Irish Prepositions: Agreement and Impoverishment

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1. Introduction

This paper discusses an instance of apparent morphological blocking in Modern Irish. Traditionally, blocking has been invoked to explain grammaticality patterns such as that in (1).

(1) a. * more smart
    b. smarter

According to one view, (1a) and (1b) are two potentially grammatical outputs produced by the linguistic system. The two forms compete for expression and the single form smarter is preferred over the two-word form more smart (e.g. Andrews, 1990; Bresnan, 2001b); I will call this the “Global Economy” view. The ungrammaticality of (1a) is, in this view, a direct consequence of the fact that (1b) is available. Another view holds that blocking effects emerge from the obligatory application of local morphological rules; competition takes place only at individual nodes during vocabulary insertion (VI) (e.g. Embick and Marantz, to appear). According to the latter view, there is, in fact, no direct competition between (1a) and (1b). Rather, the latter is generated by the linguistic system while the former is not; (1a) would be ungrammatical regardless of the status of (1b). I will call this the “Local Application” view.

Modern Irish shows a complementary distribution between the availability of pronouns and the appearance of inflectional morphology expressing person, number, and gender on verbs and prepositions (McCloskey and Hale, 1984, henceforth: MH). While this distribution has been fruitfully studied in the verbal domain (MH; Doron, 1988; Guilfoyle, 1990; Andrews, 1990; Legate, 1999), the present paper examines those aspects of inflection unique to prepositions. Interestingly, prepositions show that the spell-out of inflection is also conditioned by the presence of an overt lexical argument. The claim of the paper will be that lexical arguments impoverish agreement features in Irish and thus the complementary distribution follows from the application of local rules, rather than direct competition between complex forms.

The paper is organized as follows. The principal data is introduced in section 2. Section 3 presents the analysis in two parts: first, inflection is taken to represent agreement (following previous work), and second, a rule of morphological impoverishment is introduced. In section 4 it is shown that an alternative approach which appeals to economy principles operating over competing outputs fails to capture the full range of data. Section 5 concludes.

2. The distribution of inflection

Prepositions in Irish have an uninflected base form as well as inflected forms which mark person, number and (in the third person singular) gender. A set of example paradigms are shown in (2).

* This work has benefited greatly from comments by Andrea Cattaneo, Oana Săvescu Ciucivara, Chris Collins, Suzanne Dikker, Stephanie Harves, Richard Kayne, Karen Kirke, Lisa Levinson, Alec Marantz, Jim McCloskey, Anna Szabolcsi, and two anonymous reviewers.

The base, or uninflected, form of each preposition is used with lexical arguments (3-5).\(^1\)

<table>
<thead>
<tr>
<th>Preposition</th>
<th>Base</th>
<th>1SG</th>
<th>2SG</th>
<th>3SG (M)</th>
<th>3SG (F)</th>
<th>1PL</th>
<th>2PL</th>
<th>3PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘with’</td>
<td>le</td>
<td>liom</td>
<td>leat</td>
<td>leis</td>
<td>léithi</td>
<td>linn</td>
<td>libh</td>
<td>leofa</td>
</tr>
<tr>
<td>‘at’</td>
<td>ag</td>
<td>agam</td>
<td>agat</td>
<td>aige</td>
<td>aice</td>
<td>again</td>
<td>aigua</td>
<td>acu</td>
</tr>
<tr>
<td>‘on’</td>
<td>ar</td>
<td>orm</td>
<td>ort</td>
<td>air</td>
<td>uirthi</td>
<td>orar</td>
<td>oraib</td>
<td>orthu</td>
</tr>
<tr>
<td>‘under’</td>
<td>faoi</td>
<td>fum</td>
<td>fut</td>
<td>faoi</td>
<td>fúithi</td>
<td>fuinn</td>
<td>fuibh</td>
<td>futhu</td>
</tr>
<tr>
<td>‘out’</td>
<td>as</td>
<td>asam</td>
<td>asat</td>
<td>as</td>
<td>aisti</td>
<td>asain</td>
<td>asaib</td>
<td>astu</td>
</tr>
<tr>
<td>‘through’</td>
<td>thri</td>
<td>thrim</td>
<td>thrít</td>
<td>thrid</td>
<td>thrithi</td>
<td>thrinn</td>
<td>thrith</td>
<td>thiothu</td>
</tr>
</tbody>
</table>

The base, or uninflected, form of each preposition is used with lexical arguments (3-5).\(^1\)

When inflected forms are used, they carry the meaning of a pronominal argument (6-8).

(6) *Bhí mé ag caint leofa inné.*
    was I PROG talk with.3PL them yesterday
    ‘I was talking to them yesterday.’

(7) *Bhí an dochtúr agam inné.*
    was the doctor at.1 SG him yesterday
    ‘The doctor visited me yesterday.’

(8) *Tá ocras uirthi.*
    is hunger on.3 SG-F
    ‘She is hungry.’

Crucially, a pronoun is ungrammatical as the argument of an inflected preposition (9-11).

(9) *Bhí mé ag caint leofa siad inné.*
    was I PROG talk with.3PL them yesterday

(10) *Bhí an dochtúr aige se inné.*
    was the doctor at.3 SG-m him yesterday

(11) *Tá ocras orthu siad.*
    is hunger on.3 PL them

Furthermore, the data in (12-14) show that it is not grammatical to replace an inflected preposition with the base form of the preposition and a pronoun.

\(^1\) Examples are adapted from Ó Siadhail (1995) unless otherwise noted. The following abbreviations are used:

- 1, 2, 3: 1st person, 2nd person, 3rd person
- REFL: reflexive/emphatic particle
- DEM: demonstrative particle
- CONTR: contrastive particle
- Q: question particle
The data above show that inflected prepositions and pronouns stand in complementary distribution. The complementarity between inflected forms and overt pronouns is familiar from the distribution of verbal inflection, illustrated in (15) (MH; Andrews, 1990; Legate 1999, a.o.).

   put.COND O. in on the job DEM
   ‘Owen would apply for that job.’ (MH (4a))

   b. *Chuirfinn isteach ar an phost sin.
      put.COND.1SG in on the job DEM
      ‘I would apply for that job.’ (Legate, 1999 (4a))

   c. *Chuirfinn mé isteach ar an phost sin.
      put.COND.1SG I in on the job DEM
      (MH (6a))

Note, however, that verbs do not exhibit complete inflectional paradigms. In cases where no inflected form is available, an uninflected form of the verb is used (called the ‘analytic form’ in traditional grammars) along with an overt pronoun (MH). Importantly, almost all dialects use the analytic forms in the third person. An example of a verbal paradigm from the Ulster dialect is given in (16).

(16) *cuir* ‘put’, conditional (MH (2))

<table>
<thead>
<tr>
<th>Number</th>
<th>Form</th>
<th>Plural Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>chirfeadh</td>
<td>chirfeadh is</td>
</tr>
<tr>
<td>2SG</td>
<td>chirfeá</td>
<td>chirfeadth sibh</td>
</tr>
<tr>
<td>3SG</td>
<td>chirfeadh se (masc.)</td>
<td>chirfeadh siad</td>
</tr>
</tbody>
</table>

Given these lexical gaps, a lack of inflection when a verb takes a non-pronominal argument could be due to accidental gaps in the inflectional paradigm. Turning back to prepositions, which show full inflectional paradigms, it is clear that using an inflected form with an overt argument leads to sharp ungrammaticality (17-19).

(17) *Bhí mé ag caint léithi Máire inné.
   was I PROG talk with.3sg-F M. yesterday

(18) *Bhí an dochtúr aice Cáit inné.
   was the doctor at.3 SG-F C. yesterday

(19) *Tá ocras air Máirtín.
   is hunger on.3 SG-M M.

Furthermore, in those dialects that exhibit synthetic third person plural forms (some Munster dialects; Andrews, 1990; Ó Siadhail, 1989), verbal inflection cannot co-occur with an overt argument (20-21).²

(20) *Chuirfeadh na léachtóirí uilig isteach ar an phost sin.
   put.COND the lecturers all in on the job DEM
   ‘All the lecturers would apply for that job.’ (MH (4b))

(21) *Chuirfidis na léachtóirí uilig isteach ar an phost sin.
    put.COND.3PL the lecturers all in on the job DEM (Andrews (6))

² Ó Siadhail (1989, p. 182) notes an exception to this generalization. Older speakers of some Munster dialects use a pronoun after a third person plural synthetic form (e.g. *tugaid siad* ‘they call’).
Accordingly, it appears that not only are inflected forms in complementary distribution with pronouns (McCloskey & Hale, 1984; McCloskey 1986; Legate, 1999), but inflected forms appear unacceptable with any overt argument at all (see also Andrews, 1990; Acquaviva, 1999).

Lastly, an interesting exception to the above generalization must be noted. For the prepositions le (meaning ‘with’) and thrí (‘through’), the third person singular masculine form is used when the preposition takes an argument marked with the definite article an (22).

(22)  a. Tá Cait anseo leis an mbosca.  b. Tá Máirtín ag breathnú thrí an bhfúinneog seo.
is C. here with.3SG-M the box is M. PROG look through.3SG-M the window DEM
‘Cate is here with the box.’ ‘Martin is looking through this window.’

Interestingly, the masculine form of these prepositions appears even when the argument is feminine (Acquaviva, 1999) or plural (J. McCloskey, p.c.), as shown in (24) and (25).

(24)  a. leis an mbean
with.3SG-M the woman
b. * lei an mbean
with.3SG-F the woman
c. * le an mbean
with the woman
(25) leis na fir
with.3SG-M the men

To summarize, it has been seen that pronouns and inflection cannot co-occur. To express a pronominal argument of a preposition, the inflected form of the preposition is used without an overt pronoun. Furthermore, when expressing a non-pronominal argument, with a small number of notable exceptions, no inflectional morphology is used. In the next section this pattern is shown to follow from the interaction of two morphological processes: agreement with a null pronoun, and the impoverishment of agreement features by lexical arguments. The account captures the central generalization and can be elegantly extended to address the apparent exceptions.

3. Analysis: Agreement and impoverishment

The starting point for the analysis will be Legate’s (1999) account of Irish verbal inflection which is developed within Distributed Morphology (Halle & Marantz, 1993). Legate builds on a proposal by MH that Irish inflection represents agreement with a null pronoun. The following section briefly reviews the evidence behind this proposal, though the reader is referred to MH for a more thorough discussion, and introduces Legate’s implementation. Section 3.2 evaluates the proposal against the data introduced above, finding that it cannot be directly extended to prepositions. Section 3.3 offers a solution by appeal to an operation of morphological impoverishment.

3.1. Agreement with a null pronoun

McCloskey & Hale (1984) argue that inflected forms share crucial syntactic characteristics with forms that contain an overt pronoun. They identify three syntactic properties of inflected forms that follow naturally from the syntactic presence of a covert pronoun.

First, nominal suffixes are acceptable following inflected forms (26). Acceptable suffixes include féin (reflexive), seo/sin/siúd (demonstratives).

(26)  a. An gcuirfeá pro féin isteac ar an phost sin?
Q put.COND.2SG pro REF. in on that job
‘Would you yourself apply for that job?’ (MH (13a))
 b. Chuireadar pro seo isteac ar an phost.
pot.past.3pl pro DEM in on the job
‘These ones applied for the job.’ (MH (14a))

Second, the inflected form can act as the head of a relative clause (27).
Third, inflected forms can be felicitously coordinated with an overt argument (28).³

(28)  a.  Dá mbeinn pro se agus tusa ann.
     if be.COND.1SG pro CONTR and you.CONTR there
     ‘If you and I were there.’         (Legate, 1999)

     b.  Labhair sé liom pro sa agus mo mháthair.
     spoke he with.1SG pro CONTR and my mother
     ‘He spoke to me and my mother.’     (McCloskey, 1986)

Taken together, these three pieces of evidence strongly suggest the syntactic presence of a null pronoun with which the inflected preposition stands in an agreement relationship.

Legate (1999) proposes a morphological account of the distribution of the Irish null pronoun. Essentially, a null pronoun must be inserted whenever pronominal features appear “in the environment of” identical φ-features (p. 14). This licensing condition is implemented by means of a lexical entry determining the context in which the null pronoun can be inserted, subject to the subset principle of VI whereby more specific entries (in this case, the null form) are preferred to less specific entries.⁴ Legate’s lexical entry is given in (29), and an example of how her proposal operates is given by the derivation in (30).

(29)  [ø] ↔ [αφ] / [αφ]                          (Legate, 1999 (24))

(30)  /cuir 1SG…/ ‘I put…’
     i.  Agreement:  /cuir₃SG 1SG…/
     ii. Verb + Agr. features spelled out:  [chuirfinn] /1SG…/
     iii. Null pronoun spelled out:  [chuirfinn pro…]

The rule in (29) can be informally rephrased as “don’t spell out a pronoun if you can get away with it.”

A notable aspect of this proposal is that the spell-out of the pronoun is contingent on whether agreement features are realized on the inflected form. Consequently, VI must proceed from the top of the spell-out domain to the bottom. In the next section it will be seen, however, that this proposal cannot be extended to the prepositional domain without some modification.

3.2. A wrinkle: (No) agreement with lexical arguments

Legate’s account successfully captures the observation that pronouns cannot co-occur with inflection; however, it incorrectly predicts that inflection will co-occur with overt lexical arguments. This prediction is illustrated with the derivation in (31).

(31)  /le Máire₃SG-F/ ‘with Mary’
     i. Agreement:  /le₃SG-F Máire₃SG-F
     ii. Preposition + Agr. features are spelled out:  [léithi] /Máire/
     iii. No pronominal, so the proper name is spelled out:  [léithi Máire]

³ McCloskey (1986) marks example (28b) with a parenthetical ‘?’, noting that conjunctions with an inflected preposition and an overt argument appear slightly marginal when compared with conjunctions involving inflected verbs. Despite this difference, the pattern is widely attested (J. McCloskey, p.c.) and, accordingly, I following McCloskey (1986) in attributing any difference to a preference for constructions in which the preposition is repeated before each conjunct.

⁴ I will not discuss the potential conflict with cross-linguistic observations that null pronouns are more marked than their overt counterparts summarized by, e.g., Bresnan (2001a).
As seen above, inflected prepositions do not co-occur with an overt lexical argument (17-19); rather, the base form is used (3-5). Legate’s proposal, using top-down VI, does not provide a mechanism for the spell-out of the preposition to be influenced by an element lower in the tree.

3.3. Proposal: Morphological impoverishment

A clue as to how to properly formalize the dependency between the preposition and its argument lies with the “exceptional” prepositions noted above: le (‘with’) and thrí (‘through’). These prepositions always appear with 3rd person masculine singular inflection when taking an argument marked with the definite article. Crucially, these inflected forms express the unmarked set of inflectional features (see also Acquaviva, 1999). Generalizing across the exceptions and the standard cases, an overt lexical argument always occurs with a less marked, or more neutral, preposition.

The generalization recalls cases of morphological neutralization, whereby marked paradigm members are syncretic with less marked forms. To illustrate this observation, the table in (33) presents the agreement pattern of Romanian adjectives presented by Noyer (1999, p. 265). The relevant generalization is that there are no specifically neuter adjectives; singular neuter adjectives share masculine morphology, and plural neuter adjectives share feminine morphology.

<table>
<thead>
<tr>
<th></th>
<th>SG.</th>
<th>PL.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MASC</td>
<td>-ø</td>
<td>-i</td>
</tr>
<tr>
<td>NEUT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FEM</td>
<td>-â</td>
<td>-e</td>
</tr>
</tbody>
</table>

The generalization can be succinctly formalized with a rule by which neuter features (i.e. marked features) are removed, or impoverished, in the context of an adjective (see also Bonet, 1991); such a rule is shown in (34).

\[ \text{[-masc, -fem]} \rightarrow \emptyset / \text{[Adjective _____]} \]  
\[ \text{Noyer’s (7))} \]

I propose that the unavailability of agreement with a lexical argument in Irish follows from an impoverishment rule, operating prior to VI, which deletes \( \Phi \)-features in the context of a linearly subsequent lexical DP. The rule is illustrated in (35).\(^5\)

\[ X^0 \Phi_{\text{[pers,num,gen]}} \rightarrow X^0 / \text{_____ DP}_{\text{lex}} \]

The rule in (35) formalizes the intuition that Irish does not permit the spell-out of inflectional features if they must be expressed elsewhere. Considered together with Legate’s (1999) null pronominal allomorph, the observed distribution for inflection follows. (36) illustrates the derivation when a pronoun is followed by a lexical argument, and (37) illustrates a derivation with a pronoun and, thus, no impoverishment.

\[ /\text{le Mái}r2SG-F/ \quad \text{‘with Mary’} \]
\[ i. \quad \text{Agreement:} \quad /\text{le}2SG-F \text{Mái}r2SG-F/ \]
\[ ii. \quad \text{Impoverishment:} \quad /\text{le} \text{Mái}r2SG-F/ \]
\[ iii. \quad \text{Spell-out of the preposition:} \quad [/\text{le}] /\text{Mái}r3SG-F/ \]
\[ iv. \quad \text{Spell-out of the proper name:} \quad /\text{le Mái}r/ \]

\(^5\) Descriptively, the conditioning environment for impoverishment in Irish is any linearly subsequent DP node containing non-\( \Phi \)-feature content. Defining the environment in terms of linear order precludes DPs conjoined with pronouns from impoverishing the inflecting head. Note also that, as impoverishment takes place prior to vocabulary insertion, the rule applies regardless of whether the same material will be spelled out at a higher node due to, e.g., topicalization.
(37) /le 3SG-F/ ‘with her’
   i. Agreement: /le 3SG-F/
   ii. No impoverishment:
       iii. Spell-out of the preposition: [léithi] /3SG-F/
       iv. Null pronoun licensed by overt Agr.: [léithi ø]

As for any account, something additional must be said in order to capture the exceptional prepositions le and thrí. Instead of positing arbitrary rules (e.g. feature insertion; Acquaviva, 1999), these prepositions simply condition a slightly weaker impoverishment rule (38).

(38) \[ X^0 \phi[pers,num,gen] \rightarrow X^0 \phi[a] / \text{DP}_\text{lex} \]

To conclude, the present analysis maintains a strictly local account of morphology in which distribution of inflection follows from the obligatory application of local operations. According to this approach, there is no level of representation on which complexes of inflected forms and arguments compete with uninflected forms, and thus there is no ‘blocking’ in the traditional sense. As such, the present proposal is in line with the “local application” framework.

The following section explores an alternative approach in which the presence of inflection is determined by economy principles on spell-out. While such a “global economy” approach can capture the basic facts, it fails to elegantly extend to the ‘exceptional’ prepositions and, furthermore, is found to make the wrong predictions with respect to prepositional suppletion.

4. An economy alternative

Andrews (1990) presents an alternative approach for Irish verbal inflection, suggesting that only one set of person, number, and gender features exists in the underlying feature representation. If pronouns, inflection, and overt arguments all realize the same set of \( \phi \)-features, then the complementary distribution follows from two economy conditions, one which blocks two constituents from spelling out the same feature set, and a second which ensures a preference for features to be spelled out with as few lexical items as possible.

The strength of Andrews’ approach comes from stating the blocking principles on a level of feature representation that is abstracted away from constituent structure, thus allowing phrases and words to compete for the spell-out of identical features. However, such a powerful tool significantly over-generates the kind of morphsyntactic blocking one would expect cross-linguistically (Legate, 1999; Bresnan, 2001a; Embick & Marantz, to appear). Furthermore, the approach runs into difficulty with the “exceptional” prepositions, as the architecture prohibits \( \phi \)-features from being expressed on more than one element.

One way to maintain the intuition behind Andrews’ approach, and avoid some of the pitfalls, is by enforcing economy conditions on the spell-out of fully-formed syntactic structure, rather than by positing separate representational levels for constituents and features. Conditions of this sort have been fruitfully explored within the copy theory of syntactic movement as an account of how the spell-out of multiple identical copies is resolved at PF as in Landau (2006) (see also Bresnan, 1998; Nunes, 2001). A candidate for such a condition based on recent proposals is given in (39).

(39) **ECONOMY OF EXPONENCE**: Don’t spell out more than one member of a chain.\(^6\)

While this sort of condition has been applied only to copies created by movement, it might be extended to include duplicate features created by agreement. In addition, a full account for Irish requires a principle that helps to determine which of several copies are realized at VI; an **AVOID PRONOUN**

\(^6\) Members of the same chain are non-distinct in the numeration (Chomsky, 1995, p. 227). In other words, economy is only evaluated with respect to items that have undergone syntactic movement.
condition suffices to favour the expression of an inflected form over a base form with a pronoun (Cardinaletti & Starke, 1994, a.o.).

These conditions would operate over VI to determine the well-formedness of the spell-out of a phrase structure tree containing nodes populated by features and roots. Should two nodes have identical features (by movement or agreement), then VI at those nodes is subject to the conditions above. (40) illustrates how the central cases of prepositional agreement are captured by this approach.

(40) a. le Máire with M. d. * léithi i with.3SG-F her
   b. léithi with.3SG-F e. * le i with her
   c. * léithi Máire with.3SG-F M.

Note that in order to evaluate the economy of inserting a lexical item at a given node, VI could not proceed cyclically through the phrase structure, nor could it proceed anti-cyclically (Legate, 1999), as the evaluation of the spell-out of any node requires the capacity to determine whether the same material can be spelled out elsewhere and, if so, whether doing so is more economical with respect to the conditions on spell-out. Consequently, this proposal requires VI to occur in parallel.

4.1. Concerns with economy

There are two sets of facts for which the impoverishment account is favored over an economy account. The first involves exceptional prepositions, and the second and, perhaps, more convincing domain involves cases of zero-inflation on 3rd person singular masculine forms. First, as with Andrews’ account, an economy analysis requires ad hoc stipulations to capture the exceptional 3SG-M forms of le and thrí before a definite article. While the impoverishment account requires an additional rule, the form of the rule follows naturally from the architecture.

Second, the two accounts make different predictions regarding suppletion. Several prepositions do not show overt inflection on 3rd person singular masculine forms, shown for the prepositions as (‘out’) and faoi (‘under’) in the table in (2). The economy approach favors the spell-out of a pronoun if no overt affix is present to carry the agreement features; however, this prediction is not borne out (41).

(41) a. an dream a bhí ag obair faoi
    the group comp was PROG work under.3SG-M
    ‘those that were working under him’
   b. Bhain an scéal gáire as.
    took the story laugh out.3SG-M
    ‘The story got a laugh out of him.’

The impoverishment account, however, seems to make the correct prediction. A null allomorph for 3SG-M inflectional features is inserted in the context of these prepositions and the presence of the allomorph licenses the insertion of a null pronoun, yielding the surface forms observed.

5. Conclusion

The distribution of Irish prepositional inflection (and, by extension, Irish inflection more broadly) can be understood as a consequence of the interaction between an agreement operation with a null pronoun (McCloskey & Hale, 1984; Legate, 1999) and a morphological rule of impoverishment conditioned by lexical arguments. The paper also explored an alternative approach to the data based on

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7 For completeness, a RECOVERABILITY condition would be necessary to ensure unique features are not deleted.
8 I am grateful to Jim McCloskey for the examples given in (41).
economy principles acting over vocabulary insertion, but such an alternative was seen to be unable to account for exceptional prepositions and for cases of inflectional suppletion. To conclude, “blocking” effects in Irish are best explained by the obligatory application of morphological rules.

References


