Definite Inflection and the Relative Determiner in Scottish Gaelic

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• Two patterns are available for relativizing out of a prepositional phrase in Scottish Gaelic as shown in (??). Both patterns are attested in earlier stages of the language. In (??a) we have (read it), which I refer to as the stranding pattern, and in (??b), (read it), the pied piping pattern.

(1) a. a’ chraobh[i \[ a dh’òl \[ thu an leann \[ fodha \] ]] \[ STRANDING \]

a’ chraobh a dh’òl thu an leann fodha
the tree C.REL drink.PAST.INDEP 2SG the beer under.3MSG
‘the tree you drank beer under’

b. a’ chraobh[i \[ fon \[ \ j \[ an do dh’òl \[ thu an leann \] ]] \[ PIED-PIPING \]

a’ chraobh fon an do-dh’òl thu an leann
the tree under.DEF C.REL drink.PAST.DEP 2SG the beer
‘the tree you drank beer under’

(? , 10)

• These two patterns vary in:
  i. The position of the preposition So in (??a) the preposition “fodha” remains in situ at the end of the clause, but in (??b) the preposition appears preceding the relative complementizer an
  ii. We also see variation in The inflection on the preposition The preposition “fodha” in (??a) shows 3MSG inflection, but the pied-piped preposition “fon” in (??b) shows definite inflection
  iii. The form of the complementizer also varies. The general relative complementizer a is found in (??a), but a special relative complementizer is used in the pied-piping pattern in (??b)
  iv. and finally, we see variation in The form of the verb The relative complementizer a in (??a) triggers the independent form of the verb, used in matrix clauses, but the special relative complementizer an in (??b) patterns with other complementizers in triggering the dependent form

• The inflection found on the preposition is insensitive to the properties of the pivot I use the term “pivot” to refer to the external head of the relative clause, ‘a’ chraobh’ in (??). The inflection we see with each pattern is invariant; and although the pivot “a’ chraobh” is definite here, we will see below that this need not be the case.

• Two prominent characteristics of Scottish Gaelic are at play here: relativization and prepositional inflection

• Relativization is a common strategy, used to form not only relative clauses but also cleft structures and wh-questions (?)

1I would like to thank the UCSC S-Circle, Stanford SMircle, Line Mikkelsen, Peter Jenks and Eve Sweetser for their comments and suggestions of previous versions of this talk, and Andrew Dunn for his judgments.
• Prepositional inflection is a salient feature of Scottish Gaelic, and common among the Celtic languages generally.

• Organization of this talk:
  – I will begin with a discussion of Definite inflection following my earlier work (?)
  – and then move on to an overview of ?’s analysis of Gaelic relative clauses
  – I end with An analysis of the pied-piping pattern in (??b): the interaction of how Scottish Gaelic forms its relative clauses and the use of a relative determiner (cf. ?)

1 Definite Inflection in Scottish Gaelic

• Gaelic prepositions agree with null pronominal complements as well as with certain determiners and complementizers.

• The Surface Triggers of Definite Inflection are listed in (??)

(2) a. the singular definite article a’ or an
b. the plural definite article na
c. gach ‘each, every’
d. dè ‘what’
e. the relative complementizers an and the negative counterpart nach

• The term ‘Definite’ is used here to characterize a morphosyntactically-defined class, and does not necessarily reflect semantic definiteness.

• Additionally, Two classes of preposition can be identified (?) based on the following characteristics:
  i. The Form of the the inflectional marker for definiteness
  ii. The Triggers of definite inflection, whether all the elements in (??) trigger definite inflection, or whether only a subset do
  iii. And Lenition effects that the preposition has on a bare nominal complement

• Class I definite inflection
  – is realized by an -s suffix and is
  – triggered by all of the definite triggers listed in (??), illustrated in (??)

(3) a. leis a’ chaoire
    with.DEF the sheep.SG
    ‘with the sheep’
b. leis na caoraich
    with.DEF the.PL sheep.PL
    ‘with the sheep(s)’
c. leis gach caoire
    with.DEF each sheep.SG
    ‘with each sheep’
d. le/*leis caoire
   with sheep.SG
   ‘with a sheep’

There is no indefinite article in Scottish Gaelic. The bare noun does not co-occur with inflection.

- Class II definite inflection, on the other hand, is
  - realized by an -n suffix
  - and is triggered only by the singular definite article and the relative complementizer so in (??a) we have (read it), but in (??b) (read it) the preposition does not inflect

(4) a. fon a’ bhòrd
   under.DEF the table
   ‘under the table’

b. fo na craobhan
   under the.PL tree.PL
   ‘under the trees’

Also compare (??a) to (??b) above: this is the same inflection

- Class II prepositions lenite a following bare (indefinite) noun This is represented orthographically by an “h” after the initial consonant. Compare (??) (read it) with the lack of lenition on the bare nominal in (??d) above. Class I prepositions do not lenite.

(5) a. craobh ‘tree’

b. fo chraoibh
   under tree.SG.DAT
   ‘under a tree’

- Another difference between the two classes of preposition is that The definite article can be optionally dropped following a Class II inflected preposition. This is rooted in the historical development of the ‘-n’ suffix from the definite article. So in (??a) we have (read it), with the definite article dropped. But in (??b) (read it), the definite article is repeated.

(6) a. Thainig stoirm shneachda bho’n iarthuath

   Thainig stoirm shneachda bho’n iarthuath
   came storm snow from.DEF northeast
   ‘A snowstorm came from the northeast’

   (?, 31)

b. chon a’ bhaile aige fhéin

   chon a’ bhaile aige fhéin
   to.DEF the town at.3MSG self
   ‘to his own town’

   (?, 53)

- So definite inflection cannot be due to a purely phonological process
- Also, It is worth noting that the expression of inflection appears to be a strictly local phenomenon, with intervening elements blocking inflection (?)
(7) a. Dh’fheuch e ri eadhon am ban-r`ıgh a mharbhadh
   tried he to even the queen PTCL kill
   ‘He tried to kill even the queen’

b. Dh’fheuch e ris am ban-r`ıgh a mharbhadh
   tried he to the.DEF queen PTCL kill
   ‘He tried to kill the queen’

(?, 86)

• so in Summary:
  – There are 2 classes of preposition
  – Definite inflection is a local morphological phenomenon

Moving on to an analysis of definite inflection:

1.1 Analysis of Definite Inflection

• All triggers of definite inflection bear the morphosyntactic feature [δ] and each class of preposition bears a Class diacritic (following ?, and see ? for a similar proposal in Irish)

• Class I inflection can be accounted for by the rule in (??) which inserts the inflectional exponent -s in the presence of a [δ] feature. (??) gives a sample derivation.

(8) ∅ ↔ -s / [CLASSI] ___ [δ]
(9) Input: le gach caoire
    with[CLASSI] each[δ] sheep

∅ ↔ -s / [CLASSI] ___ [δ]

Output: leis gach caoire

Recall that Class II prepositions inflect for only the singular definite article

• The idiosyncrasies of Class II inflection can be accomplished by deleting [δ] in certain contexts, for instance, with a deletion rule, as in (10). The deletion rule bleeds the insertion rule.

(10) [δ] ↔ ∅ / [CLASSII] ___ [PL]
(11) Input: fo na craobhan
    under[CLASSII] the[δ,PL] trees

i. [δ] ↔ ∅ / [CLASSII] ___ [PL]
ii. ∅ ↔ -n / [CLASSII] ___ [δ]

Output: fo na craobhan
• There’s a small wrinkle in this analysis: the configuration of the preposition plus relative complementizer is different from the configuration found with determiners. For the majority of the triggers listed in (?), the configuration is a head-complement relation, as in (a). But the relative complementizer does not fit this description, assuming pied-p piping puts it in spec, CP.

(12) a. \[ PP \]
   \[ P \]
   \[ leis \]
   \[ leis \]
   \[ D \]
   \[ D \]
   \[ gach[\delta] \]
   \[ gach[\delta] \]
   \[ NP \]
   \[ NP \]
   \[ caoire \]
   \[ caoire \]
   \[ b. CP \]
   \[ PP \]
   \[ P \]
   \[ fon \]
   \[ fon \]
   \[ DP \]
   \[ DP \]
   \[ C' \]
   \[ C' \]
   \[ C \]
   \[ C \]
   \[ TP \]
   \[ TP \]
   \[ an \]
   \[ an \]
   \[ an do dh'ol thu an leann \]
   \[ an do dh'ol thu an leann \]

• so in summary:
  – Definite inflection reflects the presence of a [\delta] feature
  – The relative complementizer doesn’t quite fit into the general pattern of definite inflection triggers: first, it is not a determiner and second, it fails to occur in the same configuration as the other triggers

2 Static Ā-dependencies (?)

? propose a non-movement analysis of Ā-structures in Scottish Gaelic

• For prepositional relatives, (?) (hereafter A&R) focus on the pattern in (a) above, characterized by 3MSG ‘default’ inflection on the preposition

• This ‘default’ inflection is one of several “non-identity” effects between the pivot and the gap.

i. One such non-identity effect is Agreement: The form of the (stranded) preposition is 3MSG regardless of the properties of the pivot. So in (a) (read it) ‘anns’, is definite, triggered by the definite article; but when “a’ bhocsa” is extracted, in (b) (read it), the 3MSG form of the preposition, “ann” is used.

ii. another non-identity effect is Case: the pivot receives its case from the matrix clause. The difference in case is reflected in the form of the definite article here: Dative “a” in (a) but Nominative “am” in (b).

(13) a. Chuir thu am peann anns a’ bhocsa
   put you the pen in.DEF the.DAT box.DAT
   ‘You put the pen in the box’

b. Dé am bocsa a chuir thu am peann ann
   what the.NOM box.NOM C.REL put you the pen in.3MSG
‘Which box did you put the pen in? ’

— A&R attribute The following non-identity effects to the non-movement derivation of Scottish Gaelic relative clauses: selection, agreement, case, idiomatic readings, and Condition C effects.

• If the pivot does not share properties of the gapped position and does not always reconstruct in that position, A&R argue that it is not base-generated there at all

• Rather, a special relative null pro occupies the ‘gap’. So in (14a) (read it), the apparent gap is in fact occupied by pro, illustrated in (14b). I assume the relative clause to be adjoined to the pivot, but this is not essential.

(14) a. fear a thogadh am-measg luchd-siubhail na G`aidhealtachd

fear a thogadh am-measg luchd-siubhail na G`aidhealtachd

man C.REL brought.up among travellers the.GEN Highlands

‘a man who had grown up among the travellers of the Highlands’

To illustrate, (15) is repeated from (?a) above. Rather than a gap, there is a null pro, and the pivot “a’ chraobh” is base-generated outside of the relative clause.

(15) a. a’ chraobh | [a dh’ol thu an leann fodha pro]
a’ chraobh a dh’ol thu an leann fodha
the tree C.REL drink 2SG the beer under.3MSG
‘the tree you drank beer under’

(15b) is a representation of the feature valuation process.

b. a[C, Λ, ID:dep] ... pro[D, ID:] → a[C, Λ, ID:dep] ... pro[D, ID:dep ]

- Gaelic Á-dependencies are static dependencies established by agreement between the relative complementizer and a pro in the gapped position, and this is in contrast to movement-based languages like English, where movement creates two copies, and the higher one abstracts over the lower one
  - The properties of the stranding pattern in (15a) are accounted for by A&R’s analysis:
    * Position of the preposition is unsurprising: no movement is involved in the formation of Á-dependencies, so there is no expectation that the preposition be displaced. Rather, we expect the preposition to be in situ
    * Inflection on the preposition is accounted for: relative pro acts like other pronouns in triggering φ-inflection on the preposition
    * Form of the complementizer reflects its featural makeup: the features on a ensure its appearance only in Á contexts
    * Form of the verb: the independent form of the verb is selected for by the complementizer a
  - A&R’s analysis accounts for the failure of reconstruction, as well as the morphological realization of inflection on the preposition.

3 The Challenge: Pied-Piped Prepositions

The pied-piping pattern in (15b) presents a challenge to A&R’s analysis

- A&R’s analysis is meant to apply to relativization in Scottish Gaelic generally
- and while ? acknowledge the pied-piping pattern, they do not provide an analysis
- The challenge is that The pied-piped preposition does not bear the default 3MSG inflection, but instead bears definite inflection so something must be blocking the agreement triggered by pro
- While the full set of non-identity effects in the pied-piping strategy are still being investigated, two important non-identity effects do hold and that is Agreement and Case:
  * i. Agreement In (15) (read it) the pivot “aite” is indefinite, and accordingly does not trigger definite inflection on the preceding preposition “gu”. However, the relative clause-internal preposition “anns” does appear in the definite form.

(16) agus an duine eile ’g a tilgeil a mach gu aìte anns an tiormaich i
    agus an duine eile ’g a tilgeil a mach gu àite anns an and the man other ASP it throw.VN PTCL out to place in.DEF C.REL
    tiormaich i
dry it
‘and the other throwing it out, to a place where it will dry’

(?, 271)
ii. Case As above, nominative case is found on the extracted nominal in (17a) (read it), but the in situ case is dative in (17b) (read it)

(17) a. am b` ord fon a bheil an leabhar
   
   am    b` ord    fon    a    bheil    an    leabhar
   the.NOM table.NOM under.DEF C.REL be.PRES.DEP the book
   ‘the table the book is under’
   
   (?, 10)

   b. fon a’ bh` ord
   
   fon    a’    bh` ord
   under.DEF the.DAT table.DAT
   ‘under the table’
   
   (?, 104)

What would be ideal would be an analysis that can account for the covariation between the position and the form of the preposition while preserving A&R’s essential insight, accounting for the non-identity effects via base-generation as well as the form of the inflection on the preposition.

So now we move on to an analysis of definite inflection in Scottish Gaelic relative clauses.

4 An Analysis of Definite Inflection in Relative Clauses

Recall that Inflection on the preposition is insensitive to the definiteness and phi-features of the pivot (cf. (??)) that is, the two patterns in (18) form a minimal pair of sorts

(18) a. PIVOT [ A ... P-3MSG ]

   b. PIVOT [ P-DEF AN ... ]

* Ingredients for an analysis of the pied-piping pattern in (??b)
   · Static agree (A&R), with [A] on C and a special relative pro, holds for all relativization structures in the language
   · Relative determiner (?), which can naturally override the default inflection of the relative pro, and which has the morphosyntactic feature [δ]
   · pro-DP structure (following ?)

The configuration is shown in (19), with the relative determiner heading the null pro

(19)

* The relative determiner has a very particular relationship with the relative complementizer ‘an’. Wherever the relative determiner appears, it must move to spec,CP; and whenever it moves, the special relative complementizer an must be involved.
* I assume that part relationship of this is due to the fact that The feature [REL] on the complementizer must be checked in a spec-head configuration (?, 76)

* The difference between the relative complementizers a and an comes down to the presence of the [REL] feature ‘an’ has it, and ‘a’ does not

(20) a [A, ID: dep]

an [A, ID: dep, REL]

* But why must the relative determiner occur only as complement to a preposition?

    · Notice that The relative determiner is null in Scottish Gaelic, and so perhaps it must be licensed by inflection on the preposition
    · Then, Since definite inflection occurs only on prepositions, the relative determiner can be used only with extraction from a prepositional phrase
    · Perhaps another aspect of its distribution might be that The use of the relative determiner is a strategy, like resumption or movement (cf. ?), that is sensitive to ?’s hierarchy:

(21) subject >>direct object >>[ indirect object >>prepositional object ]
    >>possessor

    · the negative relative complementizer nach does not co-occur with inflection on Class II prepositions (??a), although it does with Class I prepositions (??b). ‘tro’, a Class 2 preposition, is uninflected in (??a) (read it); ‘ris’, a Class 1 preposition, is inflected in (??b) (read it).

(22) a. a’ choille tro nach tainig mi

    a’ choille tro nach tainig mi
    the forest through C.REL.NEG came I
    ‘The forest through which I did not come’

    (A. Dunn, p.c.)

b. an duine ris nach robh thu ag ēisteachd

    an duine ris nach robh thu ag ēisteachd
    the man to.DEF C.REL.NEG be.PAST,DEP you PROG listen.VN
    ‘the man you weren’t listening to’

    (? , 9)

5 Conclusion

In conclusion,

* Analysing definite inflection as involving the relative determiner allows us to better understand the phenomenon of definite inflection in Scottish Gaelic:

    · Unification of the triggering category: so that all D⁰ heads
    · Uniformity of preposition+trigger configuration: all occur in a head-complement relation

* The use of the relative determiner in Scottish Gaelic supports ?’s view of it:
The relative determiner patterns morphosyntactically with the singular definite article.

The use of the relative determiner can be a relativization strategy along with gapping and resumption.

* The relative determiner appears as pure definite inflection in Scottish Gaelic, and not as a familiar relative pronoun because:
  - The pivot is not base-generated inside the relative clause (?), so the complement to the relative determiner is an invariant null pro.
  - Thus the relative determiner does not reflect gender and number features of the pivot as familiar relative pronouns do.
  - and The relative determiner, being null, must be licensed by inflection, which is found only with prepositions, explaining its distribution.

* The alternation in inflection in (??) is a unique reflection of Scottish Gaelic being a Merge language and employing a relative determiner. The analyses provided by ? and ? shed light on the otherwise puzzling appearance of definite inflection on the pied-piped preposition. Whatever the mechanism responsible for the non-identity effects in Scottish Gaelic, it is clear that the particular inflection found on the preposition is a particular Gaelic reflection of the more familiar relative pronoun.