

Psych Nouns and Predication*

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1. Introduction

1.1. Experiencers

Experiencers show a range of anomalous properties crosslinguistically, giving rise to much work in the literature. (Postal 1971, Perlmutter 1983, Belletti and Rizzi 1988, Pesetsky 1995, McGinnis 2000, and most recently Landau 2005). Traditionally, they have posed problems for the thematic hierarchy, since experiencers occur both as subjects with theme objects, and as objects with theme subjects:

- (1) (a) John fears tigers.
- (b) Tigers frighten John.

A fairly standard view (Belletti and Rizzi 1988, Landau 2005) takes psych verbs fall into three main classes.

- (2) (a) *Class I*: Nominative experiencer, accusative theme.
John loves Mary .
- (b) *Class II*: Nominative theme, accusative experiencer.
The show amused Bill.
- (c) *Class III*: Nominative theme, dative experiencer.
The idea mattered to Julie.

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The kind of solution proposed by Belletti and Rizzi (1988) was that Experiencers are merged in a uniform syntactic position, but displacement operations create the different classes. More recently, Landau has argued that at least object experiencers have a uniform locative structure underlyingly, and that they are fundamentally oblique or prepositional. Intuitively, the anomalous properties of many experiencer arguments often seem to indicate that the experiencer argument is ‘higher’ in the structure than its surface position might indicate—extra binding possibilities, enhanced ability to control PRO, etc. (cf. Landau 2005). Analysing these experiencer arguments as ‘locatives’ allows Landau to capture their behaviour by means of a movement analogous to locative inversion at LF.

In Scottish Gaelic, experiencers are most often found as prepositional arguments of nouns. Given Landau’s hypothesis, this is expected since they share a syntax with ordinary locative expressions. Two questions naturally arise at this point: (i) is the class of experiencer arguments in this language systematically special from a syntactic and semantic point of view and distinguishable from other obliques? and (ii) do they pattern in their anomalous properties with locatives more generally?

In this paper we argue that it is indeed true that experiencers are special, but it is not true that they can uniformly be assimilated to the behaviour of straightforward locatives. In fact, the syntax of some experiencers is locative, while others is actually possessive (a category which of course also often co-opts locative morphology). We speculate that the special syntactic behaviour of these experiencers is related to their animacy, and not to their locative-ness or obliqueness. To anticipate, we will argue that:

1. In transitive psych constructions, experiencers are added by a higher functional head, and are akin to applicative arguments.
2. This head has a roughly possessional semantics.
3. In intransitive psych constructions, the experiencer *is* exactly like an abstract locative PP, but in that case it seems to show no anomalous properties.

1.2. Scottish Gaelic

Scottish Gaelic is a Celtic VSO language spoken natively by about 60, 000 people. Predicative structures in the language have an initial tensed auxiliary, followed by the subject and then predicate:

- (3) Tha an cù anns a’ghàradh
Be-PRES the dog in the garden
‘The dog is in the garden.’

Experiencers may appear as the subject of this kind of construction:

- (4) Tha mi brònach ADJECTIVAL PREDICATION;NOMINATIVE EXPERIENCER
be-PRES I sad
‘I am sad.’

- (5) Tha mi fo chùram PP PREDICATION; NOMINATIVE EXPERIENCER
Be-PRE I under anxiety
'I am anxious.'

We will not be dealing with nominative experiencer constructions in this paper. We concentrate instead on the more common way of expressing psychological predication where a nominal which denotes the psych-state seems to appear in the subject position (in the place of 'the dog' in examples such as (3)), and where the experiencer is expressed as a prepositional phrase in the predicate position (i.e. in the place of 'in the garden' in examples like (3)). In what follows, we will refer to the psych-state naming nominals as Ψ -NPs:

- (6) Tha cùram orm PREPOSITIONAL EXPERIENCER
be-PRES anxiety on + me
'I am anxious.'

- (7) Tha eagal orm PREPOSITIONAL EXPERIENCER
be-PRES fear on + me
'I am afraid.'

This same kind of structure is also found for possession. Like many languages, Scottish Gaelic has no lexical item corresponding to English 'have'. Instead, possession is expressed by means of the verb 'to be' and a PP literally meaning 'at DP' (compare (8) and (9)).

- (8) Tha am ministear aig an doras
Be-PRES the minister at the door
'The minister is at the door.'
- (9) Tha peann aig Dàibhidh
Be-PRES pen at David
'David has a pen.'

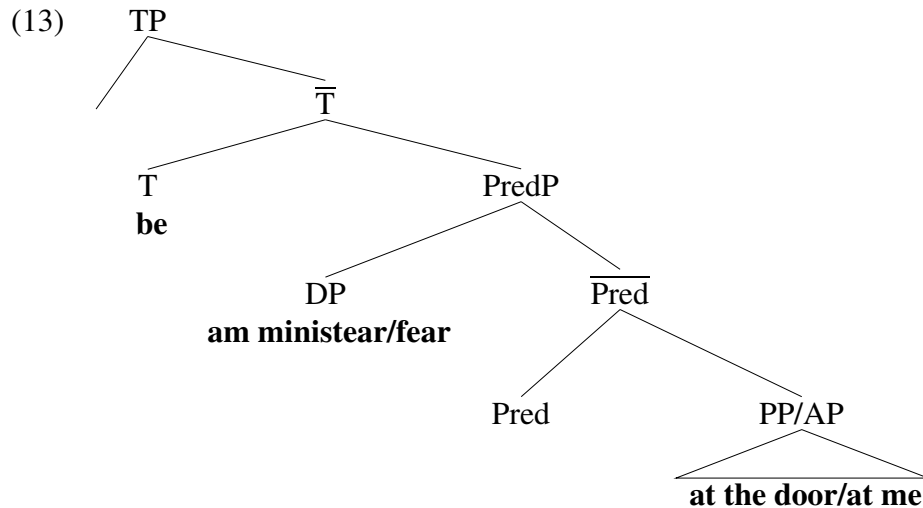
The above psych expressions are essentially 'intransitive' in that they have an NP denoting the psychological state, and a single argument, the experiencer. In order to express both a theme and an experiencer, two PPs are required in addition to the Ψ -NP:

- (10) Tha gaol agam ort PP EXPERIENCER; PP THEME
Be-PRES love at + me on + you
'I love you.'

A very basic question arises here concerning the nature of the predication in the above examples. We assume that all predication structures involve a fundamental asymmetry between 'subject' and 'predicate', or, in the case of PP predication, 'figure' and 'ground' (See Svenonius to appear, also Talmy 1978). As is well established in the literature for Irish and Scottish Gaelic, the basic clause structure of sentences using an auxiliary

‘be’ in first position involves a ‘small clause’ constituent immediately following that tensed auxiliary (cf Chung and McCloskey 1987). In Adger and Ramchand 2003, we argued for a particular structure for these constructions (which we termed Substantive Auxiliary Constructions (SACs)). Essentially modernizing the small clause analysis established by Chung and McCloskey, we argued that various syntactic and semantic properties of these constructions could be made sense of if the predicate was uniformly headed by a functional head (Bowers 1993):

- (11) Tha Calum faiceallach.
 Be-PRES Calum careful
 ‘Calum is (being) careful.’
- (12) Tha am ministear aig an doras.
 Be-PRES the minister at the door
 ‘The minister is at the door.’



If experiencer constructions such as (7) conform to this general configuration (the simplest assumption), then the psych nominal is the subject of the predication and the experiencer-PP is the predicate. More precisely, the experiencer itself is the ‘ground’ or complement of the predicating prepositional head. This is expressed schematically in (14).

- (14) [be [_{PredP} fear [on [me]]]]

For transitive psych constructions as in (10), it is less straightforward to see how to view the predication, in particular because the constituency is not clear, and there are no obvious parallels to the construction in the locational domain (these are the only constructions where two PPs are obligatory, and dependent on the choice of subject). Still, one might hazard the following structure for (10), conforming to the general clausal pattern by making the experiencer part of the psych nominal constituent in subject position, with the theme the complement of the predication phrase headed by a preposition. This is schematized in (15).

- (15) [be [_{predP} [_{NP} love at me] [on [you]]]]

We have been explicit about these structures because it is important to see what we would expect the constituency and predication relations to be if these structures corresponded to their surface-similar cousins in non-psych predications. In fact, we will argue that although (14) is plausibly the correct structure for the intransitive psych construction, there is clear evidence that (15) is wrong for the transitive ones.

2. Structure of Auxiliary Psych Constructions

Our decision about experiencer argument syntax will ultimately hinge on the internal constituency and predication properties of the transitive psych construction above.

2.1. Constituency

In an Auxiliary Psych Construction, we can show that the Ψ -NP is in constituency with the theme-PP, rather than with the experiencer-PP. Our first test comes from clefting: the Ψ -NP can be clefted together with the theme as in (16), but cannot be clefted together with the experiencer (17).

- (16) 's e [gaol air Iain] a th'agam
Its love on Iain that is at-me
'I love Iain.'

- (17) *'s e gaol aig Iain a th'orm
Its love at Iain that is on-me
'Iain loves me.'

In Scottish Gaelic, in a negative sentence, a constituent can be right dislocated and preceded by *ach*-‘but’, putting it in focus and outside the scope of the negation. Once again, the [Ψ -NP Theme] can be dislocated in this way, showing that it is a constituent (18), but the [Ψ -NP Experiencer] collocation cannot (19).

- (18) Chan eil agam ach [gaol ort]
Neg be at-me but love for-you
'I have nothing but love for you.'

- (19) *Chan eil ort ach gaol agam
Neg be on-you but love at-me

These two constituency arguments strongly suggest an analysis like that in (a) rather than (b) below, where the experiencer PP is outside of the constituent formed from the Ψ -NP and the theme-PP, and not the other way around:

- (20) (a) Experiencer-PP [Ψ -NP Theme-PP]
(b) * [Ψ -NP Experiencer-PP] Theme-PP

2.2. Hierarchy

Another salient difference between the two PPs concerns hierarchical relationships. There is evidence from binding theory that in fact the experiencer c-commands the theme, but not vice versa. In (21), we see that a reflexive in theme position can be bound by the experiencer; in (22) we see that a reflexive in experiencer position cannot be bound by the theme.

- (21) Tha gaol agam orm-fhèin.
Be-PRES love at-1SG on-1SG-self
'I love myself.'

- (22) *Tha gaol agam-fhèin orm.
Be-PRES love at-1SG-self on-1SG
'I love myself.'

This evidence speaks in favour of the structure given in (20a) above,¹ and against the structure in (20b) or any other imaginable alternative that generates the theme above the experiencer.

2.3. Selection

Our third piece of evidence comes from selectional restrictions. These facts are important because they give some insight into the structure of the predications involved. We assume that selectional effects on arguments operate locally, and not across distinct predication domains. It turns out that in transitive Psych constructions, the theme-PP can have a range of different prepositions depending on the particular Ψ -NP chosen. We show some examples in (23)-(27) below with different prepositions marking the theme; in (28) we find an example where the Ψ -NP requires a full CP theme.

- (23) Cha robh dragh aice dhiotsa.
Neg Be-PAST worry at-3FSG **off**-2SG
'She wasn't worried about you.'

- (24) Tha gaol agam ort.
Be-PRES love at-1SG **on**-2SG
'I love you.'

- (25) Tha sùil agam ann.
Be-PRES eye at-1SG **in**-3.M.SG
'I fancy him.'

¹We put aside the fact that the experiencer is actually embedded within a PP for the moment, noting that the preposition also seems to be ignored for the purposes of c-command for English argument PPs of the 'to-NP' type.

- (26) Tha fuath aig Iain do Pheigi.
Be-PRES hate at Iain **to** Peggy
'Ian hates Peggy.'
- (27) Bha truas aice ris.
Be-PRES pity at-3FS **with**-3ms
'She pities him'
- (28) Tha dòchas aca gum bidh iad trath.
Be-PRES hope at-3PL **that** be-FUT they early
'They hope that they will be early.'

On the other hand, in all of the above examples, the experiencer is uniformly introduced by the preposition *aig*-‘at’. This suggests that there is a tight selectional relation between the Ψ -NP and the theme, but that the experiencer is introduced by some more uniform independent process. We take this to be an indication that the Ψ -NP and the theme are at the very least in constituency with each other to the exclusion of the experiencer, once again supporting something like the structure in (29).

- (29) Experiencer-PP [Ψ -NP Theme-PP]

2.4. Word Order: The Surface Position of the Psych Nominal

Given the constituency argued for above, the surface word order seems to be wrong, since the Ψ -NP does not appear adjacent to the theme which it is in constituency with, but rather appears higher than both PPs, in what looks like the subject position. The first thing that we need to establish is the status of that initial position for the Ψ -NP: is it actually a subject, or does it just *look* that way?

In fact, by all the diagnostics available to us, the Ψ -NP seems to behave like any other subject in the language. We turn to some of that evidence now.

The first diagnostic concerns the position of subjects in non-finite clauses containing the auxiliary *be*, stated below in (30).

- (30) The Subject generalization: In a non-finite clause, the subject (but never an object) appears before the auxiliary *bith*-‘be’. (see Adger forthcoming; cf McCloskey and Sells 1988 for a similar generalization in Irish):

For example, in a VSO structure, the subject immediately follows the finite verb:

- (31) Dhùn Màiri an doras
Shut Mary the door
'Mary shut the door.'

In the corresponding non-finite structure with a progressive auxiliary, the subject (and never an object or an adjunct) must appear before the nominalized/nonfinite version of that auxiliary:

- (32) Bu toigh leam [Màiri a bhith a' dùnadh na dorais]
be liking with-me Mary prt be-VN ASP shut-VN the door-GEN
'I'd like Mary to shut the door.'

If we look at the embedding of a Ψ -NP construction in a non-finite clause, we find the Ψ -NP itself in this position, suggesting that it is the subject in the corresponding finite clause:

- (33) Bu toigh leam [gaol a bhith agam ort]
Cop liking with-me love prt be at-me on-you
'I wish I loved you.'

Further evidence that this is the right conclusion comes from the position of adverbs. Adverbs in Gaelic can appear after the subject and before the predicate.

- (34) Bith Iain an comhnaidh a' snamh
Be John always asp swimming
'John is always swimming.'

Similarly, they are placed after the Ψ -NP in a psychological predication:

- (35) Bith gaol an comhnaidh aig Iain air Mairi
Be love always at John on Mary
'John will always love Mary.'

Thus, the Ψ -NP does appear to be in the subject position on the surface (see McCloskey and Sells 1988 for the same conclusion), even though other constituency diagnostics put it together with the theme. Our conclusion is that movement is involved, and that the Ψ -NP moves to the subject position to satisfy the subject requirement of the clause. The subject position in Scottish Gaelic must be filled by an NP (if there is one—see McCloskey 1996, Adger 2000).

Moreover, we can see that the psych noun is not moving by the equivalent of head movement, because it can be modified by an AP, suggesting it is phrasal.

- (36) Bith [gaol mòr] aig Iain air Mairi
Be love great at John on Mary
'John loves Mary greatly.'

Regardless of the hierarchical ordering, neither the experiencer nor the theme are eligible for attraction to the subject position in Gaelic because this position can never be filled by a PP; the Ψ -NP satisfies the formal requirement for an NP subject.

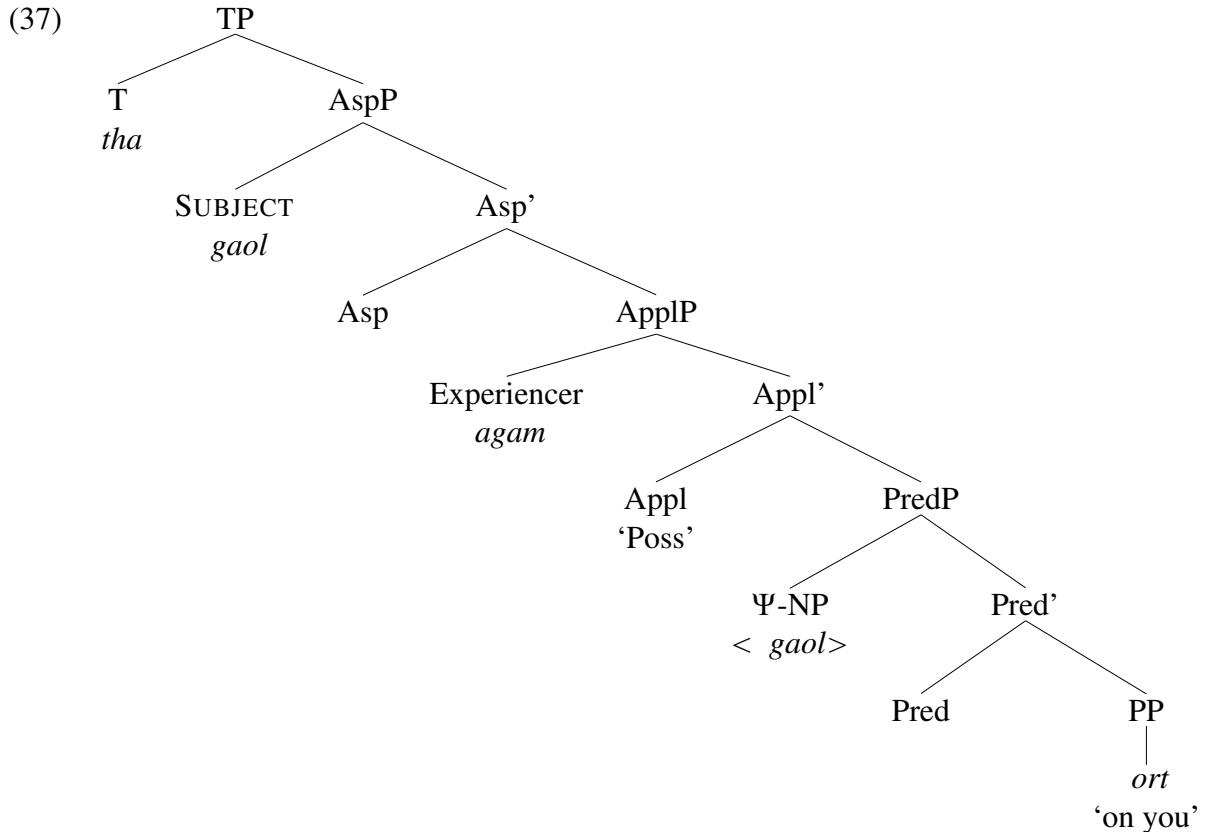
Putting together the evidence from the preceding sections, we have now reached the following position:

- The Ψ -NP is in constituency with the theme-PP, within a selectional or predication unit.

- The experiencer-PP forms a constituent with neither the Ψ -NP nor the theme-PP
- The experiencer-PP is in a position hierarchically superior to the theme (and hence also to the Ψ -NP theme-PP constituent).
- The Ψ -NP ultimately raises to the canonical subject position, across the experiencer-PP to give the surface word order

3. Implementing the proposal

In light of the above results, we claim that the Ψ -NP and the theme-PP actually are part of the predication phrase at the core of the construction: Ψ -NP is *on/ in/ to/ with* Theme, with the Ψ -NP in the subject position of that relationship. Further, we need to capture the fact that the experiencer c-commands the theme in a transitive psych construction. Following much recent work that takes arguments to be introduced by functional heads (Ramchand 2005, Borer 2005), we propose that the experiencer is introduced by a higher functional head, similar to the applicative heads suggested by Pylkkänen (2002). Thus the applicative head embeds the PredP containing the Ψ -NP as subject. This lower subject is then attracted to the clausal subject position (which we assume here to be Spec, AspP although nothing hinges on this precise label) since it is the only available DP in the domain. This is given in (37) below.



This structure captures the fact that the Ψ -NP behaves like a surface subject, but that it can be shown to be in constituency with the Theme and not the Experiencer. It also captures the hierarchical relationship between experiencer and theme.

A novel aspect of the proposal is the assumption of a particular designated head which introduces the experiencer. In fact, we think this head is probably the same as the general applicative head as proposed by Pyllkkänen, coming in both her ‘low’ and ‘high’ varieties, as we will suggest in the next section.

Specifically, we will conjecture that the semantics of this head is a kind of generalized possession, where animates are special in being able to ‘possess’ mental states. Thus, our claim is that experiencers in transitive psych constructions are more like possessors than locatives. In the next section we will see that Gaelic distinguishes between possessors and locatives syntactically.

Before we do so, though, we will return now to the intransitive psych constructions, with this analysis in place. We need to ask whether the experiencer here is introduced as a high argument as in the previous example, or as a low one. Unfortunately, given there is only one argument, the experiencer, and we cannot use binding and constituency evidence. One potentially telling fact is the difference in the preposition chosen by the experiencer in the two varieties—the intransitive psych construction very rarely chooses the *aig*-‘at’ preposition, the one we have claimed gives rise to the generalised applicative construction, but instead generally uses *air*-‘on’, a preposition very often found on themes in the transitives.

There is one other difference between intransitive psych constructions and transitive ones which suggests that experiencers in the former behave much more like (abstract) locative complements as opposed to higher subjects. This comes from causativization patterns.

We can take a simple locative predication in Gaelic, and essentially causativise it by using the verb *cuir*, ‘put’:

- (38) Bha am peann air a’ bhòrd.
Be-PAST the pen on the table
‘The pen was on the table.’

- (39) Chuir i am peann air a’ bhòrd.
Put-PAST she the pen on the table
‘She put the pen on the table.’

So we can build a causative meaning by changing the stative auxiliary to a causal predicate. Exactly the same can be done with an intransitive Ψ -NP:

- (40) Bha fearg orm.
Be-PAST anger on-1SG
‘I was angry.’

- (41) Chuir e fearg orm.
Put-PAST he anger on-1SG
‘He made me angry.’

This is productive for all intransitive Ψ -NP constructions:

- (42) Chuir e cùram orm.
Put-PAST he anxiety on-1SG
'He worried me.'

- (43) Chuir e eagal orm.
Put-PAST he fear on-1SG
'He frightened me.'

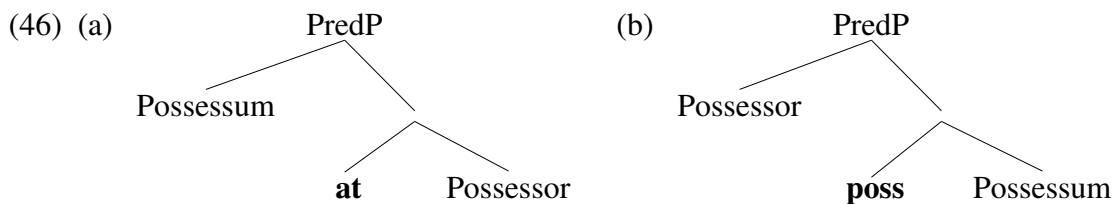
However, transitive Ψ -NP constructions reject this means of causativization completely:

- (44) *Chuir e gaol agam air.
Put-PAST he love at-1SG on-sc 3sg
'He made me love him.'
- (45) *Chuir e dragh agam (dhìot).
Put-PAST he worry at-1SG (on-2SG)
'He made me worry (about you).'

This difference has a simple explanation if we say that the syntax of intransitive Ψ -NP constructions is just that of locatives. The reason that transitive Ψ -NP constructions cannot be causativized in this fashion is that they are not simple PredPs, they contain a higher applicative subject.

4. Possession

Recall that possessive structures in Gaelic also involve the *aig* preposition. These have been treated in the literature as involving simple location (e.g. in the work of Freeze (1992) or Harley (2002)). In the normal case, the located DP would be the 'subject' of a small clause predication which had the location as its complement (see the tree in (46a)). However, our analysis makes available an alternative. In this version, the possessor is really some sort of 'subject' of predication introduced by a possessional applicative head, with the possessed thing being the complement (as in the tree in (46b)).



Thus, the question is whether a sentence like (47) below is a simple locative predication as in (a) above (the pen is at Ian); or whether it has the possessor-PP in a subject position, with the possessum eventually raising to derive the surface order (tree (b) above).

- (47) Tha peann aig Iain
Be pen at Ian
'Ian has a pen'

We have some evidence from binding that suggests a contrast between locative at-phrases and animate possessor at-phrases, at least for some speakers, suggesting that possession and location cannot be reduced to the same structure.

To see this take the following context: imagine that we are at a modern art exhibition where various objects are displayed along with pictures of those actual objects. In this case it is fine for all speakers to say:

- (48) Tha am peile faisg air dealbh dheth-fhèin
Be the pail close to picture of-it-self
'The pail is close to a picture of itself.'

Now, however, consider a situation where the picture of the pail is inside or at the pail. Then for at least some speakers, the following example is unacceptable with a reflexive in subject position and a PP internal antecedent:

- (49) *Tha dealbh dheth-fhein aig/anns a' pheile
Be picture of-it-self in the pail

These speakers need a paraphrase like the following:

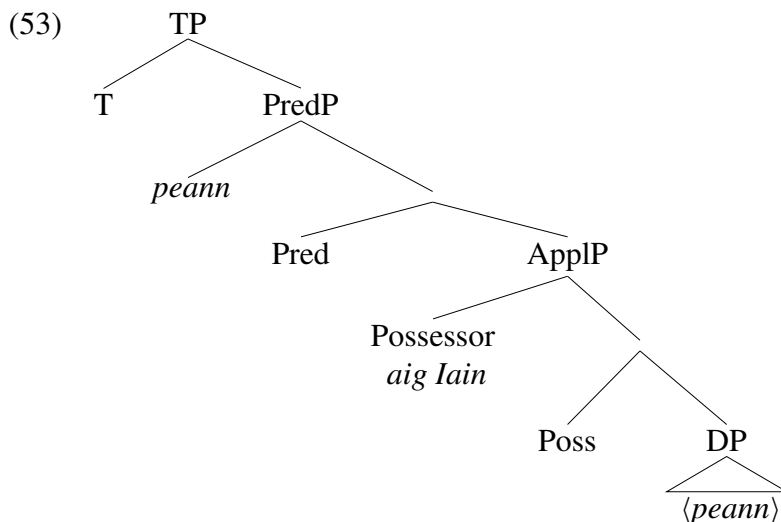
- (50) Tha dealbh dhen a' pheile aig a' pheile fhein
Be picture of the pail at the pail itself

The interesting contrast arises when, for these same speakers, we test analogous structures with possessive readings. In this case, it is perfectly fine to bind from the possessor into the possessee:

- (51) Tha dealbh dheth-fhèin aig Dàibhidh
Be picture of-him-self at David
'David has a picture of himself.'
- (52) Tha dealbh dhen a chèile aig Dàibhidh is Iain
Be picture of each other at David and Iain
'David and Iain have a picture of each other.'

This suggests that while locative phrases are indeed the complements of predicational structures and cannot be the antecedents for subject reflexives, possessors show evidence that they originate in a higher structural position (consistent with other so-called 'backwards binding' effects found with experiencers).

If this is true, then possessive structures in Gaelic involve a ‘low’ version of the possessional applicative head we diagnosed in the transitive psych constructions, and the tree would be as shown in (53) below.²



More fieldwork is required to ascertain why some speakers allow binding in both cases, even in the absence of c-command; our guess is that it has something to do with logophoric readings of the putative reflexive being available. If this is correct, then it seems that there is a strong argument that possession and location are syntactically represented quite differently in Gaelic, and that experiencers in transitive constructions share a syntax with possessors rather than locations.

5. Summary and Conclusions

We have argued in this brief paper for the following:

- Some Experiencers in Gaelic are Merged as specifiers (transitive), some as complements (intransitive).
- The specifier experiencers are in a natural class with Gaelic possessives, while the complement ones are in a natural class with Gaelic locatives.
- The possessive/high experiencer PP is introduced as the specifier of an applicative head with either a DP or PredP complement (Pylkkänen 2002) and with generalized possessional semantics
- There is no uniform ‘theta-role’ for experiencers, but the applicative head does seem to impute a notion of ‘mental state’ to its specifier, given that animacy is a requirement for being either a possessor or an experiencer.

²We call this the ‘low’ version of the applicative because it does not sit outside the main predication phrase (little vP in Pylkkänen’s terminology) but inside it. In fact, this ‘low’ version is not strictly an ‘applicative’ at all since it forms the core predication and does not add to already present verbal material.

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