical sense) for the displaced pronoun.⁴



The initial challenge then is to understand (6). To understand (6), though, we must first understand certain additional conditions that govern postposing. We lay these out in the next section.

2.2 ADDITIONAL CONDITIONS

There is in Irish an important distinction between strong and weak forms of personal pronouns. Although not represented in any standard orthography, the difference is crucial, as it turns out, for understanding how pronouns are placed in larger structures. Some of the relevant forms are laid out in (7).⁵

	ORTHOGRAPHY	STRONG FORM	WEAK FORM
(7) 3rd sg masc, non-subject	é	[e:]	[ə]
3rd sg fem, non-subject	í	[i:]	[i]
3rd pl, non-subject	iad	[iad]/[iəd]	[əd]
1st sg	mé	[me:]	[mə]

Strong forms of the pronouns can have an accent⁶ and their vowel nuclei are long; weak forms are unaccented and their vowels are characteristically shortened and centralized. The chart in (7) illustrates (in the fourth column) fully reduced variants, but unstressed pronouns may have either reduced or unreduced vowels. We return to some of the phonetic details in footnote 39 when more of the relevant material is in place; for now, the crucial observation is that when a pronoun undergoes postposing, it always appears in its weak, unaccented form.

⁴Stenson (1981: 42–45) and Ó Siadhail (1989: 207–210) provide clear overviews of the basic facts.

⁵See, for instance, Ó Sé (2000: 155–59), Ó Baoill (1996: 88–89), Lucas (1979: 93) on the distinction between weak and strong forms of the pronouns in Munster and Ulster varieties.

⁶The text here glosses over certain very important questions about phonetic realization. As a matter of exposition, we will continue to use the terms ‘strong pronoun’ and ‘accented pronoun’ as virtual synonyms. But strictly speaking it is inaccurate to say that ‘strong’ forms of pronouns are always accented, and even more inaccurate to say that weak forms of pronouns never bear a pitch accent. Probably the most accurate statement is that strong pronouns can bear an independent pitch accent (a target tone, in more technical parlance). We say ‘independent’ because there are circumstances in which weak pronouns may end up bearing an accent, but only in virtue of being at the right edge of a larger prosodic domain that happens to carry a final boundary tone for other reasons (see McCloskey (2011b) for one such case). We might call these ‘dependent’ pitch accents. None of this gainsays the fundamental point, recognized by all observers, that pronouns in the language come in strong and weak variants.

A second important restriction is that weak pronouns never postpose from subject position of a finite clause.⁷

- (8) *Chuir – mo lámh ’mo phóca [mé].
 put.PAST my hand in-my pocket I
 ‘I put my hand in my pocket.’

Instead of (8) we see the vso order of (9), in which the subject pronoun cliticizes to the finite verb.

- (9) Chuir [mé] mo lámh ’mo phóca.

A third important property of pronoun postposing is that it has no consequences for, or correlations with, information structure or discourse function (Bennett et al. 2012; cf. Mulkern 2003, 2011). Many displacements (to the left and right alike) involve the core concepts of discourse and information structure—topic, focus, and the like (see, for example, Horn (1986)). Pronoun postposing is not such a displacement, and has no detectable pragmatic or semantic effect. In addition to the arguments developed by Doyle (1998: 45) for this conclusion, we add two observations of our own. The first suggests that information-structure properties of the pronoun itself play no role in postposing. The second suggests that information-structure properties of the larger context play no role either.

The first conclusion is suggested by the fact that expletive pronouns postpose freely and under the same conditions as all other pronouns. In each of the examples of (10), we have a small clause complement which in turn contains a complement CP. The presence of a complement CP within the small clause licenses an expletive pronoun *é* (‘it’) as its subject. This pronoun may remain in subject position (leftmost in the small clause); but in each of the examples of (10) it has in fact displaced rightwards. (Unlike finite subjects, small clause subjects may undergo pronoun postposing; we discuss this difference in later sections.)

- (10) a. Ní fhuair mise – éasca [é] éirí as an bpolaitíocht
 NEG find.PAST I easy it rise.NONFIN out-of the politics
 ‘I didn’t find it easy to abandon politics.’ CTP 21
- b. Gheobhaidh tú – ráidhte sa lámhscríbhinn [é] nach rabh rún againn an
 find.FUT you said in-the manuscript it NEG C was intention at-us the
 stair a nochtadh don phobal
 affair reveal.NONFIN to-the community
 ‘You will find it stated in the manuscript that we had no intention of revealing this affair to the general public.’ I 8

Since elements which lack semantic content cannot have information structure content, placement of the pronoun in such cases cannot be linked with the information structure status of the pronoun itself.

The second conclusion is suggested by an interesting kind of natural experiment, one which shows that even when we hold the semantic content and context of utterance constant across tokens, we still find variability in pronoun placement. The crucial observations involve certain formulaic announcements broadcast regularly on *Raidió na Gaeltachta*, a radio network which serves Irish-speaking communities. These are death-notices, broadcast as part of the local news for each region. Each notice announces a death and then gives details about funeral arrangements. As part of the 9AM bulletin on Thursday January 24th 2013, for example, the following two announcements were made

⁷This observation holds for the modern language, but the facts were somewhat different in earlier periods. See Ahlqvist (1975/6), Breatnach (1994: 269–70) and for some brief discussion Bennett et al. (2012).

in sequence by the same presenter from the studio in Donegal:

- (11) a. Cuirfear _ i reilg an Mhachaire amárach [é] i ndiaidh aifreann
 bury.FUT-IMPERS in graveyard Maghery tomorrow him after mass
 a haon déag.
 eleven
 ‘He will be buried in Maghery Graveyard tomorrow after eleven o’clock mass.’
- b. Cuirfear _ amárach [í] i reilg Bhéal Cruite i ndiaidh aifreann
 but.FUT-IMPERS tomorrow her in graveyard Belcruit after mass
 a haon déag.
 eleven.
 ‘She will be buried tomorrow in Belcruit Graveyard after eleven o’clock mass.’

Each begins with a future impersonal form of the verb meaning ‘bury’, followed by a non-subject pronoun and a sequence of temporal and locative modifiers (which are freely ordered with respect to one another). The importance of these observations for us now lies in the fact that they approach the conditions of a clean natural experiment. The formulaic and repetitive character of the notices comes as close as we are likely to get in natural settings to fixing semantic content and discourse context across utterances. If postposing really depends on such contextual factors, then when they are held constant, we should see a constant outcome. But we do not. Postposing may or may not apply and when it does apply the displaced pronoun may appear in a range of positions. In (11a), for example, the pronoun postposes across a locative PP and a temporal adverb; in (11b), on the other hand, the pronoun postposes only across a temporal adverb. The variation that is possible here is particularly evident in the larger data-set discussed and analyzed in Bennett et al. (2012), which draws on a collection of 114 such announcements broadcast between 1999 and 2002. In 30 of these, the pronoun was not postposed. Of the 84 instances in which postposing did take place, 10 had the pronoun in absolute final position, and the remaining 74 had it in shifted but non-final position. Within this group of 74 ‘partial’ postposings, the pronoun appears in a range of different positions.

It would strain credulity to maintain that the differences in pronoun placement here reflect aspects of communicative intention or discourse context.⁸ One would have to hold, for instance, that there was some shift in the discourse context or in the communicative intentions of the speaker between the uttering of (11a) and the uttering of (11b) a few seconds later—a shift, moreover, that was relevant in some way to the positioning of the pronoun. None of this seems plausible. Rather, when listening to a sequence of hundreds of such productions, it is hard not to be struck by the intuition that placement of the pronoun has to do at its core with the rhythmic planning of the utterance. We develop exactly that intuition in what follows. For now, we can bring together our observations so far in the following way:

- (i) In Irish, non-subject pronouns in their weak forms may displace rightwards.
- (ii) This displacement may leave the pronoun in absolute clause-final position, or in a range of positions between the canonical object position and clause-final position.
- (iii) The displacement has no discernible semantic or pragmatic effect or trigger.

How might we understand all of this?

⁸The only proposals that we know of which attribute such force to pronoun postposing are those in Mulkern (2003, 2011). We consider those proposals in detail in Bennett et al. (2012).

3 SYNTACTIC MOVEMENT

We are by no means the first to tackle the problem of pronoun postposing. The earliest generative treatments were syntactic, and attempted in various ways to assimilate postposing to familiar syntactic processes. A rightward movement analysis was developed in Chung & McCloskey (1987), a paper in which the phenomenon of pronoun postposing played a central role. Nigel Duffield (1995:66-81) later developed an account which assimilates pronoun postposing to cliticization of the Romance or Germanic type. On this account the pronoun first undergoes a standard leftward cliticization—movement to a high position in the inflectional layer. Surface order is then accounted for by appeal to remnant movement. Here we focus on the strengths and weaknesses of the rightward movement analysis. Our goal is to show that no syntactic account is likely to be successful, and the observations and arguments which suggest that conclusion for rightward movement suggest exactly the same conclusion for analyses of the remnant movement type.⁹ We begin though by laying out what the syntactic movement account does well. Doing this will expose some important aspects of the phenomenon which we have not yet touched on and will also give us a set of measures against which we can later assess our own proposals.

3.1 APPARENT HEAD GOVERNMENT EFFECTS

Pronoun postposing exhibits a set of restrictions which are very reminiscent of the head-government requirement of the ECP. To see this, observe first that not all postposings are from object position. In the right circumstances, one can postpose subjects of complement small clauses (on which see Chung & McCloskey (1987), McCloskey (2012)). (12) illustrates a small clause complement (with accusative subject) to the unaccusative verb *tarla* ('happen'). Postposing here is freely possible:

- (12) ó thárla _ pósta air le corradh agus fiche bliadhain í
 since happen.PAST married on-him with more and twenty years her
 'since she happened to have been married to him for more than twenty years' DCA 186

Small clauses with accusative subjects also appear freely in discourse isolation, as we see in (13):

- (13) a. Bhí an t-ardeaspag ag teacht. É gléasta go niamhrach.
 be.PAST the archbishop PROG come him dressed resplendently
 'The archbishop was coming. He (was) dressed resplendently.' SR 19
- b. Fuarthas iad seo i bportach i mBaile Mhúirne. Iad sé fóid móna
 find.PAST-IMPERS them DEMON in bog in them six sods peat.GEN
 síos.
 down
 'These were discovered in a bog in Ballyvourney. They (were) six sods of peat deep.' SAIL
 75

In such cases, in contrast with the complement small clauses of (12), postposing is unavailable:

- (14) a. * _ gléasta go niamhrach é.
 b. * _ sé fóid móna síos iad.

⁹For arguments against the remnant movement proposal see Adger (1997: 12–16), Doyle (1998), Doherty (1997), and McCloskey (1999).

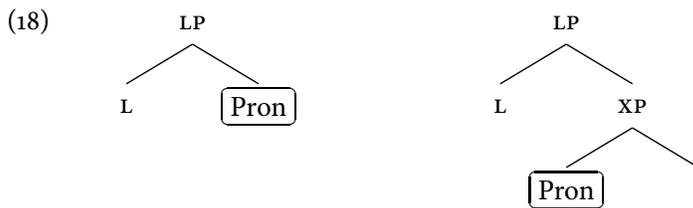
An additional restriction is that there is no postposing from the position following the marker of negation in small clauses (*gan*), whether that clause is a complement (15), or stands in discourse isolation (16):

- (15) a. Ó tharla gan iad riachtanach agam
 since happen.PAST NEG them necessary at-me
 ‘since they happened to be needed by me’ U 231
- b. *Ó tharla gan _ riachtanach agam iad
- c. Ba mhinic gan é sa bhaile.
 PAST often NEG him in-the home
 ‘He was often not at home.’
- d. *Ba mhninic gan _ sa bhaile é.
- (16) a. Gan é ariamh díomhaoin.
 NEG him ever idle
 ‘He was never idle.’ FF 9
- b. *Gan _ ariamh díomhaoin é.

This pattern seems to reflect a deeper generalization: there is apparently no postposing from subject position in small clause complements of functional heads (as opposed to complements of lexical heads like *tarla* ‘happen’). We can see this most clearly in a kind of absolutive construction with *agus* ‘and’ illustrated in (17):

- (17) a. Agus é i mBaile Átha Cliath.
 and him in Dublin
 ‘While he was in Dublin ... ’
- b. *Agus _ i mBaile Átha Cliath é.

What all this suggests (or at least suggested to Chung & McCloskey 1987) is that postposing is allowed in the contexts schematized in (18):



That is: a weak pronoun may postpose only if it is the complement of a lexical head or the specifier of the complement of a lexical head. This pattern was an expected one in the theoretical context of the time. It was natural to maintain that pronoun postposing, being a routine syntactic movement involving right-adjunction to a containing category, should be subject to the ECP. The ECP requires that the origin-site of movement be governed by a lexical (open-class) head, where we can understand government as in (19) (see, for instance, Chomsky & Lasnik (1993)):

- (19) A head H governs α iff α is (the specifier of) the complement of H.

With these assumptions in place, we can understand the contrasts documented above: the marker of negation is not a lexical head, nor is the element *agus*. In the case of root small clauses, there is no candidate lexical governor at all for the trace of pronoun postposing. Put another way, this account

assimilates pronoun postposing to other well-studied rightward movements such as Heavy NP Shift, which exhibit a similar array of sensitivities (as documented especially by Rizzi (1990: Chap. One)).

4 GROUNDS FOR SCEPTICISM

Despite these successes, there are reasons to be sceptical about the rightward movement analysis. There are, to begin with, theoretical concerns. One of the goals of the minimalist program for syntax, which we take to be an impressively successful enterprise, is to eliminate appeal to the ECP and to the relation of ‘government’ upon which it depends. In addition, the rightward movement account faces substantial empirical difficulties. In the subsections below, we lay out those challenges, with an eye to establishing later that the phonological account we develop does better at meeting them. If we can build an account of pronoun postposing which involves no appeal to the notion of government but which can match or exceed the head government account in descriptive coverage, we contribute to the goal of eliminating technological bloat from syntactic theory while still meeting fundamental descriptive responsibilities.

4.1 POSTPOSING IN THE ABSENCE OF A LEXICAL GOVERNOR

The principal strength of the account developed by Chung & McCloskey (1987) is the understanding that it makes available of the restrictions on postposing just summarized. But in this lies also one of its principal weaknesses. Problems become apparent when additional cases are considered—cases in which small clauses appear as complements to a different set of functional heads.

- (20) a. [seo [DP XP]]
 b. Seo na saighdiúirí ag teacht.
 DEMON the soldiers PROG come
 ‘Here come the soldiers.’

The element *seo* is a demonstrative particle and is proximate in its interpretation (see McCloskey (2004) for some discussion). In the use illustrated in (20), it takes a small clause complement (DP in composition with a predicative XP) and the interpretation is presentative—a deictic gesture towards a scene or state of affairs described by the small clause. Although *seo* is clearly a closed-class element, and so should not qualify as a head governor, postposing applies freely from the subject position of its complement:

- (21) a. Sa deireadh seo _ ag teacht [é].
 in-the end DEMON PROG come him
 ‘In the end, here he comes.’ PNG 83
- b. seo _ á marú [iad]
 DEMON PROG-PASS kill them
 ‘There they were being killed.’ SOOT 96
- c. nuair seo _ ar ais arís [mé]
 when DEMON back again me
 ‘when there I was back again’ M 65
- d. seo _ ag cur síos dom féin [é] ar an gcuma a bheadh sé léi
 DEMON PROG put down to-me REFLEX him on the way c be.COND he with-her
 ‘Here he goes describing to me how he would be with her.’ CLENS 15

A further particularity of the language is that it allows small clause WH-questions (McCloskey (2011b)):

- (22) a. Cá fhad Mac Alastair marbh anois?
 what long dead now
 ‘How long has McAllister been dead now?’ TGC 103
- b. Cén aois é?
 what age him
 ‘How old is he?’
- c. Cad fá laghad mo mheas orthu?
 what reason smallness my respect on-them
 ‘Why do I respect them so little?’ DO 41
- d. Cé mhéad scéal ar fad agat?
 what amount story in-all at-you
 ‘How many stories in all do you have?’ MSN 271

Pronoun postposing from the subject position of such small clauses is free:

- (23) a. Cá fhad _ pósta anois (iad)?
 what length married now them
 ‘How long have they been married now?’ CM 248
- b. Cá fada _ uainn (iad)?
 WH long from-us them
 ‘How far are they from us?’ LNT 61
- c. Níorbh fhios cá fhaid _ déanta (é).
 NEG-COP.PAST knowledge WH length done it
 ‘It wasn’t known how long it had been done.’ CC 14
- d. Cén t-achar _ i Meiriceá (thú)?
 what length-of-time in America you
 ‘How long have you been in America?’ DGD 26

Whatever one assumes about the syntax here (presumably a CP superstructure above the predicative core of the small clause), there is no plausible head governor in such cases to license a trace created by movement of the pronoun. Although there may well be silent structural projections between the small clause and the CP-layer in such cases, there is no reason to believe that such null functional heads could ‘lexically govern’ the origin site of postposing.¹⁰ If there really were a head-government requirement on postposing, then, it should fail in contexts like (23). Such worries are amplified by the observations of the next subsection, which considers the range of positions in which the displaced pronoun may ultimately appear.

¹⁰Similar observations surely hold of what look like small clause relative modifiers of the type in (i):

- (i) a. Níor mhórán lá imthighthe iad
 was-not many days gone them
 ‘It wasn’t many days that they had been gone.’ ONH 58
- b. Níor mhórán achair ag cainnt liom é.
 NEG.PAST much length-of-time.GEN PROG speak with-me him
 ‘It wasn’t a long time that he had been talking to me.’ ONH 93

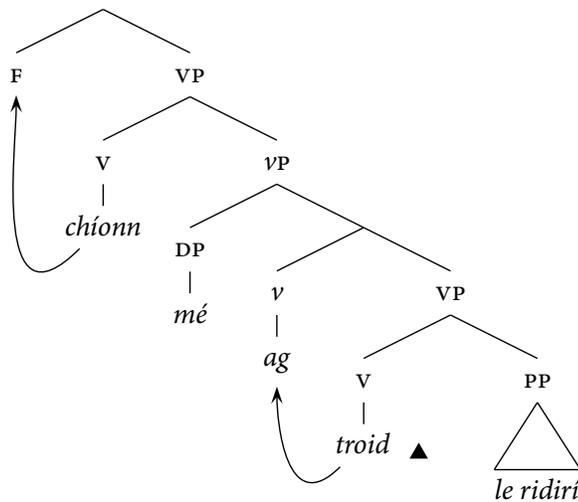
4.2 IMPLAUSIBLE LANDING SITES

Postposed pronouns often surface in positions that are, from a syntactic perspective, deeply implausible as landing sites for movement. The relevant cases involve, for the most part, small clauses with pronominal subjects.¹¹ In (24), for instance, we have small clause complements to perception verbs, in which a pronominal subject has been postposed. We have seen this phenomenon already; what is striking about cases like (24) is that the pronoun postposes to an intermediate position rather than clause-final position. In fact, it appears following the verb of which it is a subject, but preceding its complement.

- (24) a. má chionn tú _ ag troid mé le ridirí
 if see.PRES you PROG fight me with knights
 ‘If you see me fighting with knights ...’ DC 59
- b. ní dóigh liom go gcialag _ ráite é faoi aon bheithíoch
 NEG.PRES likely with-me C I-heard said it about any animal
 ‘I don’t think that I have heard it said about any animal’ AO 160
- c. Chloiseadh sé _ ag caint iad ar *Country Borns*
 hear.PAST-HABIT he PROG talk them on
 ‘He used to hear them talking about *Country Borns*.’ FB 48

Interpreted as syntactic movement, this would apparently involve a lowering of the pronoun into the middle of the predicate of the small clause, as illustrated in (25), where the arrows indicate postulated head movements and the triangle indicates the linear position of the subject pronoun:

(25)



Example (21d), repeated here as (26), makes the same point in a slightly different way:

- (26) seo _ ag cur síos dom féin é ar an gcuma a bheadh sé léi
 DEMON PROG put down to-me REFLEX him on the way C be.COND he with-her
 ‘Here he goes describing to me how he would be with her.’ CLENS 15

¹¹The syntactic structures presented below are largely plausible, we believe (for discussion and defence of many of the assumptions made, see Chung & McCloskey (1987), McCloskey (2011c)) but the details are rarely crucial for the points we want to establish.

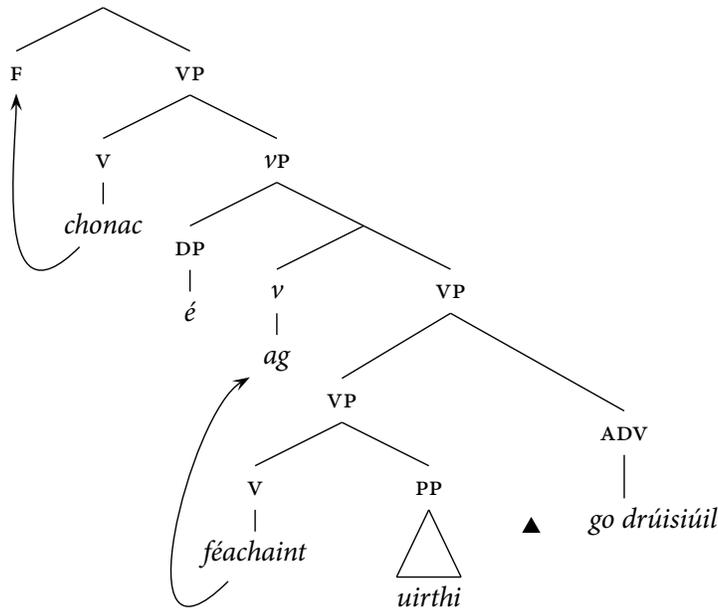
Here the small clause subject is postposed, as in (24), but appears in this case between two complements—another apparent lowering. (27) is of the same general form and also shows postposing of the small clause subject:

- (27) *chonac* _ *ag féachaint uirthi* é *go drúisiúil*
 I-saw PROG look on-her him lasciviously
 ‘I saw him looking at her lasciviously.’

LG 314

In this case, though, the subject pronoun appears to the left of a manner adverb which modifies the VP of the small clause complement. But that is in turn the VP of which the pronoun, in syntactic and semantic terms, is the subject. The relevant structure is (28), where the pronoun is once again shown in its syntactically expected position, and the triangle indicates its actual position in the pronounced string.

- (28)



Construed as a rightward syntactic movement, this is again a lowering into the VP. Putting this together with the observations of (24), we have the conclusion that pronoun postposing (in these instances) is a rightward lowering which sometimes places the lowered element among the complements of *v* and sometimes places it at the right edge of VP.

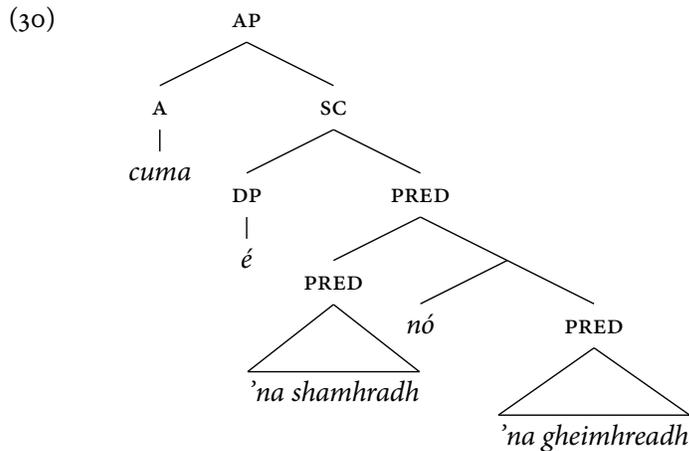
Of course, for all such cases, one might appeal to rightward extraposition of some XP around an already postposed pronoun; but there is little independent reason to believe in the required extrapositions, and for the final case (the manner adverbial *go drúisiúil* in (27)) the solution is particularly implausible, since there is no evidence that we know of that such adverbs are liable to extraposition.

Cases like (29) are more challenging still from a syntactic perspective. Here, the pronoun (the subject of the small clause complement to the predicate *cuma*) again undergoes postposing:

- (29) *is cuma* _ 'na shamhradh é *nó 'na gheimhreadh*
 COP.PRES NO-matter PRED SUMMER it OR PRED WINTER
 ‘It doesn’t matter whether it’s summer or winter.’

U 20

We can assume a syntactic structure along the lines of (30):¹²



In (29), the postposed pronoun appears inside the predicate of the small clause, another apparent lowering. Worse, though, is the fact that the pronoun appears in the middle of a disjunction—following the first disjunct but preceding the second. We know of no believable syntactic treatment of such cases. In particular, we know of no syntactic movement which can break a disjoined phrase into its component parts.¹³

Let us observe finally that pronoun postposing cannot always be construed in syntactic terms as a lowering. Consider, for instance, basic cases like (31):

- (31) a. shás _ romham isteach go socair é
 I-pushed before-me in steadily it
 ‘I pushed it steadily in before me.’ MBS 29
- b. Níor innseas _ d’aoinne i n-aon chor riamh ó shin é.
 NEG.PAST I-told to-anyone at-all ever since it
 ‘I never told it to anyone at all ever since.’ MSF 75

In such cases the object pronoun appears to the right of a sequence of adverbial phrases which modify the VP in which the pronoun originates. If pronoun postposing is a syntactic movement, such displacements must be construed as raisings rather than lowerings (VP adjuncts being syntactically higher than the ‘core’ VP which contains the base position of the object pronoun). What these observations jointly suggest is that if pronoun postposing is a syntactic movement, it is an exotic and ill-behaved one, blind to the hierarchical relations that are at the heart of syntactic computation.

We cannot say that it would be impossible to develop a syntactic account of these observations. For example, in a framework committed to leftward-only syntactic movement and no post-syntactic fixing of precedence relations (Duffield (1995), Kayne (2000)), various kinds of remnant movement might be able to derive the unusual constituencies that postposing is sensitive to. The challenge would be to make such an analysis something more than an exercise in self-confirmation. In particular, given section 2.2 above, and the more detailed treatment of the same issues in Bennett et al. (2012),

¹²Chung & McCloskey (1987) in fact take the particle *'na* to be a PRED head, which selects predicative nominals (NP rather than DP) and which agrees with the subject of the predication. On that view, SC of (30) is PREDP and coordination is at the level of the immediate projection of PRED. None of these issues is central for our concerns here.

¹³Technically, whether (29) would involve a violation of Ross’ (1967) Coordinate Structure Constraint depends on whether we understand that constraint as applying to lowering rules (or movement into, rather than out of, coordinate structures). To address that issue we would first have to concede the legitimacy of syntactic lowerings. Apparent subject lowerings in Chamorro (Chung (1990)) and Tagalog (Sabbagh (2005)) raise similar issues.

the movements that would be needed cannot be driven by factors or features grounded in the needs of discourse or information structure. Such movements would also need to be tightly constrained to avoid generating illicit cases of postposing (compare e.g. (17b) and (23d)). We will not take up the challenge of constructing or assessing such an alternative here.

4.3 PROSODIC CORRELATIONS

The observations of the previous subsections take on added force when we observe that the rightward movement analysis provides us with no obvious way of understanding the web of correlations with prosodic factors that is a central aspect of the postposing puzzle. We have already noted one aspect of that pattern, namely that only weak (that is, prosodically dependent) pronouns may undergo postposing. But the correlations go further. A particularly striking point concerns cases in which postposing may not apply. A number of such examples are gathered in (32):

- (32) a. B'fhearr liom gan [é] an baile a fhágáil go fóill.
 I-would-prefer NEG him the home leave.NONFIN yet
 'I'd prefer that he not leave home yet.'
- b. Agus [é] as baile.
 and him out-of home
 'And him away from home.'
- c. [É] de leithscéal aici go raibh sé ródhéanach
 it of excuse at-her c was he too-late
 'She had as an excuse that he was too late.' LG 221

(32) illustrates three positions from which pronoun postposing is impossible—subject position of a nonfinite clause (32a), subject position of a small clause complement to a functional head (32b) and subject position of a root small clause (32c). A crucial property of such cases is that, in the absence of postposing, the un-shifted pronoun may not be weak, but must rather be pronounced in its strong form—accented and with a long vowel. This is true even when, as in (32c), the pronoun is expletive and questions of focus and emphasis and so on are necessarily irrelevant (see Ó Baoill (1996: 90) and Lucas (1979: 94, §358(i)) for this observation with respect to *agus*). These phonological correlates form a central element of the general pattern, and they need to be integrated smoothly into the ultimate account of pronoun postposing.

5 INTERIM CONCLUSIONS

We can summarize our conclusions so far as follows. The syntactic movement analysis is successful in various ways, but it is also incomplete and troubling from the perspective of the syntactician. It is incomplete because it leaves unexplained those cases in which postposing unexpectedly succeeds; it is also incomplete in that it does not, in any of its current forms, provide a way of understanding a central aspect of the phenomenon—how it interacts with prosodic factors. It is troubling in that the range of positions in which the postposed pronoun may appear is very much at odds with reasonable expectations about syntactic constituency and about how constituency interacts with movement. It also has as its core a piece of theoretical machinery (the head government clause of the ECP) whose legitimacy is dubious. It makes sense, then, to explore alternatives. And since prosodic factors seem to be at the heart of the phenomenon, it makes sense to place those factors at the heart of the analysis. We do that here, building an analysis which pushes as far as possible towards a purely prosodic understanding of pronoun postposing. We then evaluate how successful that push has been.

Of course in establishing a correlation between prosodic factors and positioning of the pronoun, we do not thereby establish that a prosodic account is superior to a syntactic account. Such correlations might emerge from the interaction between syntactic and other factors. The question to ask is what analysis yields a deeper and better-integrated understanding of the observations. How could we make that assessment? A successful analysis, we think, should have the following properties. At the empirical level it should:

- (i) deal well with the basic cases,
- (ii) integrate the prosodic correlates of pronoun placement naturally,
- (iii) let us understand why there are no pragmatic or discourse effects,
- (iv) let us understand the optionality of postposing,
- (v) provide an understanding of the range of positions in which displaced pronouns may appear,
- (vi) incorporate whatever is right about the head-government condition, and
- (vii) gracefully incorporate those cases which pose difficulties for it.

At the theoretical level, it should accomplish at least the following:

- (viii) It should be well integrated with a reasonable theory of how prosodic structure is built (in Irish and in general). In particular, the theory of prosody appealed to should have solid independent grounding rather than being tailored to the needs of the problem at hand.
- (ix) It should be well integrated with a reasonable theory of how constituent order is determined (in Irish and in general).

With these criteria in mind, we move on to our own proposals.

6 PROSODY AND SYNTAX

The intuition that drives our analysis is that pronoun postposing emerges from an interplay between principles of rhythmic structuring and the phonological properties of pronouns. In working this intuition out, our analysis places pronoun placement squarely among the mechanisms which build prosodic structures. We thus develop a line of analysis which goes back to work by David Adger (Adger (1997, 2007)), and which has been explored by a number of others—Doyle (1998), McCloskey (1999), Elfner (2011a, 2012). Our goal, though, is to go farther than previous proposals in meeting the desiderata laid out in the previous section. We begin by laying out the theoretical assumptions that we bring to these tasks.

6.1 THEORETICAL BACKGROUND

The background that we assume (concerning prosodic structure and its relation to syntax) is relatively conventional and is informed by a great deal of work done over the past three decades. We take it as given that there is hierarchical structure in phonological representations, and furthermore that the relationship between syntactic constituency and prosodic constituency is not arbitrary. We also assume, as is conventional, that the correspondence between syntactic and prosodic representations is partial and imperfect.¹⁴ Understanding the syntax-prosody relationship, then, is a matter of understanding what the mechanisms are which guarantee non-arbitrary correspondence, but also what the mechanisms are which render the correspondence partial and opaque.

¹⁴There are important dissenters from this point of view—Michael Wagner (2005, 2010) and Marjorie Pak (2008) for instance—but indirect reference theories have represented the mainstream view since the mid 1980's. See, for instance, Selkirk (1984: especially Chap. 8) and Nespor & Vogel (1986).

To begin, we take from recent work by Junko Itô and Armin Mester (especially Ito & Mester (2012, 2013)) the view that there are just three prosodic constituent-types above the level of the word (we will have little occasion here to deal with prosodic organization below the level of the word). In order of inclusiveness, they are:

- (33) THE HIERARCHY OF PROSODIC CONSTITUENTS
- (i) the prosodic word (ω)
 - (ii) the phonological phrase (ϕ)
 - (iii) the intonational phrase (ι)

From Selkirk (2009, 2011), we adopt the core mapping principles in (34), which assume the theory of Bare Phrase Structure (Chomsky (1995a) and subsequent work) as their syntactic backend.

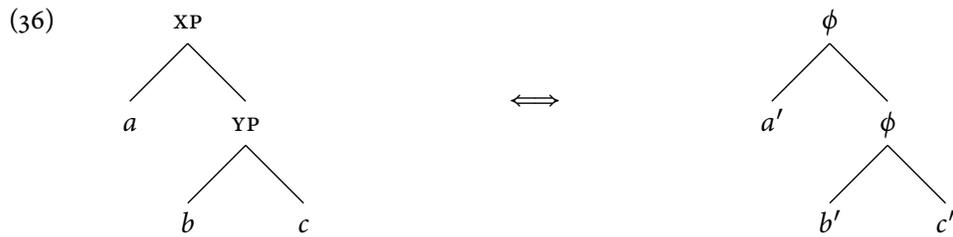
- (34) CORE MAPPING PRINCIPLES:
- (i) MATCH WORD: Prosodic words correspond to the heads from which phrases are projected in the syntax (heads which will often have a complex internal structure determined by head movement).
 - (ii) MATCH PHRASE: Phonological phrases correspond to maximal projections in the syntax.
 - (iii) MATCH CLAUSE: Intonational phrases correspond to those clausal projections which have the potential to express illocutionary force (assertoric or interrogative force, for instance).¹⁵

The mapping constraints of (34), unadorned, predict a closer relation between syntactic and prosodic constituency than we in fact find—in Irish in particular. The sources of disparity are both general and language-particular. Here, we review the general mechanisms behind such ‘imperfect’ mappings. The language-particular effects will be discussed in the following sections, with the phenomena that motivate them. We begin by being more precise about how we understand MATCH PHRASE, adopting from Elfner (2012: Chapter One, p. 28) the formulation in (35):

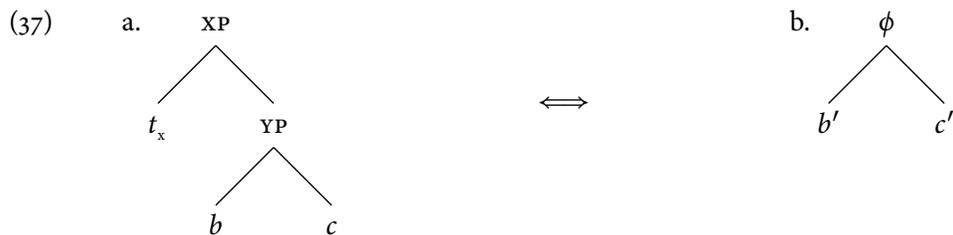
- (35) MATCH PHRASE
- Given a maximal projection xP in a syntactic representation S , where xP dominates all and only the set of terminal elements $\{ a, b, c, \dots n \}$, there must be in the phonological representation P corresponding to S a ϕ -phrase which includes all and only the phonological exponents of $a, b, c, \dots n$.

For simple cases, (35) has the expected and familiar consequences, giving rise to syntax-prosody correspondences like those in (36), where n' indicates the phonological exponent of the terminal element n :

¹⁵We could syntacticize this mapping principle by assuming that illocutionary force is signalled by a designated functional head, perhaps one of the heads in the c -layer, as in Rizzi (1997), and that it is the presence of this head that the mapping principles are sensitive to. Alternatively, we could assume a more direct linkage between pragmatic and prosodic principles.



But now consider cases in which one of the terminal elements has no phonological exponent—if, for example, *a* of (36) were a trace of head-movement. The predicted outcome in that case is (37):



The formulation of MATCH PHRASE in (35) licenses a ‘flattening’ of syntactic structure in the sense that in the prosodic representation of (37b) a single ϕ -phrase does double duty, as a correspondent of XP which dominates the phonological exponents of *b* and *c*, as a correspondent of YP which does the same. Two maximal projections in syntax ‘collapse’, to speak metaphorically, into a single ϕ -phrase in phonology. We will shortly examine cases in which this abstract scheme does vital empirical work.¹⁶

We also adopt two general conventions for interpreting the constraints in (34), both of which eliminate non-branching structure from prosodic representations.

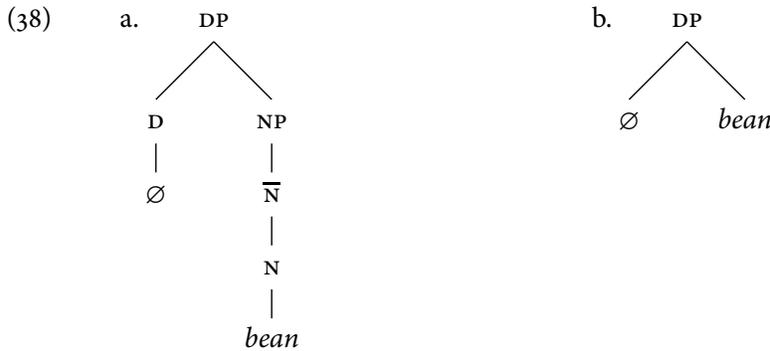
In its present form the system of constraints in (34) underdetermines the outcome of syntax-prosody mappings in certain circumstances. The first such circumstance involves maximal clauses. A CP which carries illocutionary force should be mapped to an ι -phrase by the principle MATCH CLAUSE. But CP’s are also maximal projections, and so should be mapped to a ϕ -phrase by MATCH PHRASE. A similar issue arises for syntactic elements which are simultaneously maximal and minimal (in the system of Bare Phrase Structure, which we assume here). Pronouns (members of the category D which take no complement) are in this category. They are minimal because they contain no proper subparts, maximal because they pass on no label to containing expressions. Given the mapping principles of (34), then, a pronoun should map to a prosodic word (being a minimal category D), but should also map to a ϕ -phrase (being a maximal category DP). The same ambiguity holds for PP’s which consist only of a prepositional head P, such as *air* ‘on him’.

We assume that such equivocations are not tolerated. Specifically, the principles which link lexical items with prosodic words and certain clause-types with intonational phrases take priority over MATCH PHRASE. As a consequence, pronouns will preferably map to prosodic words (as will, for example, PP’s which consist only of a prepositional head) and root CP’s will preferably map to intonational phrases, not to ϕ -phrases.¹⁷

¹⁶(35) also licenses a structure involving non-branching recursion, in which there are two distinct ϕ -phrases corresponding to XP and YP respectively. It is a question whether this additional option should be allowed. Elfner (2012) presents evidence from Irish that it should not. If the possibility of non-branching recursion is to be excluded in principle, we should add a requirement that prosodic structures should be the most economical structures (in terms of number of nodes) which satisfy matching and other requirements (see Selkirk (1996)). The effect of such a requirement would again be to ‘flatten’ prosodic representations. See also Inkelas & Zec (1995), Tokizaki (2006), Truckenbrodt (1999), Uechi (1998).

¹⁷Whether this prioritizing emerges from a language-particular constraint-ranking or is more deeply embedded in the mapping system is a question we cannot take up here.

This leaves open the possibility that a single syntactic constituent (say, a CP) could correspond to two independent, but nested prosodic constituents (say, a ϕ -phrase immediately dominated by an ι -phrase). Indeed, the mapping principles in (34), left to their own devices, will give rise to many cases in which a ϕ -phrase consists exclusively of a phonological word. Consider the Irish DP *bean*, for instance, which means ‘a woman’, and which includes, on most understandings, a null indefinite determiner. The syntactic representation for such a phrase will be either (38a) (assuming X-Bar theory) or (38b) (assuming Bare Phrase Structure):



In (38b), the noun *bean* is simultaneously maximal and minimal in syntactic terms. We might then expect the prosodic representation in (39a).



We suggest that such non-branching structures are not tolerated in prosodic representations (in Irish at least) and that in all such cases only the prosodic word is projected (39b), not the higher ϕ -phrase (39a). Notice that we have in this another ‘flattening’ of prosodic structure by comparison with syntactic representations.¹⁸

More important for the particulars of our account, though, will be the (conventional) claim that the syntax-prosody mapping is also rendered opaque because prosodic phrasings are optimized to meet certain purely phonological desiderata which have no parallel in syntax (Nespor & Vogel (1986), Inkelas & Zec (1995), Selkirk (2000, 2011)). Such ‘optimizing distortions’ may involve both hierarchical organization and linear order, and they will be crucial for our proposal about pronoun postposing. We will consider them in the following section as we introduce the Irish data which motivate them.

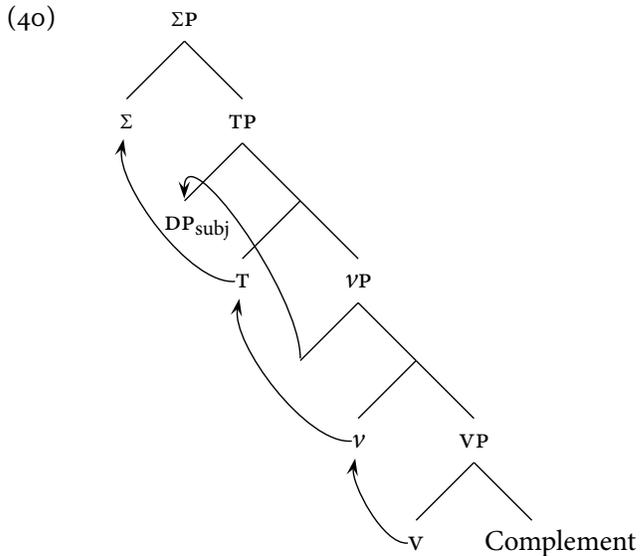
There are a number of ways in which our proposals might be integrated into a larger theoretical framework. Here we assume that the unordered hierarchical representations provided by syntax are subject to a once-off optimization—one in which matching constraints, constraints governing hierarchical aspects of prosodic structure, and purely phonological constraints conspire and compete simultaneously and in parallel to determine optimal outputs (as in Optimality Theory; Prince & Smolensky (1993/2004), Selkirk (2011)). It is an important property of that overall framework that for a given syntactic input there need not be a unique prosodic outcome. Given the variability in phrasing evident in the Irish data (which we outline in the next section), this is a welcome consequence. For our own

¹⁸We implement this principle below by assuming that the constraint BINARITY outranks MATCH PHRASE, thereby licensing departures from strict syntax-prosody isomorphisms when such isomorphisms would include non-branching structure. If languages vary on this point, MATCH PHRASE and BINARITY must be constraints which can compete, as we assume here.

core concerns what will be crucial at almost every point is that a certain phrasing pattern be possible, not that it be the only phrasing allowed.

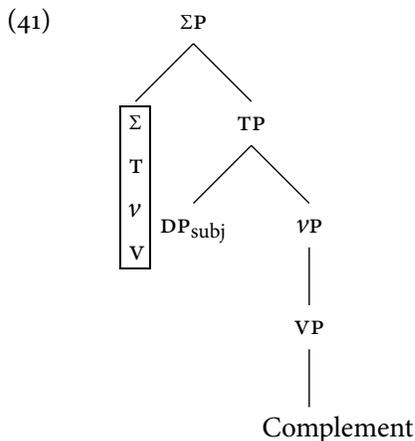
6.2 PROSODIC STRUCTURE IN IRISH—A FIRST SKETCH

Given this background, consider now what prosodic structure we would expect for a simple finite clause in Irish. We assume the syntactic analysis schematized in (40):



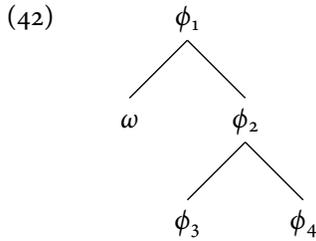
In (40), the ‘inflected verb’ is a fusion of at least four syntactic atoms—a verbal stem, a light verb *v*, a specification of tense, and a specification of polarity (Σ). The subject begins life inside the *v*P in which it is thematically licensed, but raises to a position immediately below the expression of polarity. In this way, vso order is derived (Chung & McCloskey (1987), McCloskey (1991, 1996b, 2011b,c)).

What do we now expect as the prosodic structure of a vso clause? Consider (41), which is just (40) with phonologically null elements (e.g. traces) removed. The boxed element at the left represents the complex inflected verb formed by successive applications of head-movement through the extended projection of *v*.¹⁹



¹⁹If trace realization is one component of linearization (as in Frampton (2004) or Fox & Pesetsky (2005)), (41) emerges as the direct outcome of those procedures.

What should emerge from the syntax of (41) is the prosody of (42).²⁰

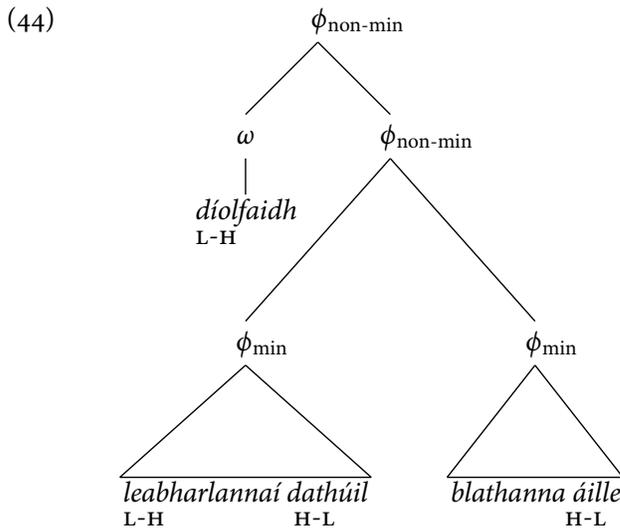


In (42), the inflected verb forms a prosodic word ω and phrases by itself; there are then ϕ -phrases corresponding to the subject (ϕ_3), to the complement (ϕ_4), and also to the constituent which includes the sequence of subject and complement (ϕ_2).

This is in fact an attested pattern, as confirmed both by controlled production studies and by observation of naturally occurring data. Elfner (2011b, 2012, 2013) identifies two pitch accents which function as boundary markers in Conamara dialects —one rising (L-H) and one falling (H-L). In (43) for example:

- (43) Díolfaidh leabharlannaí dathúil blathanna áille.
 sell .FUT librarian attractive flowers beautiful
 ‘An attractive librarian will sell beautiful flowers.’

there are L-H accents on the first stressed syllable of the verb and the first stressed syllable of the subject DP. There is also an H-L accent on the final stressed syllable of the subject and of the object. This distributional pattern can be understood in terms of the prosodic structure in (44) (predicted by the matching principles) and the mechanisms in (45).



(44) incorporates an extra annotation—distinguishing those ϕ -phrases which are minimal (dominating no other ϕ -phrase) and those which are not. The specific hypothesis developed and defended in Elfner (2012), is that in (45):

²⁰When the clause is a root clause, or otherwise carries illocutionary force, the topmost node of (42) will in fact be an intonational phrase. For expositional purposes we will ignore this topmost layer of structure except when it is directly relevant to our concerns.

- (45) a. L-H accents associate with the stressed syllable of the leftmost prosodic word of all non-minimal ϕ -phrases.
 b. H-L accents associate with the stressed syllable of the final prosodic word of all ϕ -phrases.

This pair of hypotheses yields an understanding of the distribution of accents in transitive clauses such as (43). The inflected verb hosts an L-H accent because it is at the left edge of a non-minimal (in fact maximal) ϕ -phrase; the first word of the subject DP similarly hosts an L-H accent, being initial in the non-minimal ϕ -phrase which includes both the subject and the object; the final word of the subject DP hosts an H-L accent because it is at the right edge of a ϕ -phrase; and the final word of the object DP hosts an H-L accent because it too is at the right edge of a ϕ -phrase (three such phrases, in fact). For further arguments and exemplification, including extensions to much more complex syntactic structures than (43), see Elfner (2012), especially Chapters Two and Three.

What is encouraging about these results is that the phrasing they imply is consistent with earlier work on prosodic phrasing in a different dialect (Donegal Irish) by Bennett (2008), a study which relied on the distribution of pauses rather than on the distribution of accents. The phrasing in (44), for instance, is also signalled by the presence of sometimes quite long pauses separating the finite verb from the subject, as in the examples of (46), with their associated sound-files (‘||’ indicates a pause):

- (46) a. Ach deireadh || an cailín léi || go raibh sí sásta.
 but say.PAST-HABIT the girl with-her C was she content
 ‘But the girl would say to her that she was content.’ [Sound-File](#)
 b. agus bhain || an fear ab óige de chlann an Rí é.
 and win.PAST the man youngest of family the King it
 ‘and the youngest of the King’s sons won it. [Sound-File](#)

The prosodic structure in (42)/(44) closely mirrors the corresponding syntax. But this is not the only possible outcome for a vso clause. Also very common are phrasings in which the verb and the subject together form a prosodic constituent, to the exclusion of other material (an example is given in (52) below). Why should such departures from the ‘ideal’ of full syntax-prosody isomorphism be common? They are common, we maintain, because they reflect the activity in the language of constraints governing eurhythmy.

A large body of research demonstrates that optimal prosodic structures conform to (47).²¹

- (47) BINARITY
 Optimal prosodic constituents are binary branching.

It follows from (47) that all of the following phrase-types satisfy binarity requirements equally well:

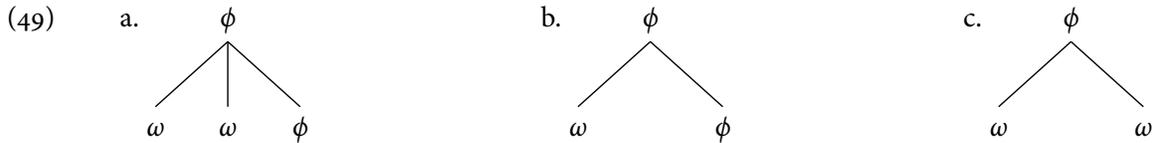
- a ϕ -phrase having two ϕ -phrases as immediate constituents,
- a ϕ -phrase having two prosodic words as immediate constituents,
- a ϕ -phrase having a prosodic word and a ϕ -phrase as immediate constituents.

However, we also take from Revithiadou (2004), Revithiadou & Spyropoulous (2009), and others the idea that optimal prosodic constituents are balanced, being roughly equal in length and having as subconstituents phrases of the same type. Myrberg (2010, 2013), for example, proposes the constraint in (48):

²¹For relevant discussion and alternatives see for instance Ghini (1993), Inkelas & Zec (1995), Ito & Mester (1992, 2006, 2009a), Mester (1994), Selkirk (2000).

- (48) **EQUAL SISTERS**
 Sister nodes in prosodic structure should be instantiations of the same prosodic category.

In combination with **BINARITY**, the **EQUAL SISTERS** constraint suggests a ranking for the three prosodic structures in (49):



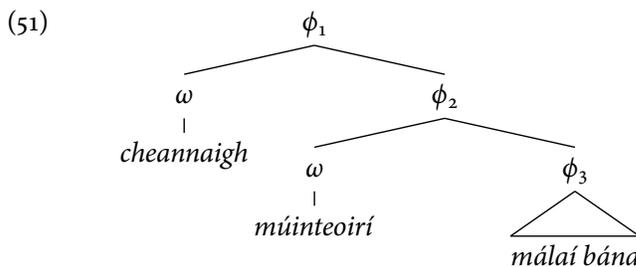
(49a) satisfies neither **BINARITY** nor **EQUAL SISTERS**. (49b) satisfies **BINARITY**, but not **EQUAL SISTERS**. (49c) satisfies both constraints. All other things being equal, then, (49c) should be favored over (49b), which should in turn be favored over (49a).

Both of these constraints have behind them a long history of thinking about the components of eurhythm in natural language (among many others, see Nespor & Vogel (1986), Gussenhoven (1991), Ghini (1993), Tilsen (2011, 2012), and references there). Recent work has even suggested a functional basis for the structural parallelisms enforced by **EQUAL SISTERS** (Krivokapić (2007)). Revithiadou (2004) and Revithiadou & Spyropoulos (2009) have further argued that the influence of phonological balancing constraints can lead to quite radical disparities between syntactic and prosodic constituency (see also Nespor & Vogel (1986), Selkirk (2011:§3.1)). This will be important in what follows.

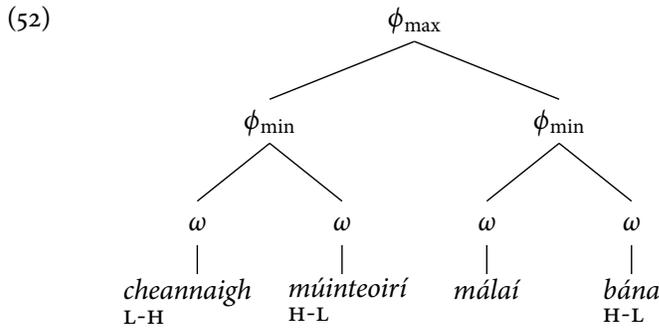
Structures such as (42)/(44), which fully satisfy **MATCH PHRASE**, will always encompass a violation of the **EQUAL SISTERS** constraint at the level of the topmost ϕ -phrase. Given the syntax in (41) and the mapping principles in (34), this much is inevitable; the finite verb (which must correspond to a prosodic word) will always have as its sister a maximal projection (which must correspond to a phonological phrase), making a violation of **EQUAL SISTERS** inescapable. It is this fact, we argue, which makes departures from the ideal of (42) so frequent. In considering the alternatives that in fact arise, we can begin with cases like (50), in which the subject consists of a single prosodic word:

- (50) Cheannaigh múinteoirí málaí bána.
 buy.PAST teachers bags white
 ‘Teachers bought white bags.’

For such cases (discussed in detail in Elfner (2012: Chap. 4)) the mapping principles of (34) and (35) will yield the structure in (51):



Such a structure involves two violations of the **EQUAL SISTERS** constraint (with respect to ϕ_1 and with respect to ϕ_2). What actually emerges in such a case is (52), in which the subject is phrased with the finite verb, and in which both violations of **EQUAL SISTERS** are thereby eliminated. (For detailed discussion and evidence, see Elfner (2012: Chap. 4)).



The phrasing in (52) is intuitively accurate and more importantly it predicts, in combination with (45), the empirically correct distribution of pitch accents in (50) (which we have marked in (52)). The same pattern can clearly be discerned in the naturally occurring examples of (53), with their associated sound-files.

- (53) a. Sciob an cat an t-eireaball den luch.
 cut.PAST the cat the tail off-the mouse
 ‘The cat cut the tail off the mouse.’ [Sound-File](#)
- b. Má chuaigh na mílte go Cnoc Mhuire, chuaigh na mílte ag an Oireachtas i
 if go.PAST the thousands to Knock go.PAST the thousands to the in
 Leitir Ceanainn freisin.
 Letterkenny also
 ‘If thousands travelled to Knock, thousands also travelled to the Oireachtas in Letterkenny.’
[Sound-File](#)

Notice in particular the often dramatically long pauses which follow the initial ϕ -phrase in such examples. The distribution of accents in the first clause of (53b) is also consistent with the analysis developed in Elfner (2012) and discussed in section 6.2 above—L-H on the initial verb, H-L on the noun *mílte*.²²

The rebracketing in (52) thus emerges from a negotiation between purely prosodic pressures (EQUAL SISTERS) and the mapping principles that govern syntax-prosody correspondences (MATCH PHRASE). In the terms of Optimality Theory (Prince & Smolensky (1993/2004)), EQUAL SISTERS (ES) outranks MATCH PHRASE (MP). The prioritization of a strictly phonological demand thus derives a pattern of prosodic constituency that only partially resembles the syntactic representation.²³

²²Things are less clear for the second clause of the coordination, where informational structure effects having to do with parallelism add an extra layer of complexity, resulting, for instance, in de-accenting, and perhaps proclisis, of the repeated finite verb.

²³There is a simplification here, in that the ranking in (54) suggests that MATCH PHRASE can always be sacrificed to satisfy eurhythmic constraints like BINARITY and EQUAL SISTERS. Given the logic of constraint ranking in classical OT this would lead us to expect that (44), for example, should be ill-formed (because it violates EQUAL SISTERS but satisfies MATCH PHRASE).

As Elfner (2012) points out, this difference in well-formedness correlates with the number of constraint violations: (51), which violates EQUAL SISTERS twice, undergoes rebracketing (52); but (44), which violates EQUAL SISTERS only once, does not. What is needed, it seems, is a theory which is more tolerant of structures that violate a relatively high-ranked constraint. Such less than optimal structures would be recognized by the grammar but defined as flawed to some degree, perhaps as reflected in frequency of use. See Elfner (2012) (Chapter Four especially) for an account of syntax prosody interactions in such a framework—Harmonic Grammar (Legendre et al. (1990)), in which constraints are weighted rather than ranked. Space limitations prevent us from addressing these important questions more extensively here.

(54)

	$[\Sigma_P \text{ cheannaigh } [_{TP} [_{DP} \text{ múinteoirí}] [_{VP/DP} \text{ málaí bána}]]]$	BINARITY	ES	MP
a.	$(\phi (\phi \text{ cheannaigh } \text{ múinteoirí}) (\phi \text{ málaí bána}))$			**
b.	$(\phi \text{ cheannaigh } (\phi \text{ múinteoirí } (\phi \text{ málaí bána})))$		*!*	*
c.	$(\phi \text{ cheannaigh } (\phi (\phi \text{ múinteoirí}) (\phi \text{ málaí bána})))$	*!	*	

When, however, re-phrasings such as those to be heard in (53) are less beneficial (when the subject is, for instance, syntactically and prosodically substantial, as in (46b)), there is a greater chance that the phrasing predicted by the mapping principles alone will actually emerge. See Elfner (2012) for a related model that engages more directly with the observed frequencies of each variant.

This is the foundation upon which we will build an understanding of postposing. Viewed in this light, postposing will emerge as another eurhythmic effect, reflecting the mechanisms we have described here, in interaction with another, and arguably related constraint which we introduce in the next section. As we develop this argument, we will be guided by the methodology that brought us this far—relying in part on careful instrumental investigation of the kind found in Elfner (2012), in part on theoretical deduction (on the principle, in particular, that similar cases should be treated in similar ways), and in part on impressionistic observation of naturally occurring data. We take it that each of these aspects of the investigation should inform and refine each other aspect.

7 POSTPOSING AS PROSODIC REPAIR

7.1 THE CORE PROPOSAL

It is an unavoidable consequence of the proposals laid out so far that in a finite clause, the direct object will always be placed, by the default linearization routines, at the left edge of at least one ϕ -phrase—that corresponding to the verbal projection which immediately contains it.²⁴ This conclusion holds under all of the analyses of objecthood in Irish that we know of—if the object is a complement of v , if it raises to the specifier of v (as in Chomsky (2008)), or if (as in Bobaljik & Carnie (1996)) it undergoes full Object Shift, moving to the specifier position of v (as is clearly the case in nonfinite clauses). In the first two variants, the relevant ϕ -phrase will correspond to VP ; on the third, it will correspond to vP . Our working assumption here will be that the third approach is correct, and that will matter at certain points; our core proposal, however, can be understood in the context of any of these theories.

The observation of the previous paragraph is an important one, because the left edge of a ϕ -phrase is a position of prosodic strength, inhospitable to weak elements. If the direct object is realized as a pronoun in its weak form, then, the result will be a flawed phonological object—one in which a dependent and accentless element occupies a position reserved for the prosodically strong. Our core proposal is that pronoun postposing is a repair for that prosodic imperfection,²⁵ and furthermore

²⁴This is true except for the case in which the object is syntactically minimal (a pronoun or other one-word XP) and is the only surviving element of vP . In this circumstance, no ϕ -phrase will be projected corresponding to vP .

²⁵Our proposals share an important intuition with Adger’s (1997) account, namely that normal syntactic routines risk placing weak pronouns in positions incompatible with their inherent stresslessness and are therefore overridden. On Adger’s account, however, most objects must shift leftwards to a vP -external position, a position to which nuclear stress is necessarily assigned. Weak pronouns may not participate in this otherwise obligatory movement because of their inherent stresslessness. They therefore remain in their thematic positions. On that proposal, weak pronouns appear further to the right than other direct objects not because they have displaced rightwards, but rather because they have failed to undergo an otherwise required leftward movement. We will not attempt a detailed comparison between our proposal and Adger’s

that it is just one among a range of available repairs.

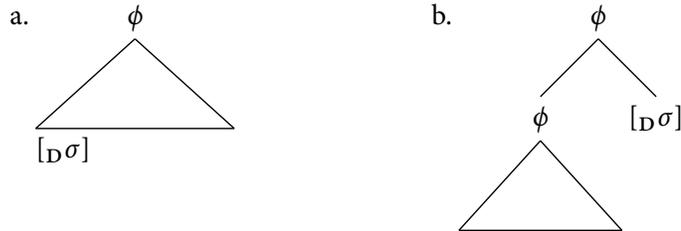
Let us be more specific. The phonological constraint which we take to be at the heart of these interactions is called *STRONG START* by Selkirk (2011). This is a constraint which penalizes elements at the left edge of a phrase, if they are relatively weak. There are various ways in which the constraint might be formalized, but we will work here with the version in (55):²⁶

- (55) **STRONG START**
 Prosodic constituents above the level of the word should not have at their left edge an immediate sub-constituent which is prosodically dependent. For our purposes here, a ‘prosodically dependent’ constituent is any prosodic unit smaller than the word.

We take it that *STRONG START* is one of a family of constraints which conspire to reward prosodic phrasings which are evenly balanced (note its similarity to Myrberg’s (2010) *EQUAL SISTERS* discussed above).²⁷ There could well be separate (or gradiently violated) constraints which differ based on the number of levels of separation between the left and right sisters (structures in which the left sister is two steps lower than the right being less favored than structures in which there is just a one-step difference between the sisters). Our larger goals can be met in the context of a number of different understandings of *STRONG START* and its place in the firmament of prosodic constraints, but we will work here with the specific formulation in (55).

As we have seen, objects in *vso* clauses will always be exposed at the left edge of a ϕ -phrase, that corresponding to *vP*, on the assumptions we are currently working with. It follows in turn that if the object is a weak pronoun (by definition less than a prosodic word) then there will be a violation of *STRONG START* to deal with. If, however, such a pronoun were instead to appear at the right edge of the containing ϕ -phrase, as in (56b), *STRONG START* would not be violated.

- (56) **PRONOUN POSTPOSING (INITIAL):**



(56) assumes that postposed pronouns are right-adjoined at the level of the ϕ -phrase. The core of

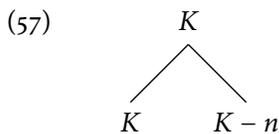
here, except to observe that many of the syntactically bizarre options for pronoun displacement discussed in section 4.2 seem on the face of it to be hard to reconcile with the idea that the pronoun in such examples is in its base position. The ‘partial’ postposings discussed in section 8.3 might also raise questions for this approach (they would have to involve variable positioning for certain adjuncts and arguments rather than variable positioning for the pronoun). However, we do not know if the relevant observations extend to Scottish Gaelic, the main focus of Adger’s investigation, and the two varieties may work differently despite superficial commonalities.

²⁶See Elfner (2012: 157) for a slightly different formulation, with a subtly different range of empirical consequences. Both of these versions are in turn slightly different from the formulation in Selkirk (2011). The formulation in (55) has as a consequence that a ω appearing at the left edge of a prosodic constituent with a ϕ as a right sister will not induce a violation. See our discussion of *vso*-structures at (42) above for evidence that this is the correct interpretation. *STRONG START* is clearly active in the phonology of Irish; see Elfner (2012: Chapters Three and Four) for extensive discussion of the role it plays in shaping other aspects of prosodic constituency in Conamara Irish. Harizanov (2013) discusses a range of effects in Macedonian and Bulgarian which he attributes to *STRONG START*, in a formulation close to that in (55). Sabbagh (2011) discusses a counter-constraint *WEAK START*, which seems to drive certain apparent lowerings in Tagalog.

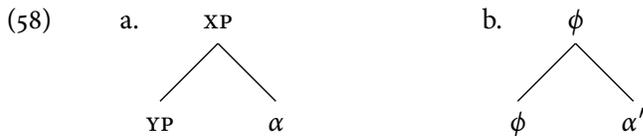
²⁷One might take *STRONG START* to be a positionally sensitive (that is left-edge) version of *EQUAL SISTERS*.

our proposal could, we think, be maintained with different assumptions, but we assume adjunction here for several reasons. Firstly, Elfner (2012: 224) presents evidence based on the distribution of pitch accents that prosodic adjunction is the right interpretation of the positioning of the pronoun. Secondly, we take from recent work by Junko Itô and Armin Mester (for example Ito & Mester (2006, 2009b, 2012)) the idea that prosodic adjunction has a particularly central role in constructing optimal phonological representations.

We adopt an understanding of adjunction that is widespread in research on prosodic phonology, though sometimes only implicitly. In our usage, any structure of the form in (57) counts as an instance of adjunction, with K ranging over levels of the prosodic hierarchy (the linear order of K and $K - n$ is irrelevant; see also Ito & Mester (2006, 2009a, 2012), Myrberg (2010), Elfner (2012: Chap.3: 134–146), and Sabbagh (2011)).



One consequence of this interpretation is that adjunction will be ubiquitous in prosodic representations by comparison with syntax. A syntactic structure like (58a) will have the prosodic representation in (58b):



In the syntactic representation (58a), α is not adjoined; in its prosodic counterpart (58b), however, α' is right adjoined to a complex two-segment ϕ -phrase. The crucial syntactic distinction between XP and YP being lost, so to speak, in the translation from syntax to prosody. It will become clearer as we proceed why these commitments matter and what role they play in our analysis. For now, we just need to be clear about how this interpretation interacts with other terms we will be using. We assume (59).²⁸

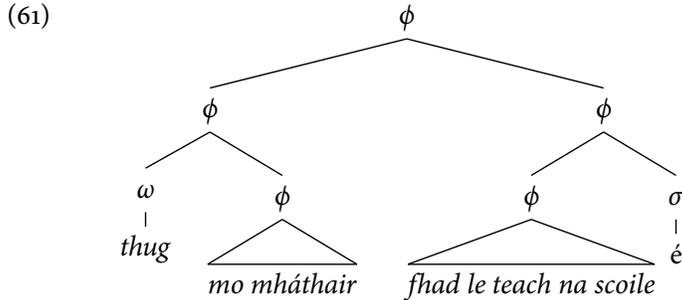
- (59) a. a category c *dominates* α iff α is contained within all of the segments of c .
 b. a category c *includes* α iff α is contained within at least one segment of c .

In (58b), then, α' is included in ϕ , but not dominated by it. This structure is exactly mirrored in the schematic outline of postposing (56)-b. There, the displaced pronoun is still included in ϕ , despite having shifted away from its ‘base’ position lower in the structure. We emphasize the distinction between inclusion and domination here because our understanding of MATCH PHRASE (35), and its interaction with postposing, hinges on this very point. We expand on these matters in sections 7.2 and 8.3.

With this much as background, we can illustrate the basics of our proposal. Consider (60), for which we expect the prosodic structure in (61), which presupposes the rebracketing of verb and subject discussed in the previous section.

²⁸For the syntactic analog, see May (1985), Chomsky (1986), Chomsky (1995b: Chap. 4), Kracht (1998), Chomsky (2001), Chametzky (2003), McCloskey (2006), among many others. Our presentation here is informal, but see Kracht (1998) for a full formal treatment.

- (60) Thug mo mháthair _ fhad le teach na scoile $\boxed{\acute{e}}$.
 bring.PAST my mother as-far-as house the.GEN school.GEN him
 ‘My mother brought him as far as the school.’



This, in a nutshell, is pronoun postposing. It is the system’s response to the possibility of prosodic structures which are flawed in incorporating a violation of STRONG START. But there can be more than one way to repair structures that are rhythmically flawed. And in fact for contemporary varieties of Irish there seem to be at least three distinct ways to resolve potential violations of STRONG START:

- (62) OPTION A: Postpose the pronoun so that it appears at the right edge rather than at the left edge of a ϕ -phrase—(56).
 OPTION B: Leave the pronoun in its syntactically expected position, but cliticize it to a preceding word or phrase, thereby removing it from the left edge of the ϕ -phrase and avoiding a violation of STRONG START.
 OPTION C: Parse the pronoun as a prosodic word, in which case it is accented, no violation of STRONG START is incurred, and no repair is motivated.

Given the options of (62), what we have called the ‘optionality’ of pronoun postposing (an inaccurate term, as it now turns out) in fact reflects the availability of three alternative repairs, only one of which involves displacement of the offending pronoun from its expected position. (63) is possible beside (60):

- (63) Thug mo mháthair $\boxed{\acute{e}}$ fhad le teach na scoile.
 bring.PAST my mother him as-far-as house the.GEN school.GEN
 ‘My mother brought him as far as the school.’

But the single orthographic form in (63) masks two distinct pronunciations, depending on whether the pronoun is accented (c) or in its weak form, enclitic on the preceding prosodic constituent (b):

- (64) a. (ϕ hæg mə wə:her^j) (ϕ $\boxed{\acute{e}}$ ad le t^jax nə skal^jə)
 b. (ϕ hæg mə wə:hər^j $\boxed{\acute{e}}$) (ϕ ad le t^jax nə skal^jə)

The same options can be seen in the spontaneously produced examples of (65) and (66) with their associated sound-files: Option b is at play in (65); option c in (66).

- (65) a. Cuirfear $\boxed{\acute{e}}$ sa reilg áitiúil i ndiaidh Aifreann an mheán lae ar an
 will-be-buried him in-the graveyard local after mass the midday on the
 Dún Mór Dé Céadaoine
 Dunmore Wednesday
 ‘He will be buried in the local graveyard after midday mass in Doonmore on Wednesday.

[Sound-File](#)

- b. (ϕ kær^jhær $\boxed{\text{ə}}$) (ϕ sə r^jɛl^jək^j a:t^ju:l^j) ...
- (66) a. Nuair a chonaic an bhanríon $\boxed{\text{iad}}$ ag teacht.
 when c see.PAST the queen them PROG come
 ‘when the queen saw them coming’ **Sound-File**
- b. (ϕ nər^j ə xanik^j ə wari:n) (ϕ $\boxed{\text{iəd}}$ ət^jaxt)

We see, then, that the three options are freely available in principle.²⁹

7.2 THE CONSTRAINTS AND THEIR RANKING

In implementing the analysis, we will assume an additional constraint, which we will name NO SHIFT, whose effect is to require that precedence relations in phonological representations should be isomorphic to the linear ordering of terminal elements determined from the syntactic representation.

- (67) NO SHIFT
 If a terminal element α is linearly ordered before a terminal element β in the syntactic representation of an expression E , then the phonological exponent of α should precede the phonological exponent of β in the phonological representation of E .

The interpretation of this constraint is intended to be neutral with respect to the various ways in which linear order might be ‘read off’ syntactic structure (cf. Kayne (1991), Frampton (2004), Fox & Pesetsky (2005), López (2009), Elfner (2012) for more specific implementations). What matters for our purposes is that NO SHIFT penalizes pronoun postposing, and any other ‘phonological’ displacements which result in orderings which are not faithful to those determined by syntactic linearization routines.

²⁹Other factors, of course, may intervene to favor one option over the other. Given our general approach, those factors should be prosodic. In that light, consider a small variation on (60):

- (i) Thug mo mháthair $\boxed{\text{é}}$ chun tí.
 bring.PAST my mother him to house .GEN
 ‘My mother brought him to the house.’

If the object pronoun is weak, then of course postposing (option A) is possible:

- (ii) a. Thug mo mháthair _ chun tí $\boxed{\text{é}}$.
 brought my mother to house .GEN him
 ‘My mother brought him to the house.’
- b. OPTION A: (ϕ hæg mə wa:hær^j) (ϕ hæn ti: $\boxed{\text{ə}}$)

For the two *in situ* options, we have (iii)—the strong pronoun in (iii)a, enclisis to the left in (iii)b:

- (iii) a. OPTION C: (ϕ hæg mə wa:hær^j) (ϕ $\boxed{\text{e:}}$ hæn ti:)
- b. OPTION B: (ϕ hæg mə wa:hær^j $\boxed{\text{ə}}$) (ϕ hæn ti:)

In this case, however, option B is strongly dispreferred in comparison with the other two options, at least for the small number of speakers we have so far been able to consult. We can understand this contrast by observing that when the pronoun is incorporated into the first ϕ -phrase, avoiding a violation of STRONG START, it leaves in its wake a violation of BINARITY in the second ϕ -phrase (the preposition *chun* is a stressless proclitic / ə n/). In this respect (iii)b contrasts crucially with (60), whose second ϕ -phrase contains two accented elements—*fhad* and *scoile*, and therefore two prosodic words. It is in full compliance with both BINARITY and EQUAL SISTERS. There is no syntactic difference at all between (64b) (optimal) and (iii)b (strongly dispreferred). There can therefore be no syntactic understanding of the sharp difference in acceptability that separates them (see also Carnie to appear).

We also assume that the choice between strong and weak forms of pronouns is a free lexical choice, and that different selections therefore give rise to distinct inputs (cf. Selkirk (1996:203-6), Zec (2005), and Anderson (2005) on English auxiliaries). As a consequence, if the strong form of a pronominal object is selected, no violation of STRONG START can be triggered and no repair will be required or possible. This much is more a decision of convenience than a decision of principle. While it would surely be possible to regulate this variation with grammatical devices (e.g. the PRIORITY constraint of Mascaró (2007)), nothing at present forces us down that more elaborate path (though some relevant issues will come up in section 8.5 below).

We will illustrate the workings of the system by way of our earlier example (60) repeated here as (68):

- (68) a. Thug mo mháthair $\boxed{\acute{e}}$ fhad le teach na scoile.
bring.PAST my mother him as-far-as house the.GEN school.GEN
'My mother brought him as far as the school.'
b. Thug mo mháthair _ fhad le teach na scoile $\boxed{\acute{e}}$.

If a strong form of the pronoun is selected, we have the tableau in (69), in which, as throughout, we use the notation $\{\omega D\}$ to indicate a pronoun in its strong form.³⁰

(69)

	$[\Sigma_P \text{ thug } [\text{DP mo mháthair}] [\nu_P [\text{DP } \acute{e}] [\text{PP fhad le teach na scoile }]]]$	STRONG START	NO SHIFT
a.	$\text{☞} (\phi \text{ thug mo mháthair}) (\phi \{\omega \acute{e}\} \text{ fhad le teach na scoile})$		
b.	$(\phi \text{ thug mo mháthair}) (\phi (\phi \text{ fhad le teach na scoile}) \{\omega \acute{e}\})$		*!

In the absence of a violation of STRONG START, the effect of NO SHIFT is to ensure a transparent mapping from linear order in syntax to precedence in prosodic representations. However, if the weak form of the object pronoun is selected, there are more possibilities to consider, as illustrated in (70).

³¹

(70)

	$[\Sigma_P \text{ thug } [\text{DP mo mháthair}] [\nu_P [\text{DP } \acute{e}] [\text{PP fhad le teach na scoile }]]]$	STRONG START	MP	NO SHIFT
a.	$\text{☞} (\phi \text{ thug mo mháthair}) (\phi (\phi \text{ fhad le teach na scoile}) \acute{e})$			*
b.	$\text{☞} (\phi (\phi \text{ thug mo mháthair}) \acute{e}) (\phi \text{ fhad le teach na scoile})$		*	
c.	$(\phi \text{ thug mo mháthair}) (\phi \acute{e} \text{ fhad le teach na scoile})$	*!		

The high ranking of STRONG START in Irish (above MATCH PHRASE and NO SHIFT) eliminates the option in which the offending structure is not repaired. The ultimate outcome must therefore involve either option A (postposing) or option B (leftward enclisis). These options are similar in that both represent 'solutions' to the problem of STRONG START. However they also differ crucially: option A (postposing) violates NO SHIFT but satisfies MATCH PHRASE, while option B (leftward enclisis) violates MATCH PHRASE, but satisfies NO SHIFT. This is probably clear for option B, but some clarification is perhaps in order for option A. We have assumed the definition in (35), repeated here as (71):

³⁰The tableaux which follow presuppose the rebracketings of verb and subject described earlier.

³¹Note that postposing must be triggered by STRONG START rather than EQUAL SISTERS: the output of postposing (70)a violates EQUAL SISTERS at least as much as ungrammatical (70)c, which leaves the weak pronoun *in situ* (this also suggests a ranking of STRONG START >> EQUAL SISTERS, which we omit here). See Elfner (2012) for a system in which STRONG START also conditions rebracketings like (52), which we attribute instead to the influence of EQUAL SISTERS (section 6.2).

(71) MATCH PHRASE

Given a maximal projection xP in a syntactic representation S , where xP dominates all and only the set of terminal elements $\{ a, b, c, \dots n \}$, there must be in the phonological representation P corresponding to S a ϕ -phrase which includes all and only the phonological exponents of $a, b, c, \dots n$.

Given (71), and given that we have assumed that postposing involves adjunction, it follows that both structures of (56) (our schematic representation of postposing) satisfy (71) equally well. The b-structure of (56) involves a single complex (two-segment) category ϕ . Given the understanding of prosodic adjunction laid out at (59b) above, that complex category ‘includes’ exactly the same elements as are included in the a-structure of (56). Calculation of optimal satisfaction of that constraint, then, cannot proceed differently in the two cases; postposing then, at least in such cases, is neutral with respect to MATCH PHRASE. That in turn leaves us in a position to understand why there are two ways of repairing structures that might otherwise violate STRONG START. If we assume that the relative ranking of MATCH PHRASE and NO SHIFT is variable (Anttila (2002); cf Coetzee & Pater (2011)) we expect two outcomes: the ranking MATCH PHRASE \gg NO SHIFT results in pronoun postposing, while NO SHIFT \gg MATCH PHRASE results in leftward enclisis.

Postposing will also in the general case be neutral with respect to the BINARITY constraint defined in (47). Postposing is adjunction, and adjunction by definition creates binary-branching structures. Provided that the material left behind by postposing (the contents of the lower ϕ -phrase in (56)b) includes at least two prosodic constituents, structural binarity will be unaffected by displacement of the pronoun.³² (See footnote 40 in section 8.4 for elaboration of this point.)

This is the core of our proposal. Besides its fundamental simplicity, its single most important property is that it provides a reason for the existence of pronoun postposing. Viewed in this way, postposing is not an isolated quirk of the grammar of Irish; rather it is one cog in a larger machine which shapes the rhythmic structure of expressions. Prosodic factors are now not extraneous or added on—they are the heart of the matter and it is then inevitable that the positioning of pronouns would exhibit a rich set of interactions with prosodic factors. It is also expected, rather than surprising, that postposing would be insensitive to pragmatic and discourse factors, since (on this view) the positioning of weak pronouns is shaped only by a drive for rhythmic balance of a certain kind.

These are important virtues, but we need now to assess how the proposal fares when we venture beyond the simplest cases and face the empirical challenges considered earlier in the paper. We need to ask in particular how well the proposal deals with those cases which pose difficulties for purely syntactic accounts of postposing. That is the work of the next section.

8 EXTENSIONS AND CHALLENGES

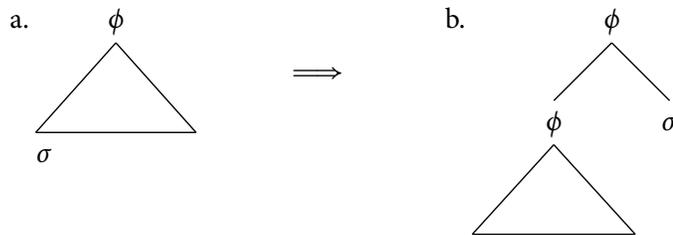
8.1 A SIMPLIFICATION AND AN EXTENSION

We begin by considering a facet of the postposing puzzle that we have not yet discussed. To start, notice that the informal presentation of the mechanism of postposing given in (56) is in fact illegitimate, if we are serious about developing a truly phonological account of the facts. (56) implies that postposing applies to light elements at the left edge of a ϕ -phrase only if they correspond to pronouns (are members of the syntactic category D). But prosodic categories are ‘homogeneous’ in the sense that ϕ -phrases which correspond, say, to PP ’s and those which correspond to VP ’s are indistinguishable in their behavior and properties. If that is the case, prosodic elements which correspond to D should

³²There is surely more to be said about interactions between prosodic adjunction and the family of binarity constraints. See Ito & Mester (2006: Section 4.1) for a perceptive overview.

be indistinguishable from similar elements which correspond to, say, the syntactic category P. And of course STRONG START as defined in (55) makes no reference to pronouns, to objects, or to any term from syntactic theory. Its effects (illformedness or associated repairs) should then be felt whenever an inappropriately light element appears at the left edge of a ϕ -phrase, no matter what syntactic category that element corresponds to. All this being so, (56) would be better understood in the simpler and more general form of (72):

(72) PRONOUN POSTPOSING (FINAL):



In (72), we have a truly prosodic, and truly non-syntactic, account of postposing. Interestingly, there is evidence that the simplification in (72) also represents an empirical advance. Our discussion of pronoun postposing has so far been typical of theoretical treatments in focussing exclusively on the reordering of pronouns. But all descriptions of the phenomenon make clear that an exactly analogous reordering applies to certain kinds of prepositional phrases (see for instance Stenson (1981: 42–47), Ó Siadhail (1989: 207–210, especially 207)). Mícheál Ó Siadhail (1989: 208) cites the doublet in (73), for example:

- (73) a. Bhí an sagart ag mo mháthair inné.
 be.PAST the priest at my mother yesterday
 ‘The priest attended my mother yesterday.’
 b. Bhí an sagart _ inné aici.
 be.PAST the priest yesterday at-her
 ‘The priest attended her yesterday.’

and we can add the examples in (74) from our own observation:³³

- (74) a. Labharfaidh mé leis ar an Chlochán Liath amárach.
 speak.FUT I with-him on Dunloe tomorrow
 ‘I’ll speak to him tomorrow in Dunloe.’
 b. Labharfaidh mé _ ar an Chlochán Liath amárach leis.
 speak.FUT I on Dunloe tomorrow with-him
 ‘I’ll speak to him tomorrow in Dunloe.’

The elements that postpose in cases like these are PP’s which consist solely of a prepositional head inflected for person, number, and gender features of its (silent) object.³⁴ They are mostly monosyllabic and they are all unaccented (like simple pronouns, these PPs have distinct weak and strong realizations). In cases such as (73) and (74), then, we will also have inappropriately light elements at the left

³³For additional discussion and for arguments that these cases and pronoun postposing reflect the same phenomenon, see McCloskey (1999).

³⁴For the syntactic analysis of such items, see McCloskey & Hale (1984), McCloskey (2011a) and references cited there, especially Brennan (2008).

edge of the ϕ -phrase corresponding to VP, threatening a violation of STRONG START. It is unsurprising, then, that postposing should be available here as well.

Questions now arise, of course, about other kinds of prosodically light elements—functional elements such as C, D and T. These are syntactic heads, and therefore occur in the initial position of their maximal projections. Their phonological exponents—which are typically unaccented and weak—will then appear at the left edge of ϕ -phrases, in apparent violation of STRONG START. So why do these elements never postpose? This is an important question, and we return to it in section 8.6, when more of the necessary background has been put in place. For now, we move on to other aspects of postposing.

8.2 SUBJECTS OF FINITE CLAUSES

The correct analysis of pronoun postposing must guarantee that subject pronouns in vso clauses, even when weak, never undergo postposing. (75), repeated from (8) above, is impossible:

- (75) *Chuir mo lámh 'mo phóca mé.
 put my hand in-my pocket I
 'I put my hand in my pocket.'

Simple application of MATCH PHRASE would derive a nested prosodic structure like (76) (cf. (51) and tableau (54) above).

- (76) (ϕ chuir (ϕ mé (ϕ mo lámh 'mo phóca)))

Default prosodification may therefore place a subject pronoun in ϕ -initial position—exactly the same configuration responsible for triggering the postposing of object pronouns (cf. tableau (70)). The puzzle, then, is why subject pronouns never postpose.

From the earliest discussions of the phenomenon, the intuition has always been that postposing is preempted in such cases by the requirement that weak subject pronouns incorporate into the preceding verbal complex. We believe that this general approach is correct. The challenge, however, has always been to go beyond the level of intuition in spelling it out. And syntactic movement analyses are ill-placed to do that, since both leftward and rightward movements routinely target the subject position of finite clauses, as shown for WH-movement (in a cleft) in (77):

- (77) Is mé a tá _ tuirseach.
 COP.PRES me C be.PRES tired
 'It's me that's tired.'

In this observation we have another important contrast between the conditions which govern pronoun postposing and those which govern syntactic movement. We also now have two questions to answer. The first is why syntactic movement of a subject is not blocked by whatever operation is responsible for incorporation of the subject (call it Subject Pronoun Incorporation); the second is why pronoun postposing is preempted by Subject Pronoun Incorporation.

The answer to the first question is clear. Subject Pronoun Incorporation is a post-syntactic phenomenon (Chung & McCloskey (1987: 226–228), Doherty (1996: 23–25), Ackema & Neeleman (2003)). Doherty (1996: p. 23) in fact argues that pronouns are incorporated into the verbal complex by way of a morphological operation, one which results in the creation of a complex morphological word. For this conclusion he cites as evidence a range of phenomena which treat the incorporated pronoun in

exactly the same way as person- and number-marking suffixes on the verb.³⁵ If this is right, Subject Pronoun Incorporation will be invisible and irrelevant as far as syntactic operations are concerned. Following movement of the pronoun in, for instance, (77), linearization and trace-elimination (if they are distinct) will apply, and will yield as input to the morphology a representation in which there is no pronoun to incorporate. In which case, nothing more need be said. Syntactic operations cannot anticipate what might happen in the morphology and will never enter into competition with morphological operations.

But of course the heart of our argument here is that pronoun postposing is post-syntactic. If postposing were a syntactic movement, the logic of the previous paragraph should apply with equal and similar force to WH-movement and to postposing; we would then expect, counter to fact, that weak pronominal subjects should postpose, just as they undergo WH-movement. However, if Doherty (1996) is right that Subject Pronoun Incorporation is a morphological operation, and we are right that pronoun postposing is part of prosodic structure-building, the observations fall into place. Assuming that morphological operations (including vocabulary insertion) create the input to prosodic structure-building, a weak pronominal subject will necessarily be the rightmost element within the verbal complex and will never trigger a violation of STRONG START (cf. Henderson 2012 on the timing of morphological insertion and prosodic parsing). Consequently, no repair will be warranted. Given this constellation of assumptions, the contrast between (8)/(75) and (77) is inevitable.³⁶

8.3 PARTIAL POSTPOSING

Any suitable analysis must also provide an understanding of partial postposing. As we have already seen ((4d) and (11) above) and as is especially clear from the large data-set summarized in Appendix B of Bennett et al. (2012), variability of positioning is a central part of the pronoun postposing puzzle. Consider (78):

- (78) Thaispeán siad é do mo mháthair seachtain ó shin i nDoire.
 show.PAST they it to my mother week ago in Derry
 ‘They showed it to my mother in Derry a week ago.’

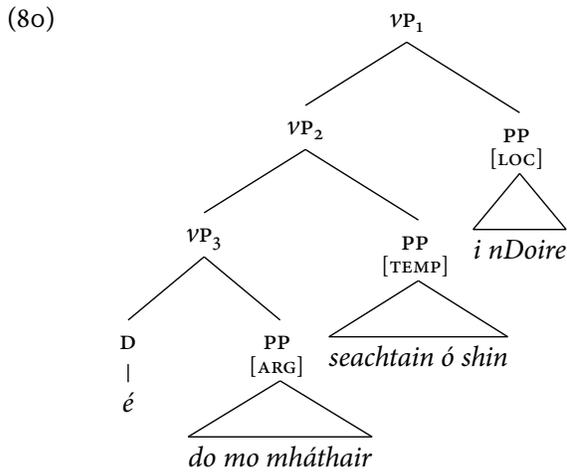
(78) is well-formed under conditions which should by now be familiar—the object pronoun can cliticize to the subject DP, or it can be realized as a full prosodic word *in situ*. But of course pronoun postposing is also an option, and the postposed pronoun may appear after any of the major postverbal constituents:

- (79) a. Thaispeán siad _ do mo mháthair é seachtain ó shin i nDoire.
 b. Thaispeán siad _ do mo mháthair seachtain ó shin é i nDoire.
 c. Thaispeán siad _ do mo mháthair seachtain ó shin i nDoire é.

³⁵Doherty (1996: 23) in fact argues that the operation in question is simply head-movement, citing evidence that it is subject to the Coordinate Structure Constraint. This position is consistent with the claim that incorporation is post-syntactic if head-movement is itself post-syntactic (Chomsky (2000), Boeckx & Stjepanović (2001), Harley (2004)). The evidence is difficult to interpret, but what matters for now is the conclusion that, whatever mechanism is at play, the object that emerges is a single morphological word.

³⁶If Doherty is wrong about the status of Subject Pronoun Incorporation and it is in fact a prosodic incorporation, then more must be said. Specifically, (the constraint that drives) Subject Pronoun Incorporation would have to be prioritized over postposing. It is all the more crucial in this scenario that pronoun postposing be understood in prosodic terms, so that it can compete with postposing. A relevant observation in weighing these alternatives is that in earlier stages of the language, pronoun postposing did in fact apply to subject pronouns (Ahlqvist (1975/6), Breatnach (1994: 269–70), Bennett et al. (2012)). The ultimately correct account then, must allow for this variation and must allow a reasonable understanding of what changed between the 11th century and the 20th century.

Following elimination of silent elements, the νP of (78) will have the syntactic structure shown in (80),

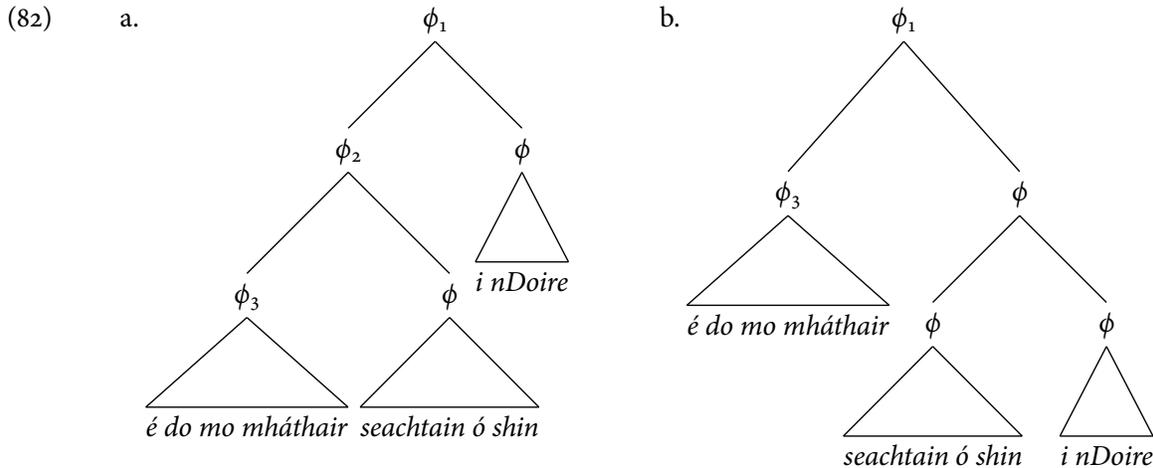


In determining what prosodic structure will be associated with (80), the crucial principle is MATCH PHRASE as formulated in (35), repeated once again in (81):

- (81) Given a maximal projection xP in a syntactic representation S , where xP dominates all and only the set of terminal elements $\{ a, b, c, \dots n \}$, there must be in the phonological representation P corresponding to S a ϕ -phrase which includes all and only the phonological exponents of $a, b, c, \dots n$.

Setting aside the various PP 's, there is just one maximal projection in (80)— νP_1 . Neither νP_2 nor νP_3 is maximal (since each is immediately contained within a phrase with which it shares a label).³⁷ That means that MATCH PHRASE will impose a relatively weak requirement on the prosodic realization of structures such as (80). It will be satisfied as long as there is a ϕ -phrase which includes all and only the (phonological exponents of the) terminal elements of νP_1 . There are of course many ways in which that requirement can be met, and it follows in turn that those constraints which are concerned only with rhythmic balance (BINARITY and EQUAL SISTERS especially) will play a decisive role in determining which phrasings actually emerge. We believe that this is a correct outcome since complex νP 's such as (78) can in fact be phrased in more than one way. For (78) we will expect at least the possibilities in (82):

³⁷Or equivalently: the entire three-segment category νP is maximal.



What is most important for our purposes here, though, is that we now understand the various possibilities exhibited in (79). A weak pronoun may adjoin to any of ϕ_3 , ϕ_2 or ϕ_1 of (82a), avoiding a violation of STRONG START while still satisfying MATCH PHRASE and doing just as well with respect to BINARITY as the variant without postposing. This is one place where prosodic recursion plays a pivotal role in the analysis: flexibility in pronoun positioning reflects an interaction between MATCH PHRASE, as defined in (81), and the recursive nesting of ϕ -phrases.

We now understand, then, the range of possible landing-sites.³⁸ But we must also understand why pronouns may not be shifted to positions within the various postverbal constituents (XP, YP or ZP of (6)). From the starting-point in (83), we cannot emerge with the variants in (84).

(83) Cuirfear é i reilg na Cruite Dé Máirt i ndiaidh aifreann an mheán lae i
bury.FUT-IMPERS him in graveyard Cruit Tuesday after mass the midday in
dteach pobail Cheann Caslach.
church Kincasslagh
'He will be buried in Cruit graveyard on Tuesday after midday mass in the church in Kin-
casslagh.'

- (84) a. *Cuirfear – i reilg é na Cruite Dé Máirt i ndiaidh aifreann an mheán lae i dteach pobail
Cheann Caslach.
b. *Cuirfear – i reilg na Cruite Dé Máirt i ndiaidh é aifreann an mheán lae i dteach pobail
Cheann Caslach.
c. *Cuirfear – i reilg na Cruite Dé Máirt i ndiaidh aifreann an mheán lae i dteach pobail é
Cheann Caslach.

But these contrasts too fall out from the basics of our proposal since postposing 'into' a syntactic constituent like PP will always incur a gratuitous violation of MATCH PHRASE, which will require for each postverbal constituent in cases like (84) that there be a corresponding ϕ -phrase which includes all *and only* its terminal elements. The presence of the weak pronoun within the ϕ -phrase corresponding to PP will therefore force a violation of MATCH PHRASE. Since there will be no such violation in the examples of (79), they will always emerge as optimal by comparison, as shown in (85):

³⁸One aspect of the phenomenon not touched on here is that in complex VP's, placement of the pronoun in absolute clause-final position is somewhat rare, though clearly well-formed (see also Doyle (1998: 45)). For detailed discussion of the facts and for a proposal about why this should be so, see Bennett et al. (2012).

(85)

	[Σ P cuirfear [TP [ν P [ν P \acute{e}]] [PP i reilg na Cruite D�e M�airt]]]]	SS	MP	NO SHIFT
a.	(ϕ cuirfear (ϕ \acute{e} (ϕ i reilg na Cruite D�e M�airt)))	*!		
b.	(ϕ cuirfear (ϕ (ϕ i reilg na Cruite D�e M�airt) \acute{e}))			*
c.	(ϕ cuirfear (ϕ i reilg \acute{e} na Cruite D�e M�airt))		*!	*

In this way we derive the pattern of (6), repeated here as (86):



This was one of the principal goals we set for ourselves at the beginning of the paper.³⁹

8.4 SMALL CLAUSES

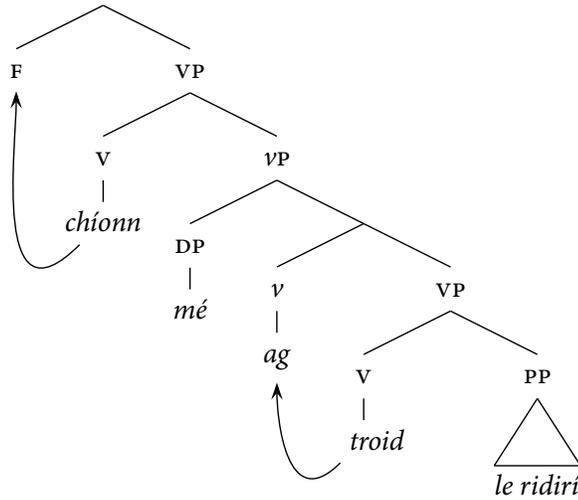
Many of the most challenging puzzles we have encountered center on the application of pronoun postposing to the subjects of small clauses. Here we argue that our proposals deal straightforwardly with core cases of this type and that they also extend gracefully to those cases which seem most troublesome for syntactic approaches. To begin, consider again (87) and (88).

- (87) a. M a ch ionn t u [m e ag troid le ridir i].
 if see.PRES you me PROG fight with knights
 ‘If you see me fighting with knights ...’
 b. M a ch ionn t u – ag troid m e le ridir i. DC 59
- (88) a. Chonac [ e ag f eachaint uirthi go dr uisi uil].
 I-saw him PROG look on-her lasciviously
 ‘I saw him looking at her lasciviously.’
 b. Chonac – ag f eachaint uirthi  e go dr uisi uil. LG 314

We have already shown (section 4.2 above) that such cases are troublesome for syntactic analyses of postposing. Far from being troublesome, however, they are expected given our prosodic proposals. As before, the syntactic starting-point we assume is something like (89):

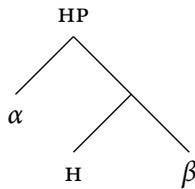
³⁹ Although postposed pronouns are unaccented, their vowel is often surprisingly long. Given that on our account postposed pronouns always appear at the right edge of phonological phrases, we might understand this as a right-edge lengthening effect. Alternatively, the lengthening of domain-final pronouns might be a kind of parasitic lengthening triggered by phrase-level boundary tones (see for example Silverman & Pierrehumbert (1990)). Specifically, vowel lengthening may be required to provide sufficient vocalic material to realize phrasal melodies at the right edge.

(89)



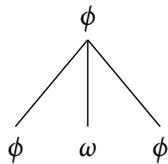
The syntax of (89) exposes a quirk of the system of mapping constraints in (34) which we have not yet addressed. Those mechanisms associate lexical items, maximal projections, and certain kinds of clauses with prosodic constituents (ω 's, ϕ -phrases, and ι -phrases respectively). However they provide no instruction about how to treat other syntactic constituents—those, in particular, which are neither maximal nor minimal. Consider (90), with specifier α , complement β , and a head H which crucially has phonological content.

(90)



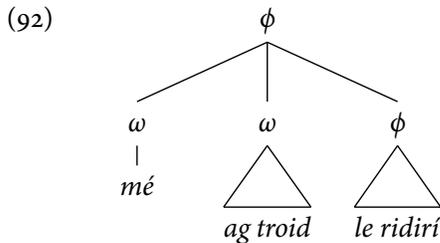
The mapping principles ensure that HP will correspond to a ϕ -phrase, that the head H will correspond to a prosodic word ω , and that the specifier and complement will correspond to ϕ -phrases (unless they happen to be syntactically minimal, e.g. pronouns or other heads). But the intermediate constituent, un-labelled in (90), which includes only the head H and its complement, will not, as things stand, be mapped to any prosodic constituent. But the prosodic word corresponding to H must be integrated somewhere, and given (35) it must be integrated in such a way that it is within the ϕ -phrase corresponding to HP but outside the ϕ -phrases corresponding to α and β . This will lead to the prosodic representation in (91):

(91)

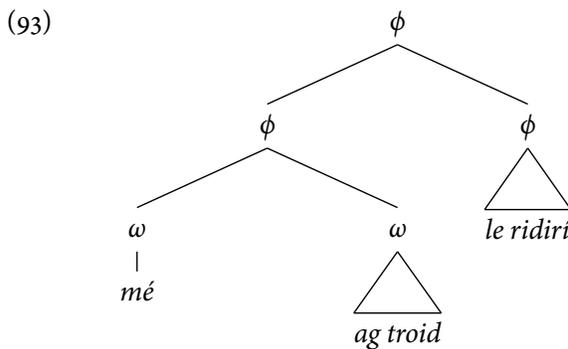


But in (91), we have a violation of the crucial BINARITY constraint (section 6.2). What we expect, then, is that structures such as (90)/(91), in which H has phonological content, will be prosodically unstable, at least in those languages in which the demands of binarity take precedence over the matching principles of (34). In such languages, of which Irish is certainly one, structures like (91) will always require a repair.

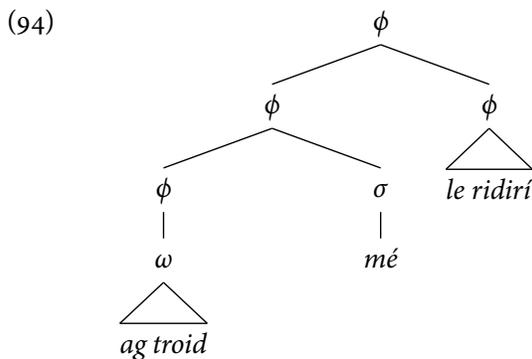
In the case of (89), if the mapping constraints of (34) were to apply without adjustment, we would have the prosodic structure in (92):



In (92) the complex word *ag troid* is orphaned in the higher ϕ -phrase. But (92), of course, is not what emerges as the actual prosodic structure, given the fatal violation of BINARITY that it incurs (and also EQUAL SISTERS, if the PP is correctly mapped to a ϕ -phrase). One of the structures that can emerge to resolve this dilemma is (93), in which both BINARITY and EQUAL SISTERS are respected. The string *m'é ag troid* constitutes a ϕ -phrase in (93) but corresponds to no syntactic constituent—a failure of isomorphism rooted again in the requirements of eurhythmy.



In (93), we show the pronoun in its strong form as a full prosodic word and so no further adjustment is required. If, however, the weak form of the pronoun were to be chosen (a syllable rather than a word), then we would have a violation of STRONG START, since the pronoun *m'é* is initial in ϕ . A repair is thus required and the result is (87b), with the prosodic structure shown in (94):⁴⁰

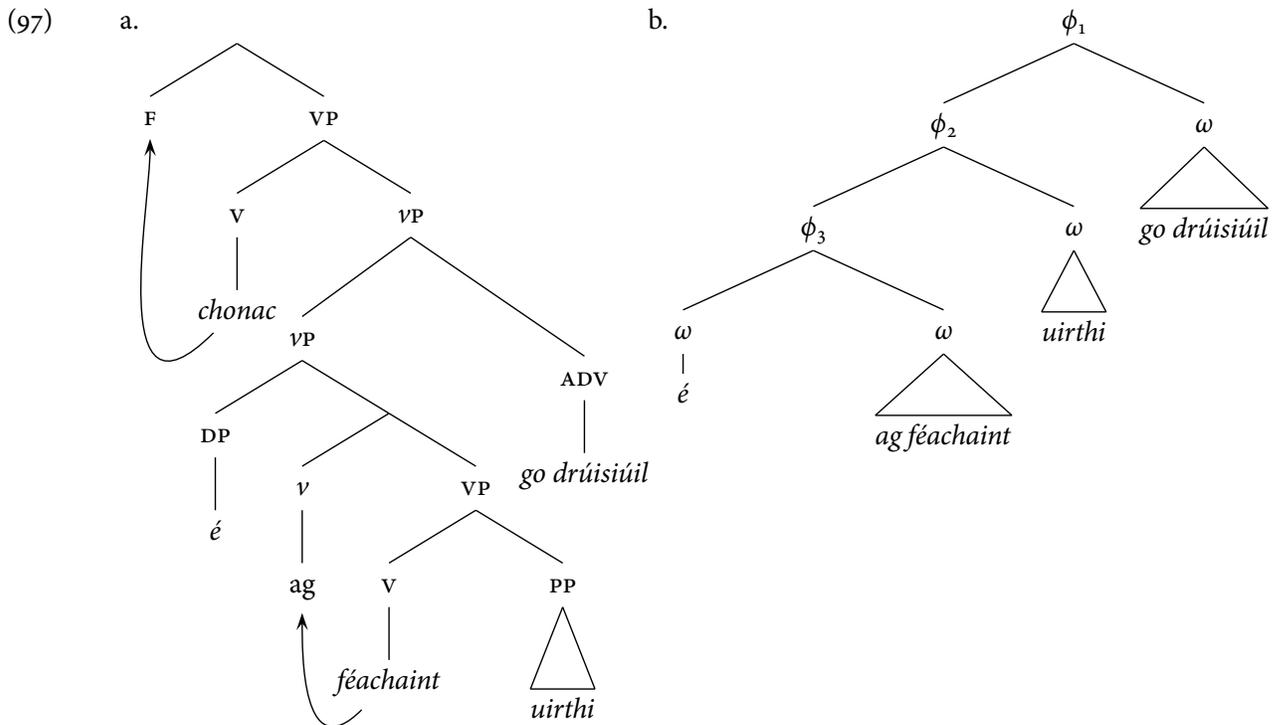


⁴⁰Notice that (94) violates BINARITY to a greater extent than (93), given the non-branching ϕ -phrase that dominates *ag troid*. Such structures may be repaired into a single, binary ϕ -phrase which includes the pronoun, (ϕ ag troid é) (cf. section 7, Elfner 2012: 224 and footnote 16 above). Alternatively, violations of BINARITY may simply be tolerated when the only other option is to violate STRONG START. A structure which positions the pronoun to the right of the PP *le ridiri* will (correctly) satisfy MATCH PHRASE—for the reasons discussed in section 8.3 above.

(95)	[_{VP} mé ag troid [_{PP} le ridirí]]	SS	MP	NO SHIFT
a.	(ϕ (ϕ mé ag troid) (ϕ le ridirí))	*!		
b.	[33] (ϕ (ϕ (ϕ ag troid) mé) (ϕ le ridirí))			*

In the apparently contrasting example of (88) the pronoun follows the complement but precedes a VP-adverb. For such a case we will have the syntactically expected order of (96), and the syntax in (97a). For exactly the same reasons as in the previous case, we now expect the prosodic structure in (97b).⁴¹

- (96) Chonac [é ag féachaint uirthi go drúisiúil].
 I-saw him PROG look on-her lasciviously
 'I saw him looking at her lasciviously.'



Given (97) with its STRONG START violation (the leftmost constituent of ϕ_3 is a syllable rather than the required word), the familiar range of repairs is available—right-adjunction to ϕ_1 or ϕ_2 , yielding the two legal outputs of (98).⁴²

⁴¹The manner adverb might be better taken to adjoin to VP rather than to vP. The prosodic outcomes are however identical if this is the case. In (97) we parse the PP *uirthi* as a ω because it is, in syntactic terms, both minimal and maximal; see the discussion of (34) in section 6.1 above.

⁴²Exactly as in the cases discussed in section 8.1 above, *uirthi* too can undergo postposing, which we assume is triggered by the alternative bracketing (ϕ (ϕ é ag féachaint) (ϕ uirthi go drúisiúil)):

- (i) a. Chonac é ag féachaint go drúisiúil uirthi.
 b. Chonac ag féachaint é go drúisiúil uirthi.

For reasons that we would like to understand better, however, the outcomes in (ii) seem to be impossible:

- (ii) a. *Chonac ag féachaint é uirthi go drúisiúil.

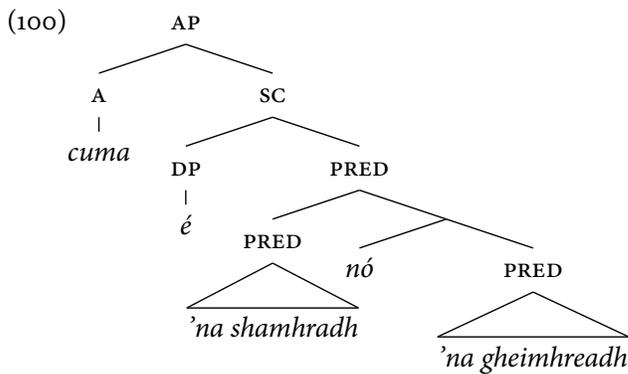
- (98) a. Chonac _ ag féachaint uirthi [é] go drúisiúil. LG 314
 b. Chonac _ ag féachaint uirthi go drúisiúil [é].

Once again, MATCH PHRASE is satisfied in both variants of (98) because the single maximal verbal projection of (97a) has a prosodic counterpart (ϕ_1 of (97b)) which includes all and only its terminals. These seemingly difficult cases, then, fall into place.

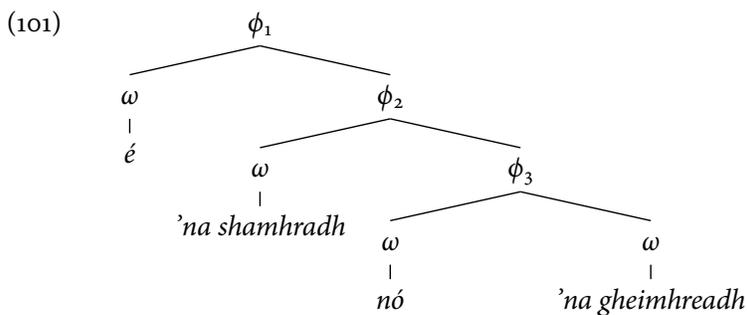
Another piece which falls into place without elaboration is the striking example-type in (99), which was presented in section 4.2 as being mysterious if postposing is syntactic.

- (99) is cuma _ 'na shamhradh [é] nó 'na gheimhreadh
 COP.PRES NO-matter PRED summer it or PRED winter
 'It doesn't matter whether it's summer or winter.' U 20

In such cases, the pronoun subject of a small clause postposes to a position apparently within the disjoined predicate of the small clause. We again assume the syntax in (100):



Very few of the particulars of (100) are important for our present concerns. No matter how those details are filled in, the mapping principles of (34)/(35), acting in concert with BINARITY, would yield the prosodic representation in (101):



The representation in (101) simply carries through consistently our earlier assumptions about matching. The pronoun *é*, being a syntactic head, corresponds to a prosodic word; the intermediate projection consisting of the disjunction particle *nó* and its complement (the predicate *'na gheimhreadh*) cannot be linked with any prosodic constituent; to meet the requirements of BINARITY, however, the

b. *Chonac ag féachaint go drúisiúil é uirthi.

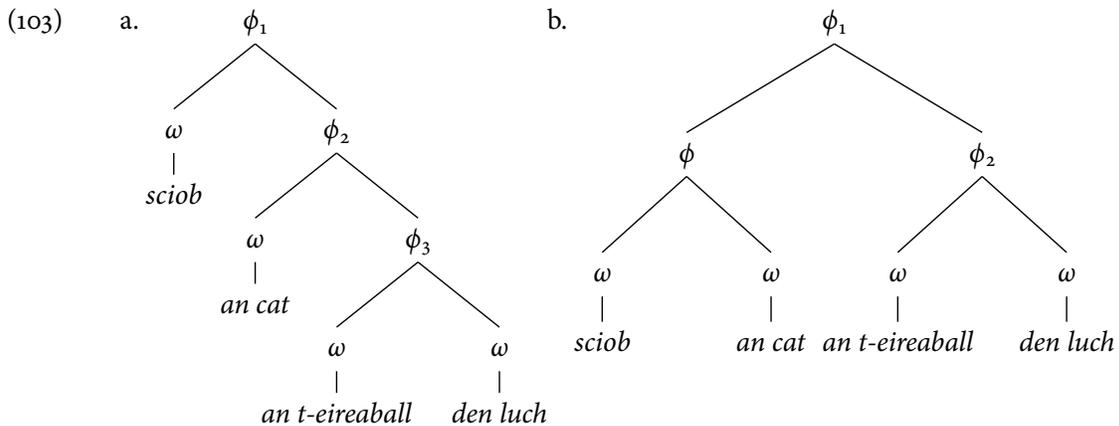
The sequence of two prosodically dependent elements (one a syllable, one a foot) at the edge of a ϕ -phrase seems not to be tolerated. Perhaps this too reflects phrase-level eurhythmic pressures—specifically, an aversion to adjacent unaccented or weak elements (a kind of phrasal lapse avoidance). There is a good deal here which we do not yet understand however.

disjunction particle *nó* phrases with its complement, the second disjunct. Both predicates, though phrasal in the syntax, consist only of a single prosodic word with a single accent (*samhradh* ‘summer’ and *geimhreadh* ‘winter’), each with an adjoined proclitic—the predicative particle *’na* (/nə/). Therefore they phrase only as prosodic words, consistent with our earlier commitments. This much is unremarkable.

What is however striking about (101) is that it is identical, in all respects, to the structures assigned by the mapping constraints to finite vso clauses (see the discussion in section 6.2 at p. 24 above). One of the examples from that discussion is repeated here:

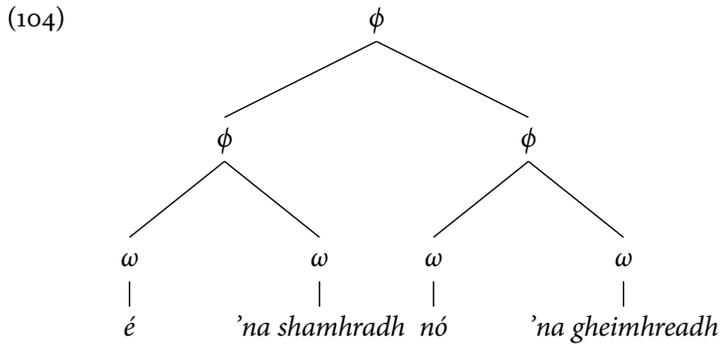
- (102) Sciob an cat an t-eireaball den luch.
 cut.PAST the cat the tail off-the mouse
 ‘The cat cut the tail off the mouse.’

The isomorphism between the prosodic structure associated with (102) and that associated with (100) reflects a core property of the mapping theory we rely on throughout—namely its blindness to syntactic category distinctions. Both the finite verb in the vso structure and the initial pronoun in the small clause structure, despite their profound syntactic differences, map to a prosodic word whose sister is a ϕ -phrase, one which in turn has a prosodic word and a ϕ -phrase as its immediate constituents. That ϕ -phrase in turn consists of two prosodic words. This structure (illustrated for (102) in (103a)) should be compared with (101). It may be worth stressing that the calculations which yield these isomorphic structures are identical in every detail for the two (syntactically very different) cases. Importantly, though, as we have already seen, the structure that actually emerges for cases like (102) is the one in (103b), as can be heard in the sound-file associated with (53a).



In our introductory discussion, we attributed the emergence of (103b) to the fact that it eliminates the violations of EQUAL SISTERS incurred by (103a), while satisfying BINARITY just as well.

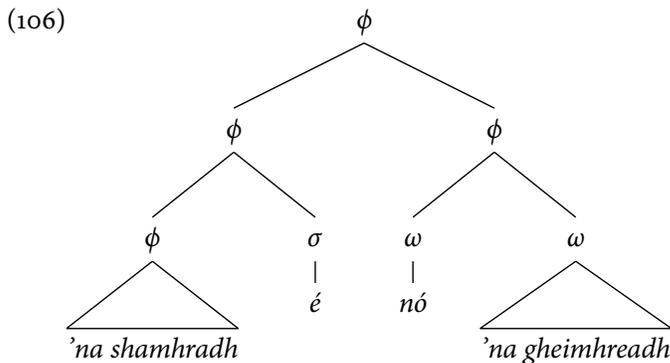
What is more important at present, though, is that (103a) and (101) are indistinguishable. The logic of internal consistency will therefore demand that we treat (99) in exactly the same way as these vso cases, with the consequence that we must expect (104) as a possible phrasing for a syntactic structure like (99).



The rebracketing seen in (104), like that in (103b), satisfies both BINARITY and EQUAL SISTERS. The predicate *'na shamhradh* consists of a single prosodic word with one accent, as does the predicate *'na gheimhreadh*. Disjunctive *nó* has both a prosodically strong accented form /no:/ and a prosodically weak form /nə/; in (104) the former is deployed. We have then a sequence of two ϕ -phrases with parallel internal constituencies and the structure overall is rhythmically balanced. This phrasing is evident to the ear and it emerges directly when the pronoun is in its strong form, with the word order in (105):

- (105) is cuma é 'na shamhradh nó 'na gheimhreadh
COP.PRES NO-matter it PRED summer OR PRED winter
 'It doesn't matter whether it's summer or winter.'

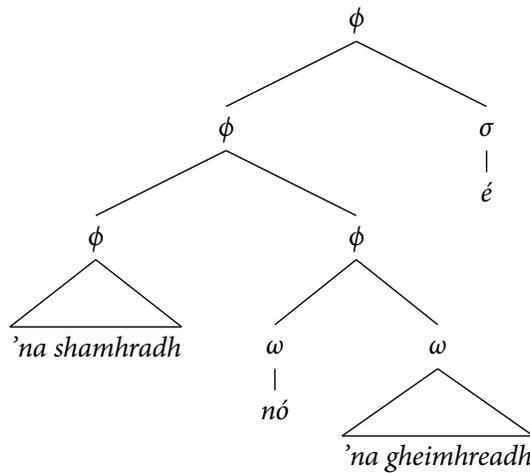
If, however, the weak form of the pronoun were to be used instead, we would have the familiar violation of STRONG START and the further readjustment in (106) will be motivated.



There is another possibility. As in our earlier discussion of 'partial postposing', the pronoun might instead attach to the higher ϕ -phrase, yielding the equally possible (107), with the prosodic structure in (108):

- (107) is cuma 'na shamhradh nó 'na gheimhreadh é
COP.PRES NO-matter PRED summer OR PRED winter it
 'It doesn't matter whether it's summer or winter.'

(108)



These possibilities emerge as necessary and expected in the context of our proposals then. No elaboration is necessary in order to handle them, and in fact if the crucial rebracketing in (104) were excluded, and the postposing in (29)/(99) not predicted, we could justifiably be accused of internal inconsistency. We take this result to be important, since this example-type poses such profound difficulties for syntactic accounts of pronoun postposing.

8.5 ROOT SMALL CLAUSES

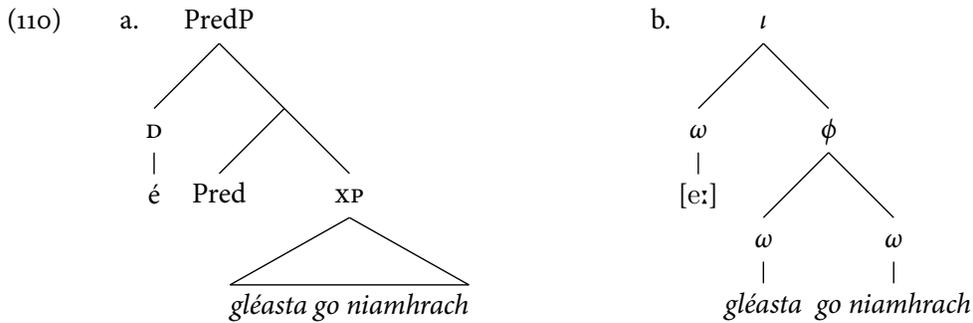
Consider a final small clause type. As we have already seen (in section 3), Irish permits root small clauses with assertoric force. But such clauses differ sharply from complement small clauses in that their subjects may not postpose:

- (109)a. É gléasta go niamhrach.
 him dressed resplendently
 ‘He was dressed resplendently.’
 b. *Gléasta go niamrach é.

SR 19

This fact was attributed in Chung & McCloskey (1987) to the absence of a licensing head governor for the trace of postposing. How might we understand the failure in (109b) in prosodic terms? The first observation to be made is that the STRONG START constraint is clearly at play in such cases. Pronouns at the left edge of root small clauses must appear in their strong forms; weak forms are absolutely excluded. We take this to be one of the signature effects of the activity of STRONG START. The analytical puzzle then is double-edged—to understand why the constraint is operative in the contexts of (109), and then to understand why the only available repair is option A of (62)—strengthening in place. Option B (enclisis in place) is impossible for obvious reasons (the absence of a host). But why should postposing be impossible?

The commitments that we have taken on entail a prosodic structure like (110b) for (108), given the conventional syntax in (110a).



The entire small clause corresponds to an intonational phrase because it carries assertoric force (see the second clause of (34) above and the accompanying discussion) and the pronoun is phrased as a prosodic word—an option that is always available. If the pronoun, however, were to appear in its weak form, we would have a violation of STRONG START as defined in (55). This much lets us understand why weak pronouns may not appear in the subject position of such clauses and why strong pronouns must instead be deployed.

What, then, explains the ban on postposing? Consider the options, given (110b). Note first that the pronoun may not adjoin to the ϕ -phrase corresponding to the predicate XP, nor to any position within that ϕ -phrase. Either of these deformations would convert the binary-branching I -phrase in (110b) into a non-branching constituent that dominates only a single ϕ -phrase. Such structures run afoul of BINARITY, which, as we have seen repeatedly, is highly-valued in Irish. In this way we can understand the ill-formedness of ‘lowering’ an utterance-initial pronoun into a subordinate ϕ -phrase in structures like (110b).

The only available option therefore would be to adjoin the pronoun at the root—to the I -phrase. But that too, we suggest, is impossible. Specifically, we hypothesize that right adjunction of prosodically weak elements to the intonational phrase is forbidden (in Irish) and that that is what calls off the possibility of postposing in a structure like (110). This seems plausible in language-internal terms, and may reflect a more general pattern. There is an intriguing parallel here to certain effects in Bosnian-Croatian-Serbian discussed in Werle (2009: 364–370) (see also Harizanov 2013). Werle discusses an effect in those varieties which he calls the ‘utterance-final effect’. He shows that clitics of a certain class which have a relatively free distribution may not in general appear at the right edge of the utterance, arguing that the option is tolerated only if there is no alternative way of realizing the relevant structure. For Irish, there will always be such an alternative, namely option c of (62), in which a strong form of the pronoun is used, as we see in (109).⁴³ See Bennett et al. (2012) for more discussion of interactions between I P-phrasing and pronoun postposing.

This completes our discussion of the major types of small clause and their interaction with postposing. The principal task that remains is to assess how we can understand the facts which seem to suggest a role for the ECP in determining pronoun position. That is the work of the next section.

8.6 HEAD GOVERNMENT REVISITED

The head-government requirement of the ECP was at the core of the syntactic analysis of postposing developed by Chung & McCloskey (1987). Earlier (in sections 3.1 and 4.1) we reviewed the observations that motivated that analysis and also some reasons to be sceptical of it. In particular, we pointed to cases like (111), in which postposing is possible despite the absence of a lexical governor.

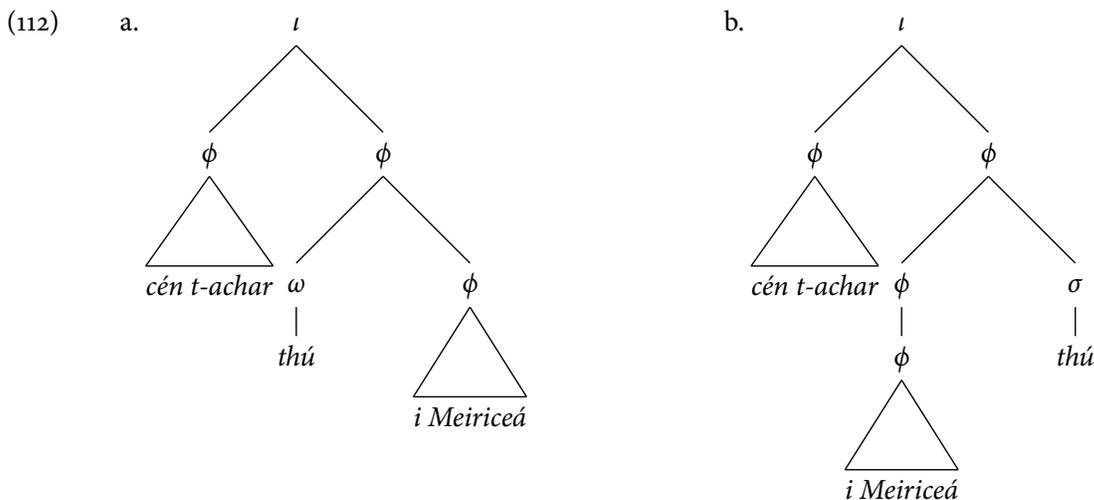
⁴³The interpretation offered here may require us to re-think our position of convenience that strong and weak forms are different lexical items and therefore determine distinct inputs. The logic of the text discussion implies that strong forms may compete with weak forms in determining the outcome in (109).

- (111) a. Cá fhad Mac Alastair marbh anois?
 wH long dead now
 ‘How long has McAllister been dead now?’ TGC 103
- b. Cén t-achar _ i Meiriceá (thú)?
 what length-of-time in America you
 ‘How long have you been in America?’ DGD 26

Such observations add force to the methodological impulse to eliminate proper government from our theoretical and descriptive arsenals; but of course the facts that seemed to motivate the head government requirement remain. In this section we argue that those facts are better understood in the context of our prosodic proposal than in the context of the head government account. Further, we argue that the prosodic account lets us understand why the earlier proposal yielded such a good approximation of the facts.

The head government clause of the ECP draws a crucial distinction between lexical (open class) heads and functional (closed class) heads. The former are licensers of movement; the latter are not. But this distinction has a prosodic correlate. Functional heads tend to be prosodically dependent (Truckenbrodt (1999) among many others), while lexical heads tend to be prosodically independent. The existence of such a correlation suggests the possibility of rethinking the relevant patterns in phonological terms. But the correlation is in turn only approximate—not all functional heads are prosodically dependent. The existence of such ‘corner cases’ should provide a way of distinguishing empirically between analyses based on proper government and analyses based on prosodic considerations.

We begin by showing that the troublesome case in (111b) is expected given the approach now on the table. The prosodic structure linked with an example such as (111b) will be (112):



In (112a) we represent the accusative subject pronoun in its strong variant, as a prosodic word, which means that there is no violation of STRONG START and therefore no repair. Of course if the weak version of the pronoun is selected, we will have a STRONG START violation and the prosodic structure which will emerge is (112b), an entirely appropriate outcome.⁴⁴ What was a problem of under-generation for the head government proposal now falls into place quite naturally.

What of the cases, though, in which the head government requirement correctly rules out impossible postposings? Setting aside root small clauses (which we have already dealt with in section 8.5),

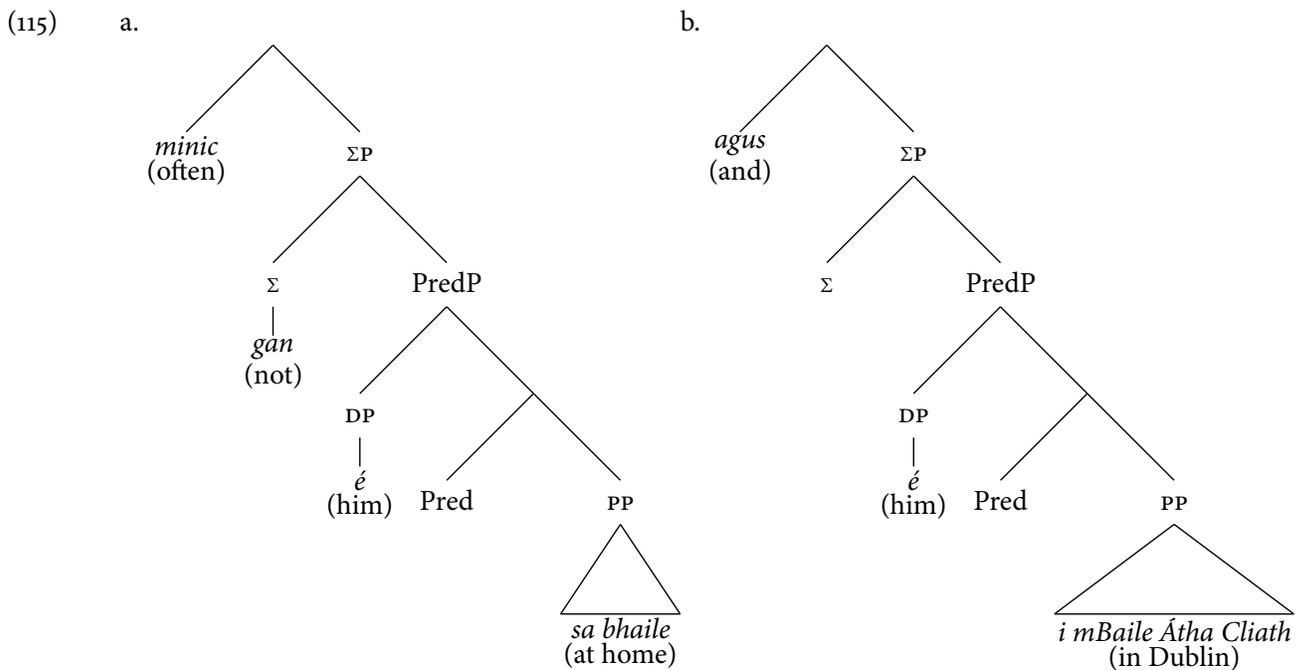
⁴⁴The relative clause cases of footnote 10 should be amenable to the same analysis.

such cases are of two kinds—negated small clauses (113) and small clause complements to functional rather than lexical heads (114):

- (113) a. Ba mhinic gan é sa bhaile.
COR.PAST often NEG him in-the home
 ‘He was often not at home.’
 b. *Ba mhninic gan _ sa bhaile é.

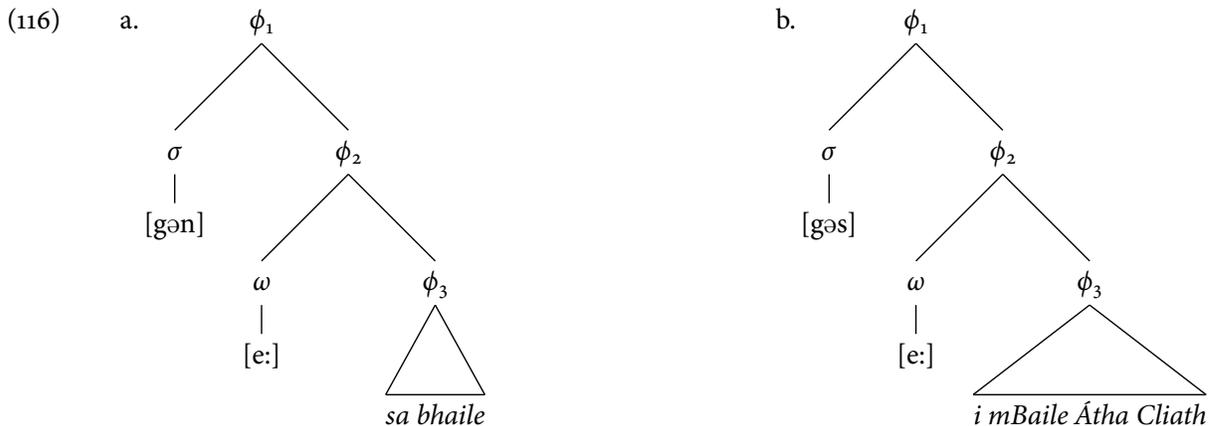
- (114) a. agus [é i mBaile Átha Cliath]
 and him in Dublin
 ‘While he was in Dublin ...’
 b. *Agus [_ i mBaile Átha Cliath é]

The minimal syntactic structure we could assume for such cases is shown in (115a) and (115b) respectively:⁴⁵



Unsurprisingly, both the marker of negation *gan* and the subordinator *agus* (being function words) are prosodically dependent. The negative marker is [gən]; *agus* is realized variously as [əs], [gəs], or [əgəs]. Unadjusted prosodic structures corresponding to ΣP of (115a) and (115b) then will be as in (116a) and (116b) respectively:

⁴⁵There could well be additional functional projections involved in these structures, but since the relevant heads will be null, they will make no difference to the prosodic calculations we are about to discuss.



Such structures raise two questions: (i) Why does the presence of the function word to the left of the pronoun call off the possibility of postposing? (ii) There is a STRONG START violation in ϕ_1 of (116), which is induced by the presence of the prosodically dependent element at its left edge. Why does this potential violation not itself trigger postposing of the offending element, the negative marker [gə̀n]? This latter issue is the question that we postponed from section 8.1 above.

The two questions are intimately linked. The key property of these structures is that the function words at their left edges are proclitics which are dependent on the prosodic constituent to their right. We take it that this dependence should be modelled formally by way of left adjunction of the dependent element to the immediately following prosodic constituent. Which constituent, though, does the dependent element adjoin to—to the first word of ϕ_2 or to ϕ_2 itself? This kind of question is notoriously hard to resolve (for relevant discussion see Selkirk (1996), Hall (1999), Ito & Mester (2009a)), but for one class of cases at least which have been closely studied, the answer seems reasonably clear. McCloskey (1996a) shows that complementizers in Irish are subject to post-syntactic lowering and shows further that they left-adjoin to the inflected verb (not to a phrase) to form a ‘verbal complex’ within which complex patterns of allomorphy are observed (see Oda (2012: Chap. 6) and Acquaviva (2012) for recent, detailed analyses of these matters within the framework of Distributed Morphology). Let us assume that this result is general and that all prosodically dependent functional heads similarly adjoin to a prosodic word below them and to their right.⁴⁶ If *gan* in (116a) and *agus* in (116b) adjoin to the subject pronoun, our expectation will be that the pronoun will be required to appear in its strong variant, in order to serve as a host for the clitic.⁴⁷ In that case the initial elements of (116a) and (116b) will be as in (117):

⁴⁶One would of course want to find phonological processes whose domain is the minimal or maximal prosodic word and use such processes to probe questions of constituency. Green (2000) discusses much relevant material, but does not settle the matter. We conjecture, however, that lenition may well be a morphological process whose domain of application is exactly that of complex prosodic words, the adjoined function word being the lenition trigger, the host being the lenited element. Such a theory would successfully bring together the two core classes of cases—lenition of the second element of a compound, as in *seanbhean* (‘old-woman’) and lenition of a lexical word by a function word such as a preposition, complementizer, or determiner, as in *an bhean* (‘the woman’). If that is correct, then the prosodic structure in (117) must be correct too. Fully exploring this conjecture and defending it, however, would take a paper as long as the present one. We spare our current readers that pain.

⁴⁷This requirement follows from the HEADEDNESS clause of Selkirk (1996): prosodic words must contain a stressable element; [gə̀n] being weak, the pronoun [e:] must appear in its strong, stressable form.

- (119) Sa deireadh seo – ag teacht [é].
 in-the end DEMON PROG come him
 ‘In the end, here he comes.’

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Our earlier discussion highlighted cases like (119) as problematic for a syntactic analysis which includes head government as a central requirement. The difficulty is that *seo* is clearly just as much a closed-class element as negation or the coordinator *agus* and should therefore be incapable of licensing the postposing seen in (119). The interesting puzzle is why (119) should be different from the apparently similar (114), such that postposing is possible in the former but impossible in the latter. In fact, we know of no syntactic difference between these two cases which would allow an understanding of their different behaviors. The elements in question, however, differ crucially in their prosodic characteristics. As we have just seen *agus* is unaccented and prosodically dependent. The particle *seo*, on the other hand, is exceptional among function words in being accented and prosodically independent; it is the ‘corner case’ we sought.

We know that *seo* (phonemically /ʃɔ/ or /ʃo/) is a full prosodic word because, unlike all of the unaccented elements we have dealt with so far, it can stand alone as the single accented element in an utterance:

- (120) Seo é.
 DEMON it
 ‘Here it is.’
- (121)a. Cén dóigh a ndearna tú é?
 what way c did you it
 ‘How did you do it?’
- b. Mar seo.
 as this
 ‘Like this.’

In (120), the only element in the utterance apart from *seo* is a pronoun. This pronoun may appear in its weak form, in which case it is prosodically dependent on the demonstrative. In the response of (121b), the only other element is the unaccented preposition *mar* (/mər/) which is proclitic on the demonstrative. Finally *seo* may appear in a coordinate structure, as complement, for instance, to the preposition *idir* (‘between’):

- (122) idir seo agus Doire
 between DEMON and Derry
 ‘between here and Derry’

This last is a position which is absolutely restricted to prosodically independent, accented elements. Weak forms of pronouns, for instance, are impossible in the context of (122). For cases such as those in (123):

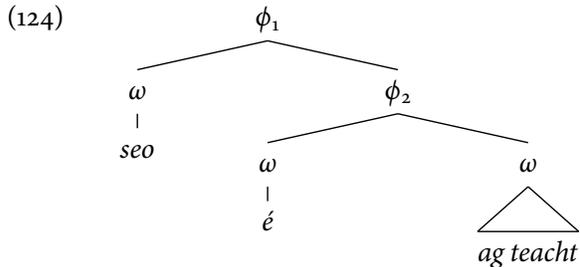
- (123)a. idir mé agus é
 between me and him
 ‘between me and him’
- b. idir é agus Fionntrá
 between it and Ventry
 ‘between there and Ventry’

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the pronouns must be pronounced in their full accented forms—[me:] and [e:] rather than in their weak (unaccented) forms.

But once we establish that *seo* is not prosodically dependent, we understand why postposing is possible in cases like (119). The schematic prosodic structure for (119) will be as in (124):



In (124), the subject pronoun appears in its strong variant and postposing is not warranted. If, however, the pronoun were to appear in its weak form, there would be a violation of STRONG START with respect to ϕ_2 and postposing would be an available and warranted repair. Because *seo* is prosodically independent, no adjunction applies in (124) to protect the pronoun from appearing at the left edge of the ϕ -phrase and the STRONG START violation is inescapable. A contrast which is mysterious in syntactic terms emerges as inevitable in prosodic terms.

We take this last case to be especially revealing since the contrast between (119) and (114) can be viewed as a sort of well-designed natural experiment—one in which everything is held constant except for one factor (prosodic) and we observe the possibility or impossibility of postposing covarying with that (prosodic) factor. And it is exactly this that makes the case so difficult for any syntactic account. These observations also let us understand why the head government analysis is so seductive. It provides a very good approximation of the facts, precisely because functional heads are in the typical case prosodically dependent. It is only when the two properties (syntactic and prosodic) exceptionally come apart, as they do in the case of demonstrative *seo*, that we can catch a glimpse of the truth behind the confound.

9 ASSESSMENT AND CONCLUSION

In section 5 above we laid out a set of criteria by which success in our domain of investigation might be measured. Now that our proposals have been laid out, it is time for the assessment.

Needless to say, many puzzles and mysteries remain. That said however, the proposals we develop here go farther, in terms of empirical coverage, than any extant account of postposing that we are aware of, for any of the Gaelic languages. In addition, they let us understand why postposing comes trammled up with prosodic connections and correlations but shows no sensitivity to pragmatic or discourse factors—it has to do only with rhythmic organization. The account also provides an understanding of the ‘optionality’ of postposing and of the fact that postposed elements may appear in a range of positions (though always at the right edge of a phonological phrase). They let us understand why postposing gives the appearance of being sensitive to head government, but they also gracefully integrate those cases which are incompatible with such a requirement. Also integrated is a set of observations which suggest that postposing is sensitive to a kind of constituency which is not that found in syntactic representations. The relevant representational system, rather, is that of prosodic constituency. The prosodic phrasings we make crucial appeal to are, moreover, clearly real, regardless of how we understand the mechanisms which generate those structures. Perhaps most important is the fact that the mechanisms which do this empirical work are well integrated with a reasonable over-

all view of phonological phrasing in Irish and in general. The core mechanism appealed to (prosodic adjunction) is well-established and unexotic, as are the various phonological constraints upon which our proposals rely.

To the extent that the proposals are viewed as successful, it may be worth asking what the ingredients of that success are. There are several. One is the commitment to a certain kind of recursion in prosodic structure, one which allows one phonological phrase to contain another; this is the ingredient which allows postposed pronouns a range of final resting places and therefore lets us understand what we have called here ‘partial postposing’ (a core property of the phenomenon as we have seen).

A second key ingredient is the idea that the need to create optimal prosodic constituents leads to the emergence of prosodic constituents like *mé ag troid* in (87), or *é ’na gheimhreadh* in (29)/(99) which are bizarre from a syntactic perspective (as extensively discussed by Nespors & Vogel 1986). But it is exactly this ‘bizarre’ constituency that postposing seems to be sensitive to.

A third important factor has been what we might call the ‘homogeneity’ of prosodic constituents within a given category. A consequence of that commitment is that structures which are syntactically very different indeed from one another (finite vso clauses and certain small clauses involving disjunction, for example) end up being indistinguishable from a prosodic perspective and so support instances of postposing which are, again, very bizarre indeed when viewed in syntactic terms.

We set out to develop and assess a deliberately radical version of the prosodic approach, one which used no term at all from syntactic theory in its formulation, but only the primitives provided by prosodic theory (see (72)). It is interesting, we think, that that proposal goes as far as it does. There remain observations about postposing that are not easily understood on either a syntactic account or on the account we offer here—the fact, for example, that the preverbal subjects and objects of nonfinite clauses resist postposing (see Chung & McCloskey (1987: 228–234) and (32a) above) even though these are positions from which leftward and rightward syntactic movements are freely possible.

- (125)a. Ba mhaith liom iad Ciarán a fhostú
 I-would-like them Ciarán hire.NONFIN
 ‘I would like them to hire Ciarán’
 b. *Ba mhaith liom _ Ciarán a fhostú iad
- (126)a. Rinne sé iarracht é a dhéanamh
 do.PAST him attempt it do.NONFIN
 ‘He tried to do it.’
 b. *Rinne sé iarracht _ a dhéanamh é

We also do not yet know how to integrate the observation that postposing seems to show ATB (‘Across the Board’) effects, as in (127):

- (127) ar an dtaobh chéanna a cuirtí _ i bhfarráige is
 on the side same c put.PAST-HABIT-IMPERS in sea and
 tugtaí _ isteach sa bhád iad
 brought.PAST-HABIT-IMPERS into in-the boat them
 ‘It was on the same side that they were put into the sea and that they were brought into the boat.’
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It remains unclear to us if these lacunae reveal a failure of understanding of the syntax (poorly understood at present), or if they suggest that an analysis is needed which draws on systems of representation which are part syntactic, part phonological—a less radical version of the present proposal in a certain sense (see Chung (2003), Göksel et al. (2013)). Time will hopefully tell.

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APPENDIX A: SOURCES OF SOUND SAMPLES

(46a)	Ó Bhéal an Bhab, <i>Cnuas-scéalta Bhab Feiritéar</i> , Cló Iarr-Chonnachta, 2002	KERRY
(46b)	<i>Seanchas Rann na Feirste</i> , ed. Maelsheachlainn Mac Cionaoith, Coiscéim, 2006	DONEGAL
(53a)	Ó Bhéal an Bhab, <i>Cnuas-scéalta Bhab Feiritéar</i> , Cló Iarr-Chonnachta, 2002	KERRY
(53b)	<i>Rogha na Seachtaine, 7 Samhain 2009</i> , podchraoladh de chuid Raidió na Gaeltachta: http://www.rte.ie/radio/podcast/rnag_archive.html	GALWAY
(65a)	<i>Nuacht a Sé, Raidió na Gaeltachta, June 6th 2012</i>	DONEGAL
(66a)	<i>Seanchas Rann na Feirste</i> , ed. Maelsheachlainn Mac Cionaoith, Coiscéim, 2006	DONEGAL

APPENDIX B: SOURCES OF EXAMPLES

- ACS: *Ag Coimeád na Síochána*, Páid Ó Súilleabháin
 BEAL: *Béaloides*, Journal of the Irish Foklore Society
 AGMTS: *Ar Gach Maoilinn Tá Síocháin*, Pádraig Ó Cíobháin
 AO: *Aistí Ó Chléire*, Donnchadh Ó Drisceoil
 BCC: *Beatha Cholm Cille*, Séamas Ó Searcaigh
 BP: *Bróga Páipéir*, ed. Pádraic Breatnach
 CC: *Cruithneacht agus Ceannabháin*, Tomás Bairéad
 CLENS: *Cín Lae Eibhlín Ní Shúilleabháin*, ed. Máiréad Ní Loingsigh
 CM: *An Chéad Mhám*, Seán Bán Mac Meanman
 DC: *Don Cíochóta*, trans An tAthair Peadar Ó Laoghaire
 DCA: *Dith-Chéille Almayer*, Joseph Conrad, trans Seosamh Mac Grianna
 DGD: *Deoir Ghoirt an Deoraí*, Colm Ó Ceallaigh
 DO: *Dialann Oilithrigh*, Donnchadh Ó Céileachair
 EDD: *Éist le Dubh Dorcha*, Seán Óg Caomhánach
 FB: *Feamain Bhealtaine*, Máirtín Ó Direáin
 FEB: *Fiolar an Eireabail Bháin*, Seán Pheats Tom Ó Cearnaigh
 FF: *Fonn na Fola*, Beairtle Ó Conaire
 GAT: *Gabhla An tOileán*, Máirín Uí Fhearraigh
 LG: *Le Gealaigh*, Pádraig Ó Cíobháin
 LNT: *An Leacht Nár Tógadh*, Séamas Ó Conghaile
 M: *Mise*, Colm Ó Gaora
 MBS: *Mura mBuafam—Suathfam*, Maidhc Dáinín Ó Sé
 MOC: *An Ministir Ó Ceallaigh*, A. E. W. Mason and A. Lang, trans Niall Ó Domhnaill
 MSN: *Micí Sheáin Néill: Scéalaí agus Scéalta*, Cathal Póirtéir
 NGTTS: *Na Gabh Thar Tí Stiofáin*, Máire Uí Fhlatharta
 ONH: *Ór na hAitinne*, Tomás Bairéad
 OTA: *Ón tSeanam Anall, Scéalta Mhicí Bháin Uí Bheirn*, ed. Mícheál Mac Giolla Easbuic
 PNG: *Pobal na Gaeltachta*, ed. Gearóid Ó Tuathaigh, Liam Lillis Ó Laoire, Seán Ua Súilleabháin
 SB: *Séidean Bruithne*, Joseph Conrad, trans Seosamh Mac Grianna
 SJSJ: *Seachrán Jeaic Sheáin Johnny*, Mícheál Ó Conghaile
 SOOT: *Seanchas ón Oileán Tiar*, Tomas Ó Criomhthain
 SR: *Sciúird chun na Rúise*, Pádraig Ó Fiannachta
 SSOTC: *Sí-Scéalta ó Thír Chonaill*, ed. Seán Ó Heochaidh, Máire Ní Néill and Séamas Ó Catháin
 STL: *Seanchas Thomáis Laighléis*, ed. Tomás de Bhaldraithe
 S: *Séadna*, An tAthair Peadar Ua Laoghaire
 SD: *Sionnach Ar Mo Dhuán*, Breandán Ó hEithir
 TGC: *Thiar i nGleann Ceo*, Tadhg Ó Rabhartaigh
 U: *Unaga*, translated by Eoghan Ó Neachtain