

**NP WOULD LIKE TO MEET GF:
A WELSH ADJECTIVAL CONSTRUCTION**

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Abstract

In this article we examine a Welsh adjectival construction which superficially looks simple but on closer examination proves to be somewhat challenging. The construction contains an NP constituent whose GF status is far from clear. We consider various analyses of this NP, as SUBJ, OBJ and ADJ and suggest that on balance the evidence favours the OBJ analysis. Beyond the purely parochial Welsh or Celtic interest, it may provide a useful case study of how difficult it is to determine the correct identification of grammatical functions beyond core cases.

1 Introduction

We initially describe the syntactic, morphosyntactic and semantic properties of an AP construction in Welsh which, somewhat unusually, contains a bare NP as a constituent. Our main interest is in determining the functional status of the AP-internal NP, and we discuss a number of possible analyses, presenting a selection of arguments for and against each. We try to compare and evaluate the different analyses on their respective merits and try to identify the reasons why an LFG analysis of this construction turns out to be so problematic.

2 Data

An intriguing and puzzling AP construction exists in Welsh, neutrally describable as consisting of (at least) an A(djective) followed by an NP containing a possessive clitic pronoun:

(1) *byr ei thymor*
short her temper
'short-tempered'

(2) *trwm ei chlyw*
heavy her hearing
'hard of hearing'

Jones (2002) (henceforth BMJ), following Morris-Jones (1931), calls this the 'genitive of respect' construction. Given the absence of case inflection in Welsh, we prefer the term *in-respect-of* construction. As can be seen in the attributive use in (3)-(4) the post-A NP delimits the respect in which the A applies to the N which it modifies. The fact that the A is delimited/restricted to the "dimension" expressed by the following NP means that (3)-(4) are not contradictory.

(3) *merch dal byr ei thymor*
girl tall short her temper
'a tall short-tempered girl'

[†]We are grateful to the audiences at CLC5 and LFG08 and especially to Kersti Börjars, Milan Rezac, Joan Maling and Nigel Vincent for comments and suggestions.

- (4) *menyw lân frwnt ei thafod*
 woman clean dirty her tongue
 ‘a clean foul-mouthed woman’

2.1 Constituent Structure

BMJ establishes a number of key aspects concerning the syntactic (phrase) structure of this construction, which we summarize here.

The construction occurs in typical AP environments, both attributively and predicatively. As an attributive modifier it is found in the usual post-N position, as in (3)-(4), and predicatively it occurs either following the SUBJ in the basic verb-initial word order and preceded by the predicative particle *yn* as in (5), or sentence-initially, without the particle, as in (6).

- (5) *Mae Siân yn fyr ei thymher.*
 is Siân PRED short her temper
 ‘Siân is short-tempered.’

- (6) *Mawr eu dawn yw'r gwŷr*
 big their talent is the men
 ‘hugely talented are the men’

There is substantial evidence, discussed in detail by BMJ, that the sequence A-NP is a constituent, and is headed by the A. For one thing, (5) provides evidence that the construction is headed by the A (with the NP being a subconstituent of the construction), because definite/specific NPs such as *ei thymher* ‘her temper’ are disallowed after the predicative particle *yn*. Additionally, the expected position for an adjectival modifier is post-N, so if *byr* ‘short’ modified *ei thymher* ‘her temper’ in (1) we would expect it to occur after the N. Evidence from coordination further corroborates the analysis of the NP as a subconstituent: the examples below show that the NP can be coordinated.

- (7) a. *Mae'r gwŷr yn fawr eu dawn a'u parch.*
 is-the men PRED big their talent and-their respect
 ‘The men are hugely talented and (hugely) respected.’
- b. *Mae Siân yn fyr ei thymher a'i choesau.*
 is Siân PRED short her temper and-her legs
 ‘Siân is short-tempered and (short-)legged.’
- c. *Y mae'r dalgylch yn fawr ei werth amgylcheddol a'i amrywiaeth.*
 PT is-the catchment PRED big its value environmental and-its diversity
 ‘The catchment is rich in terms of its environmental value and diversity.’
 (http://www.asiantaeth-yr-amgylchedd.cymru.gov.uk/regions/wales/858612/1317944/1325232/315631/?version=1&lang=_w)

The following examples provide some information about how the adjectival head interacts in this construction with dependents of various sorts. The A, the head of the construction, can be modified in the expected manner by the normal range of adverbial/intensifier material.¹

- (8) a. *Mae hi'n rhy fyr ei thymr.*
 is she-PRED too short her temper
 'She is too short-tempered.'
- b. *Mae hi'n fyr iawn ei thymr.*
 is she-PRED short very her temper
 'She is very short-tempered.'

The following examples seem to show that the NP dependent of the A ('her temper') comes closer to the head A than the "complement" of the comparative itself, which may point to the fact that the *respect*-NP is an argument of the A.

- (9) *Mae hi'n fyrrach ei thymr na'i brawd.*
 is she-PRED shorter her temper than-her brother
 'She is shorter-tempered than her brother.'
- (10) *Mae Sioned yn fyrrach o lawer na'i brawd.*
 is Sioned PRED shorter of much than-her brother
 'Sioned is much shorter than her brother.'
- (11) *Mae hi'n fyrrach ei thymr o lawer na'i brawd.*
 is she-PRED shorter her temper of much than-her brother
 'She is much shorter-tempered than her brother.'

The relationship between the post-A NP (NP2) and the attributively modified N or SUBJ (NP1) seems to be best describable as one in which NP1 inalienably possesses NP2. Compare the description of the construction in (Mac Cana, 1966, p. 91): "The thing or quality denoted by the [NP2] pertains to or is a part of the person or object denoted by [NP1] ...". However further research into the exact relationship between NP1 and NP2 is needed.

The post-A NP has the form of a possessor-possessed construction. The clitic shows the properties of a pronoun bound by a syntactic antecedent. Most importantly, unlike unbound clitics (12a), it cannot be doubled by a post-N pronoun.

- (12) a. *ei thymr (hi)*
 her temper (PRON.3SG.F)
 'her temper'

¹(8 a) and (8 b) raise some interesting issues with regard to c-structure assumptions, independent of this construction itself. The assumption that (post-posed) *iawn* 'very' and (pre-posed) *rhy* 'too' form a small (non-projecting, X⁰) construction with an adjectival head may explain the intervention of *iawn* before any complements of the N (Sadler, 1997; Toivonen, 2003).

- b. *merch fyr ei thymwr *hi*
 girl.F short her temper PRON.3SG.F
 ‘a short-tempered girl’
- c. *Mae Siân yn fyr ei thymwr *hi*
 is Siân PRED short her temper PRON.3SG.F
 ‘Siân is short-tempered’

Overall, then, the observations above suggest that this construction is an AP in which the adjectival head takes the NP as some sort of dependent.

2.2 Adjectival Properties

Two different “agreement” processes, namely (morphosyntactically conditioned) initial consonant mutation (ICM) and morphosyntactic agreement, are relevant to attributive APs. First, post-N APs are subject to mutation of the initial segment, depending on the GEND/NUM of the modified N: soft mutation occurs after FEM SG Ns, otherwise the radical appears, as in (13)-(14).²

- (13) *athro mawr*
 (athro.M.SG) (RAD.mawr)
 teacher great
 ‘a great (male) teacher’

- (14) *athrawes fawr*
 (athrawes.F.SG) (SM.mawr)
 teacher great
 ‘a great (female) teacher’

This type of morphosyntactically conditioned ICM targets the entire AP, that is, in practice the first word of the AP, and does not constitute morphosyntactic agreement *per se*. Note that in (15)-(16) where the attributive A *caeredig* ‘kind’ is preceded by the adverb *tra* ‘very’, the AP mutation (triggered by the FEM SG N) appears on the adverb, and not on the A, which itself is subject to a different mutation (AM) triggered by the adverb.

- (15) *athro tra charedig*
 (athro.M.SG) (RAD.tra) (AM.caredig)
 teacher very kind
 ‘a very kind (male) teacher’

²RAD = radical; SM = soft mutation; AM = aspirate mutation. For the Welsh system of initial mutations see, for instance, King (1993, pp. 14-20), Williams (1980, pp. 174-177) and Mittendorf and Sadler (2006). We largely omit initial mutation glosses in the following.

- (16) *athrawes dra charedig*
 (athrawes.F.SG) (SM.tra) (AM.caredig)
 teacher very kind
 ‘a very kind (female) teacher’

As far as attributive AP mutation is concerned, the *in-respect-of* construction is inconspicuous and behaves as expected for a post-N AP:

- (17) *athro mawr ei barch*
 (athro.M.SG) (RAD.mawr) (ei) (SM.parch.M.SG)
 teacher big his respect
 ‘a highly-respected (male) teacher’

- (18) *athrawes fawr ei pharch*
 (athrawes.F.SG) (SM.mawr) (ei) (AM.parch.M.SG)
 teacher big her respect
 ‘a highly-respected (female) teacher’

Second, while most Welsh As themselves do not inflect for GEND or NUM, a relatively small subset does have distinct FEM SG and/or (gender-indeterminate) PL forms. MASC SG and FEM SG forms differ in their vocalism,³ while PL As are characterized by a suffix and/or vowel change:

- (19)
- | M.SG | F.SG | PL | |
|-------------|-------------|----------------|---------|
| <i>byr</i> | <i>ber</i> | <i>byrion</i> | ‘short’ |
| <i>gwyn</i> | <i>gwen</i> | <i>gwynion</i> | ‘white’ |
| <i>dwfn</i> | <i>dofn</i> | <i>dyfnion</i> | ‘deep’ |
| <i>trwm</i> | <i>trom</i> | <i>trymion</i> | ‘heavy’ |

This type of agreement is shown in (20)-(21) for the A *trwm* ‘heavy’. The usual attributive AP mutations also apply.

- (20) *eira trwm*
 (eira.M.SG) (RAD.trwm.M.SG)
 snow heavy
 ‘heavy snow’

- (21) *cawod drom*
 (cawod.F.SG) (SM.trwm.F.SG)
 shower heavy
 ‘a heavy shower’

³<w> = /u/ and /w/; <y> = /i~i/ in monosyllabic words and final syllables, /ə/ in non-final syllables.

For some time in the history of Welsh, there has been an increasing tendency to avoid discrete FEM SG and PL forms and use the “MASC SG” form as a default form instead. Nowadays, FEM SG/PL forms are unusual in predicative position even in more formal types of Welsh, and impossible in informal varieties; in attributive position, FEM SG / PL forms are increasingly restricted to set expressions (such as *stori fer* FSG ‘short story’).

It is here that the *in-respect-of* construction parts way with “plain” AP constructions: in contemporary Welsh the A heading the *in-respect-of* construction never agrees with the N it modifies—nor does it agree with the post-A N; instead it must be in the (default) MASC SG form in both more and less formal varieties of Welsh (thus aligning, in this instance, with predicative As).⁴

(22) *bachgen trwm ei glyw*
 (bachgen.M.SG) (RAD.trwm.M.SG) (ei) (SM.clyw.M.SG)
 boy heavy his hearing
 ‘a boy hard of hearing’

(23) *merch drwm/*drom ei chlyw*
 (merch.F.SG) (SM.trwm.M.SG/*F.SG) (ei) (AM.clyw.M.SG)
 girl heavy her hearing
 ‘a girl hard of hearing’

(24) *Mae Siân yn fyr/*fer ei thymher.*
 is Siân.F.SG PRED short.M.SG/*F.SG her temper.F.SG
 ‘Siân is short-tempered.’

The fact that the A remains uninflected in both predicative position and in the *in-respect-of* construction raises the possibility that the latter construction constitutes a reduced relative clause, in which case the A would be essentially predicative.

In English, the position of an AP might be argued to be a good diagnostic for a reduced relative clause (post-N vis-à-vis pre-N with plain APs). Since in Welsh attributive APs generally appear in post-N position, this diagnostic cannot be applied. Even so, reduced relative clauses arguably exist in Welsh. (25 b) is a possible alternative to (25 a). The A *gwell* ‘better’ is preceded by an adverbially used quantifier (*ychedig* ‘little’). In (25 b) the A follows the predicative marker *yn*, a fact that is hard to explain unless one assumes that (25 b) is a reduced relative clause; cf. (25 c) with a non-reduced relative clause. In comparison with examples like (25 b), the attributive *in-respect-of* construction offers nothing which would argue strongly in favour of an analysis as a reduced relative clause, and so we assume that it is in fact no such thing.

(25) a. *ateb ychedig gwell*
 answer little better
 ‘a slightly better answer’

⁴However, a corpus search using Mittendorf and Willis (2004) shows that obligatory non-agreement in form seems to be a (relatively) recent rule. Confusingly, in earlier texts, an attributive A may either agree with the head N *or* the N that follows, with the latter case perhaps more common.

- b. *ateb ychydig yn well*
 answer little PRED better
 ‘a slightly better answer’
- c. *ateb sydd ychydig yn well*
 answer is.REL little PRED better
 ‘an answer that is slightly better’

In summary:

1. The adjectival *in-respect-of* construct is a construction that is headed by the A and contains a (definite) NP.
2. It occurs in typical predicative and attributive positions (see (3)-(6)).
3. In attributive position it shows normal AP mutation, but the A itself does not agree with either the head N or the following N.
4. The NP contains an obligatory (possessor) clitic, which cannot be doubled by an overt post-N pronoun—that is, the pronominal argument, if such it is, cannot be expressed by means of an overt copy pronoun but has a local antecedent.⁵
5. The NP appears (almost immediately) post-head in direct argument position.
6. The relationship between the post-A NP and the external N is one of inalienable possession: “The thing or quality denoted by the [post-A NP] pertains to or is a part of the person or object denoted by [the SUBJ or head N], the latter being represented by the poss[essive] pronoun” (Mac Cana, 1966, p. 91).

In terms of the grammar of Welsh, the major question which this construction raises is that of determining what the correct f-structure analysis is of the post-A NP. Beyond the purely parochial Celtic interest the issue provides a useful case study on just how difficult it is to determine the correct identification of grammatical functions beyond the core cases.

3 *In-respect-of* AP: F-Structure

It seems that any reasonable f-structure analysis of the *in-respect-of* construction must take account of the following descriptive observations:

1. The *in-respect-of* AP is a constituent and functions both attributively and predicatively. It should either receive the same f-structure analysis in both uses, or differ only insofar as attributive and predicative APs differ generally in the grammar (that is, in terms of the presence or absence of a SUBJ).

⁵This observation does not entirely settle the analysis of the clitic—it may correspond to a GF (as in Welsh long-distance wh-constructions and relative clauses involving a “resumptive” pronoun) or it may directly express agreement features of the antecedent as in certain Welsh periphrastic passives.

2. The NP's POSS is anaphorically linked to an antecedent (the head N or SUBJ). This linkage must, in one way or another, be established.
3. The A must appear in the default MASC SG form: FEM SG / PL forms must therefore be constrained to exclude them from the construction while still permitting them to occur in 'ordinary' attributive constructions.

The biggest open question here is the status in terms of grammatical function of the AP-internal NP, which is far from clear. Abstracting away from the issue of the nature of the GF of the internal NP, what seems uncontroversial about the basic f-structures for the attributive and predicative uses of the construction (26) is shown in (27).

- (26) a. *merch fyr ei thymr*
 girl.FSG short.MSG POSS.3SG temper.FSG
 'a short-tempered girl'
- b. *Mae'r ferch yn fyr ei thymr.*
 is-the girl.FSG PRED short.MSG POSS.3SG temper.FSG
 'The girl is short-tempered.'

- (27) a.
$$\left[\begin{array}{l} \text{PRED} \text{ GIRL}_i \\ \text{ADJ} \left\{ \left[\begin{array}{l} \text{PRED} \text{ SHORT} \\ \mathbf{RESP} \left[\begin{array}{l} \text{PRED} \text{ TEMPER} \\ \text{POSS} \left[\text{PRED} \text{ PRO}_i \right] \end{array} \right] \end{array} \right] \right\} \end{array} \right]$$
- b.
$$\left[\begin{array}{l} \text{PRED} \text{ SHORT} < \text{SUBJ} > \\ \text{SUBJ} \left[\text{PRED} \text{ GIRL}_i \right] \\ \mathbf{RESP} \left[\begin{array}{l} \text{PRED} \text{ TEMPER} < \text{POSS} > \\ \text{POSS} \left[\text{PRED} \text{ PRO}_i \right] \end{array} \right] \end{array} \right]$$

Note that there are a number of ways in which the basic structures could differ from those in (27), but these matters are (mostly) orthogonal to the key question of determining what GF the label RESP is standing for. One of these alternatives is whether attributive AS subcategorize a SUBJ.⁶ Another is whether the copula verb in predicative constructions such as (26 b) introduces a PRED value or not. In the following, all f-structures where the AP under discussion is predicative are presented as single-tiered; the alternative two-tiered XCOMP (*be-as-raising-verb*) analyses are equally viable. Third, in predicative f-structures the SUBJ may be thematic or non-thematic (and it is not entirely unlikely that it is).

⁶Whether attributive AS generally subcategorize for SUBJ becomes an issue in one (variant of) analysis of RESP as SUBJ; cf. footnote 9

We think that *a priori* the most promising candidates for RESP are the following: (i) the NP is an argument of the A, and is either SUBJ or OBJ/OBJ_θ; (ii) NP is an ADJUNCT of the A.⁷ In the rest of the paper we explore these possibilities, to determine to what extent each of them permits an analysis of the construction which is at the same time consistent with the wider grammar of Welsh, and come to some tentative conclusions.

4 RESP as SUBJ?

Let us first examine the possibility that RESP is the A's SUBJ. Given that in examples like (28), the A *brwnt* 'dirty' in fact seems to (primarily) predicate a quality of the post-A NP *tafod* 'tongue', not the modified N *menyw* 'woman' (it is, primarily, the tongue which is dirty, and only indirectly the woman), may well suggest that NP2 is the A's SUBJ.⁸

(28) *menyw lân frwnt ei tafod*
 woman.F.SG clean dirty.(M.SG) her tongue.M.SG
 'a clean foul-mouthed woman' (BMJ)

(29) *merch fyr ei thymr*
 girl.F.SG short.MSG POSS.3SG temper.F.SG
 a short-tempered girl

(30)
$$\left[\begin{array}{l} \text{PRED} \quad \text{GIRL}_i \\ \text{ADJ} \left\{ \left[\begin{array}{l} \text{PRED} \quad \text{SHORT} < \text{SUBJ} > \\ \text{SUBJ} \left[\begin{array}{l} \text{PRED} \quad \text{TEMPER} < \text{POSS} > \\ \text{POSS} \quad \left[\text{PRED} \quad \text{PRO}_i \right] \end{array} \right] \end{array} \right\} \right\} \end{array} \right]$$

Despite some initial plausibility, stemming from the sense that the A is predicated of the RESP, the fact that the construction can also be used predicatively rules this analysis out if predicative constructions are represented as in (27b), as it causes a violation of the uniqueness condition.

(31) *Mae'r ferch yn fyr ei thymr.*
 is-the girl PRED short.M.SG her temper.F.SG
 'The girl is short-tempered.'

⁷This may not seem to cut down the space of possibilities very substantially, but nonetheless we have excluded some possibilities. COMP/XCOMP have been excluded on the assumption that they are "clausal functions" (Dalrymple, 2001, p. 24) whose head subcategorizes for an (overt or non-overt) SUBJ. And after previously exploring TOPIC (or topicalised ADJUNCT), we have excluded this possibility as unlikely in this syntactic position.

⁸It may be precisely because NP2 seems to be inalienably possessed, and often part of a whole, that the possessor can appear as SUBJ instead of the possessum—a sort of *totum pro parte* construction. Even if strictly speaking only the tongue is dirty, because the tongue is a body part, the woman by implication is also, partly, dirty, and the predication can be transferred from the part to the whole.

$$(32) \left[\begin{array}{l} \text{PRED SHORT} \langle \text{SUBJ} \rangle \\ \text{SUBJ} \left[\text{PRED GIRL}_i \right] \\ \text{SUBJ} \left[\begin{array}{l} \text{PRED TEMPER} \langle \text{POSS} \rangle \\ \text{POSS} \left[\text{PRED PRO}_i \right] \end{array} \right] \end{array} \right]$$

On the other hand, RESP as SUBJ is apparently unproblematic under the PREDLINK analysis of predication structures (Dalrymple et al., 2004), giving the structure (33), perhaps consistent with an interpretation along the lines of “The girl is such that her temper is short”.

$$(33) \left[\begin{array}{l} \text{PRED BE} \langle \text{SUBJ PREDLINK} \rangle \\ \text{SUBJ} \left[\text{PRED GIRL}_i \right] \\ \text{PREDLINK} \left[\begin{array}{l} \text{PRED SHORT} \langle \text{SUBJ} \rangle \\ \text{SUBJ} \left[\begin{array}{l} \text{PRED TEMPER} \langle \text{POSS} \rangle \\ \text{POSS} \left[\text{PRED PRO}_i \right] \end{array} \right] \end{array} \right] \end{array} \right]$$

The agreement facts (non-agreement/default MASC SG form in predicative use and generally in the *respect* construction) can be captured in the following way: Assuming attributive and predicative f-structures for the SUBJ analysis as in (30) and (33) respectively, and assuming that attributive As ordinarily do not subcategorize for SUBJ,⁹ non-agreement of an A falls out from the fact that it subcategorizes for SUBJ. In other words, FEM SG and PL forms cannot subcategorize for SUBJ, while there is no such restriction on MASC SG forms.

- (34) a. *trwm* { (↑ PRED) = SHORT
 | (↑ PRED) = SHORT < SUBJ > }
 no GEND/NUM constraints
- b. *trom* (↑ PRED) = SHORT
 ((ADJ ∈ ↑) GEND)=_c F
 ((ADJ ∈ ↑) NUM)=_c SG
- c. *trymion* (↑ PRED) = SHORT
 ((ADJ ∈ ↑) NUM)=_c PL

The SUBJ-PREDLINK analysis would involve a c-structure rule along the lines of the following, in which the SIND feature in the semantic projection is intended to capture the coreference relations.

$$(35) \text{ AP} \longrightarrow \text{A}' \left(\begin{array}{c} \text{NP} \\ \uparrow = \downarrow \\ \text{((} \downarrow \text{ POSS)}_{\sigma} \text{ SIND)} = (\{ \text{((PREDLINK } \uparrow \text{) SUBJ)}_{\sigma} \mid \text{((ADJ } \in \uparrow \text{)}_{\sigma} \} \text{ SIND)} \end{array} \right)$$

⁹ If all attributive As are assumed to subcategorize for SUBJ, the approach outlined here is not feasible, in which case an approach as presented in section 6 for an analysis of RESP as ADJUNCT, suitably adapted, may have to be chosen.

We must admit that we do not find this PREDLINK analysis all that appealing, and by and large remain sceptical about the need for and characterisation of the PREDLINK function. Here it seems something of an ad hoc solution to a construction for which ultimately some better analysis should be found. In short, we would consider PREDLINK as an analysis of last resort. Overall, then, we suggest that RESP is not to be equated with SUBJ.

5 RESP as OBJ?

Examples (29) and (31) would be associated with the following structures on this view:

$$(36) \left[\begin{array}{l} \text{PRED} \quad \text{GIRL}_i \\ \text{ADJ} \left\{ \left[\begin{array}{l} \text{PRED} \quad \text{SHORT} < \text{OBJ} > \\ \text{OBJ} \left[\begin{array}{l} \text{PRED} \quad \text{TEMPER} < \text{POSS} > \\ \text{POSS} \quad \left[\text{PRED} \quad \text{PRO}_i \right] \end{array} \right] \end{array} \right] \right\} \end{array} \right]$$

$$(37) \left[\begin{array}{l} \text{PRED} \quad \text{SHORT} < \text{SUBJ OBJ} > \\ \text{SUBJ} \quad \left[\text{PRED} \quad \text{GIRL}_i \right] \\ \text{OBJ} \quad \left[\begin{array}{l} \text{PRED} \quad \text{TEMPER} < \text{POSS} > \\ \text{POSS} \quad \left[\text{PRED} \quad \text{PRO}_i \right] \end{array} \right] \end{array} \right]$$

Recall that only MASC SG (the default form) A_s occur in this construction. The failure of the A to agree with the controller N in this construction is captured if MASC SG forms (and non-inflecting A forms in general) have an additional lexical form in which they subcategorize for an OBJ, while FEM SG and PL forms lack this additional subcategorization frame. See (38) for the A *trwm* ‘heavy’. As far as (at least) informal Welsh is concerned, FEM SG and PL A forms are also disallowed in predicative use, where the A additionally subcategorizes for a SUBJ. Consequently, FEM SG and PL A forms also lack subcategorization frames including SUBJ. Given that MASC SG forms can also optionally be used where the agreement controller is FEM SG or PL, constraints targeting GEND or NUM are absent from their lexical entries.

$$(38) \text{ a. } \textit{trwm} \quad \left\{ \begin{array}{l} (\uparrow \text{ PRED}) = \text{SHORT} \\ | (\uparrow \text{ PRED}) = \text{SHORT} < \text{OBJ} > \\ | (\uparrow \text{ PRED}) = \text{SHORT} < \text{SUBJ} > \\ | (\uparrow \text{ PRED}) = \text{SHORT} < \text{SUBJ OBJ} > \end{array} \right\}$$

no GEND/NUM constraints

$$\text{ b. } \textit{trom} \quad \begin{array}{l} (\uparrow \text{ PRED}) = \text{SHORT} \\ ((\text{ADJ} \in \uparrow) \text{ GEND}) =_c \text{ F} \\ ((\text{ADJ} \in \uparrow) \text{ NUM}) =_c \text{ SG} \end{array}$$

$$\text{ c. } \textit{trymion} \quad \begin{array}{l} (\uparrow \text{ PRED}) = \text{SHORT} \\ ((\text{ADJ} \in \uparrow) \text{ NUM}) =_c \text{ PL} \end{array}$$

The ‘special’ occurrence of the grammatical function OBJ in lexical entries such as (38 a) would be associated with a particular *respect* semantics.

The linkage between the NP-internal bound pronoun and the modified head N/SUBJ can be established in the c-structure as shown in (39).

$$(39) \text{ AP} \longrightarrow \text{A}' \left(\begin{array}{c} \text{NP} \\ (\uparrow \text{OBJ})=\downarrow \\ ((\downarrow \text{POSS})_{\sigma} \text{SIND}) = ((\{\uparrow \text{SUBJ} \mid \text{ADJ} \in \uparrow\})_{\sigma} \text{SIND}) \end{array} \right)$$

While an f-structure analysis of the post-A NP as OBJ presents none of the difficulties associated with its analysis as SUBJ, it is far from unproblematic. The fundamental issue is that of motivating the notion that Welsh As can take OBJs.

Nominal complements of As in Welsh are (almost) invariably PPs, that is, OBLs. Bare NPs are a rare exception. The A *llawn* ‘full’ allows both PP complements headed by the preposition *o* ‘of’ (40 a) and bare NPs (40 b); *gwerth* ‘worth’¹⁰ is always followed by bare NPs.

(40) a. *llawn o ddŵr*
full of water

b. *llawn dŵr*
full water
‘full of water’

(41) *Nid yw'n werth y drafferth.*
not is-PRED worth the trouble
‘It’s not worth the trouble.’

However, support for an analysis of the post-A NP as OBJ may come from Welsh *tough*-constructions, to which the *in-respect-of* construct bears some striking similarities. The non-finite verb form appearing in the Welsh tough construction is a “verbal noun” (VN); VNs are the only non-finite verb form in Welsh and exhibit the properties of a mixed category (Bresnan, 1997; Mugane, 2003): in its verbal incarnation it serves as a non-finite form, but it can also be used as a N (see, for instance, Williams (1980, pp. 113-115), King (1993, pp. 130-133)). Moreover the same set of proclitic pronouns functions as the OBJ of the non-finite verb (VN) and as the nominal POSS—which increases the similarities between the *in-respect-of* construction (with a nominal POSS) and the *tough*-construction (with a verbal OBJ).

(42) a. *merch fyr ei thymor*
girl.F.SG short CLITIC.3SG.F temper
‘a short-tempered girl’

¹⁰The behaviour of English ‘worth’ is (also) quite exceptional: Pullum and Huddleston (2002) argue that it is an adjective which takes an SC NP complement, rather than a preposition while Maling (1983) argues that it is synchronically reanalyzed as a preposition. In Welsh, *gwerth* can also be a noun. In (41) it is certainly not a preposition since it is preceded by the predicative marker *yn*, which only appears before adjectives and nouns; it cannot be a noun either since *gwerth y drafferth* in the sense ‘the worth of the trouble’ would be a definite NP, which are ungrammatical after *yn*.

- b. *bwyd anodd ei dreulio*
 food.M.SG. difficult CLITIC.3SG.M digest.VN
 ‘food difficult to digest’

- (43) a. *Mae'r ferch yn fyr ei thymher*
 is-the girl.F.SG PRED short CLITIC.3SG.F temper
 ‘The girl is short-tempered.’

- b. *Mae'r bwyd yn anodd ei dreulio*
 is-the food.M.SG. PRED difficult CLITIC.3SG.M digest.VN
 ‘The food is difficult to digest.’

Tough constructions in some languages are unbounded dependency constructions, modelled as either functional or anaphoric control as applicable to the language in question. Dalrymple and King (2000) argue that since (in English) they fail to show connectivity (case mismatch), then they should be analysed as involving anaphoric control between the within-clause functions, mediated by functional control involving a discourse relation.

In the *tough*-construction the post-A constituent is usually analysed as an argument, COMP, of the A; (44) and (45) show f-structure analyses for (42) and (43) respectively. Provided that the similarities between these and the *in-respect-of* construction are not just superficial and deceptive, the post-A constituent in the *in-respect-of* construction should perhaps, like the post-A constituent in the *tough*-construction, be analysed as an argument. The primary difference between *tough* and *respect* constructions is that the post-A constituent is propositional in *tough* and non-propositional in *respect*, with OBJ, perhaps, being the closest non-propositional equivalent to propositional COMP. Note that other differences, such as the fact that the SUBJ/head N is coindexed with OBJ in *tough* and POSS in *respect*, is a consequence of the different lexical categories (verbal/nominal) that head the constituent.

$$(44) \left[\begin{array}{l} \text{PRED} \quad \text{HARD} \langle \text{SUBJ COMP} \rangle \\ \text{SUBJ} \quad \left[\text{PRED} \quad \text{FOOD}_i \right] \\ \text{COMP} \quad \left[\begin{array}{l} \text{PRED} \quad \text{DIGEST} \langle \text{SUBJ OBJ} \rangle \\ \text{OBJ} \quad 1: \left[\text{PRED} \quad \text{PRO}_i \right] \\ \text{TOPIC} \quad 1: \\ \text{SUBJ} \quad \left[\text{PRED} \quad \text{PRO}_{arb} \right] \end{array} \right] \end{array} \right]$$

$$(45) \left[\begin{array}{l} \text{PRED} \quad \text{FOOD}_i \\ \text{ADJ} \quad \left\{ \left[\begin{array}{l} \text{PRED} \quad \text{HARD} \langle \text{COMP} \rangle \\ \text{COMP} \quad \left[\begin{array}{l} \text{PRED} \quad \text{DIGEST} \langle \text{SUBJ OBJ} \rangle \\ \text{OBJ} \quad 1: \left[\text{PRED} \quad \text{PRO}_i \right] \\ \text{SUBJ} \quad \left[\text{PRED} \quad \text{PRO}_{arb} \right] \\ \text{TOPIC} \quad 1: \end{array} \right] \end{array} \right\} \right] \end{array} \right]$$

Nonetheless questions remain about taking this to be an OBJ, and these are related to somewhat wider questions (see Börjars and Vincent (this volume)). How should OBJ be defined or is it effectively the GF which corresponds to the absence of definition? How can we establish whether the Welsh *in-respect-of* NP corresponds to a $-r$ argument (OBJ) (consistent perhaps with its delimiting role) or a $+r$ argument OBJ_{θ} ? Why do adjectives in Welsh have OBJ in just *this* construction?

There is some cross-linguistic support for the notion of transitive AS, which may or may not be relevant to the Welsh construction (see Maling (1983) for some discussion). In languages such as Swedish AS can have bare NP complements (compare (46)).¹¹

- (46) a. *kvitt honom*
rid him.OBJ
'rid of him'
- b. *sin chef behjälplig*
his boss helpful
'helpful to his boss'
- c. *sina bröder underlägsen ~ underlägsen sina bröder*
his brothers inferior ~ inferior his brothers
'inferior to his brothers'

Many languages such as German use case inflection rather than prepositions for thematically restricted arguments, as shown in (47) and in these languages AS probably govern OBJ_{θ} . Note that one language's OBJ_{θ} may be another language's OBL (compare the English translations of the German examples): the commonality here between OBJ_{θ} and OBL is $+r$.

- (47) a. *Johann war seiner Freundin nicht immer treu.*
Johann was his.F.SG.DAT girl-friend.F.SG.DAT not always faithful
'Johann was not always faithful to his girl-friend.'
- b. *Peter war des Lebens müde.*
Peter was the.NEUT.SG.GEN life.NEUT.SG.GEN tired.
'Peter was tired of life.'
- c. *Ich bin diesen ganzen Quatsch satt.*
I am this.M.SG.ACC entire.M.SG.ACC rubbish.M.SG.ACC full
'I'm fed up with all this rubbish.'

All in all, however, it is very much an open question how relevant these adjectival complementation patterns are to the Welsh construction.

¹¹We would like to thank Kersti Börjars for providing us with these examples. Note that the complement either follows or precedes, with some AS allowing both orders.

6 RESP as ADJUNCT?

A third possibility is that the internal NP does not correspond to a syntactic argument of the A but is analysed as an ADJUNCT. Under an ADJUNCT analysis for RESP the attributive example would have the structure (48) and the predicative example the structure (49).

$$(48) \left[\begin{array}{l} \text{PRED} \quad \text{GIRL}_i \\ \text{ADJ} \left\{ \left[\begin{array}{l} \text{PRED} \quad \text{SHORT} \\ \text{ADJ} \left\{ \left[\begin{array}{l} \text{PRED} \quad \text{TEMPER} < \text{POSS} > \\ \text{POSS} \quad [\text{PRED} \quad \text{PRO}_i] \end{array} \right] \right\} \right] \right\} \end{array} \right] \end{array} \right]$$

$$(49) \left[\begin{array}{l} \text{PRED} \quad \text{SHORT} < \text{SUBJ} > \\ \text{SUBJ} \quad [\text{PRED} \quad \text{GIRL}_i] \\ \text{ADJ} \left\{ \left[\begin{array}{l} \text{PRED} \quad \text{TEMPER} < \text{POSS} > \\ \text{POSS} \quad [\text{PRED} \quad \text{PRO}_i] \end{array} \right] \right\} \end{array} \right]$$

Since the ADJUNCT in this analysis is not subcategorized, constraining the agreement properties of the construction and barring FSG and PL A forms is not as straightforward as it is with the OBJ analysis, where the absence of a subcategorization frame including OBJ from the lexical entries for FSG and PL plural forms prevents these from being used. Some other feature is required.

One possibility is to constrain the different A forms via an AFORM feature. AFORM distinguishes inflected and uninflected A forms. FSG and PL forms are inflected (AFORM INFL=+). MSG forms (and forms without GEND/NUM inflection) double as inflected (these can appear in syntactic environments permitting FSG/PL forms) and uninflected (in environments where FSG/PL forms are ungrammatical). Given that the “inflected” MSG form can also be used with FSG and PL Ns, and thus does not place any GEND/NUM constraints, the MSG form can in fact be considered as underspecified in terms of its AFORM INFL value; that is, it does not place any AFORM constraints.¹²

$$(50) \text{ a. } \textit{trwm} \quad (\uparrow \text{PRED}) = \text{SHORT} \\ \textit{no further constraints}$$

¹²Alternatively, the dual nature of MSG forms could be made explicit via an AFORM disjunction:

Since the MSG form is not underspecified, the annotation on A' in the PS rule must specify a default; otherwise vacuous ambiguities would result. On the other hand, this approach allows a constraining equation on the post-A NP, something which is often advisable to prevent unintended feature values from appearing unexpectedly.

$$(i) \text{ AP} \longrightarrow \begin{array}{c} \text{A}' \\ \uparrow = \downarrow \\ \{ (\uparrow \text{AFORM INFL}) = + \\ | (\uparrow \text{AFORM INFL}) = c - \} \end{array} \left(\begin{array}{c} \text{NP} \\ \downarrow \in (\uparrow \text{ADJUNCT}) \\ (\uparrow \text{AFORM INFL}) = c - \\ ((\downarrow \text{POSS})_\sigma \text{SIND}) = ((\uparrow \text{SUBJ} | \text{ADJ} \in \uparrow)_\sigma \text{SIND}) \end{array} \right)$$

On the whole the approach in (50)-(51) requires fewer constraints and is therefore preferable.

- b. *trom* (↑ PRED) = SHORT
 ((ADJ ∈ ↑) GEND)=_c F
 ((ADJ ∈ ↑) NUM)=_c SG
 (↑ AFORM INFL)=+
- c. *trymion* (↑ PRED) = SHORT
 ((ADJ ∈ ↑) NUM)=_c PL
 (↑ AFORM INFL)=+

The AFORM value of an AP is initially underspecified, allowing all A forms. (There is no risk of vacant ambiguities since the MSG form is underspecified as well.)

The AFORM constraint on the optional post-A *respect*-NP sets the value for the AP to ‘minus’. This does not affect the MSG form since it is underspecified in terms of its AFORM value, but the constraint excludes FSG and PL forms.

$$(51) \text{ AP} \longrightarrow \text{A}' \left(\begin{array}{c} \text{NP} \\ \downarrow \in (\uparrow \text{ADJUNCT}) \\ (\uparrow \text{AFORM INFL})=- \\ ((\downarrow \text{POSS})_{\sigma} \text{SIND}) = ((\{\uparrow \text{SUBJ} \mid \text{ADJ} \in \uparrow\})_{\sigma} \text{SIND}) \end{array} \right)$$

An approach along these lines would be motivated by the intuition that the AP-internal NP functions as a kind of adverbial modifier of the A, as the term *in-respect-of* construction suggests.

Bare NPs, headed by a N denoting time or measure, can be used adverbially in Welsh as in (52). The connection between these adverbially used NPs and the *respect*-NP, however, seems rather tentative.

- (52) a. *Arhosodd yno fis.*
 stayed there month
 ‘He/She stayed there a month.’
- b. *Cerdodd filltiroedd.*
 walked miles
 ‘He/She walked for miles.’

7 Evaluation

We have seen that an analysis of RESP as SUBJ is not viable, unless the AP when predicative is analysed as PREDLINK—an analysis that we think should be a last resort. This leaves two analyses for RESP: as an ADJUNCT or as a (non-SUBJ) argument, in the latter case as OBJ (or possibly OBJ_θ, depending on whether there are grounds for considering this to be an OBJ restricted to a particular thematic role and hence +*r*).

Deciding whether a constituent is an adjunct or an argument is, of course, often difficult (compare, for instance, (Dalrymple, 2001, pp. 11-13)). The ADJUNCT analysis is technically unproblematic and

might be considered relatively benign in that it makes no particular substantive claim. But the fact that the internal NP seems obligatory in this construction (see below) may tell against it, and as noted above in (11), regarding the respective order of the *respect*-NP and the complement of a comparative A, where the *respect*-NP precedes the comparative complement, its failure to show typical adjunctival behaviour (in terms of position) would also be anomalous on this analysis.

The idea that As may select an OBJ argument is somewhat surprising (though see the examples from Swedish above), but on balance we think that there is a reasonable case, given LFG resources, for equating RESP with OBJ.¹³ The major grounds for this are (i) the very similar *tough* construction seems to suggest a post-A argument (COMP in the case of the *tough*-construction), and (ii) the fact that the post-A argument is indispensable to the construction, that is, omission of this argument may radically change the meaning of the proposition, sometimes to such a degree that it becomes nonsensical. Consider again (4), here repeated as (53 a). Omission of the post-A NP *ei thafod* ‘her tongue’ makes the construction almost meaningless.

(53) a. *menyw lân frwnt ei thafod*
 woman clean dirty her tongue
 ‘a clean foul-mouthed woman’

b. *menyw lân frwnt*
 woman clean dirty
 ‘a clean dirty woman’

8 Beyond Welsh

The reader might have reached the conclusion that the construction discussed here is idiosyncratically Welsh and cross-linguistically isolated. This, however, may not be the case.

First, a similar construction exists in the closely related language Breton (cf. Hemon (1976, pp. 65-66), Mac Cana (1966, pp. 101-102)); interestingly in Breton the *respect*-NP can either follow or precede the A. The construction is also attested from Cornish (Brown, 2001, 78). Breton and Cornish constitute the other members of the Brittonic branch of the Celtic languages.

There are constructions in the Semitic languages which bear certain resemblances to the Welsh construction we discuss here. One such construction is the adjectival versions of the Construct State in Hebrew. Construct state constructions express a genitive relation between a head N and a dependent by linear proximity rather than by (overt) case marking or the occurrence of a preposition.

(54) *Yalda yefat mar'e nixnexa la-xeder*
 girl.FSG beautiful.FSG.CONSTRUCT look.MSG entered to.the-room
 ‘A good looking girl enters the room.’

Siloni (2002, Hebrew)

¹³Note in this connection the observations made by Börjars and Vincent (2008) on the difficulties in defining OBJ, the “lack of independently specifiable content for OBJ” and their basic conclusion that “OBJ is a grammatical relation with no intrinsic content”.

Two important aspects of this construction (from the Welsh perspective) are that the non-head member is absolutely obligatory and the construction is limited to cases of inalienable possession. We refer the reader to (Siloni, 2002) for a more detailed discussion of this construction.

A similar construction to the Welsh one appears in Modern Standard Arabic (MSA) where interestingly the A agrees in CASE and DEFINITENESS with the head N, but in GEND and NUM with the post-A NP. This is potentially of interest if the agreement facts cast any light on the synchronic GFs of the NPs, and may suggest that the internal NP is a direct argument. In his minimalist account, Kremers (2003) suggests that the internal NP is the SUBJ of the A.

- (55) *[ra'aytu] imra'at-an ġamīl-an waġhu-hā.*
 [saw.1SG] woman.F.SG.ACC.IDF beautiful.M.SG.ACC.IDF face.M.SG.NOM.DEF=her
 'I saw] a woman with a beautiful face.' Kremers (2003, MSA)

Note that, unlike the Welsh construction, this construction in MSA cannot be used predicatively. It may be that the split agreement reflects A-SUBJ agreement in the INDEX features GEND and NUM and agreement between A and the head N (as the head of an attributive modifier) in the CONCORD features CASE and DEF.

Another area that deserves exploration in connection with the Welsh construction discussed here, but which we can only briefly mention, are predicative possession constructions and, more specifically, constructions usually termed Possessor Raising or External Possessor constructions, such as (56) from Sumerian and (57) from the Mayan language Tz'utujil. Constructions as in (56) show similarities to the Welsh construction in predicative use (and may in fact present similar difficulties regarding their LFG analysis). For an overview over various External Possessor construction see especially (Payne and Barshi, 1999); (Stassen, 2006) gives a brief overview (with further references) of predicative possession constructions.

- (56) *Igi=zu=∅ huš=me-en zapaḡ=zu=∅ maḡ=me-en.*
 face=POSS.2SG=ABS awesome=COP-S.2SG cry=POSS.2SG=ABS majestic=COP-S.2SG
 'Your face is awesome, your cry is majestic' (Sumerian, cf. Zólyomi (2005, pp. 177-178))
 [lit.: 'You are awesome your face, you are majestic your cry.']

- (57) *Ja jun wajkax le' qas ee nimaq r-aab'aa.*
 the a bull DEM very 3PL big.PL POSS.3SG-testicles
 'The bull has very big testicles.' (Tz'utujil, cf. Aissen (1999, pp. 180-1))

9 Conclusion

We have presented a Welsh AP construction whose internal NP constituent presents problems in terms of determining its GF within the framework of LFG. We have tentatively come down in favour of taking this GF to be OBJ, and thus admitting a construction type in Welsh within which adjectives show transitive behaviour. Beyond the specific analysis of the Welsh construction (and possibly similar constructions in other languages) discussed here, a wider issue is that of how the grammatical functions on LFG's GF "menu" are best understood in non-core areas off the beaten track of verbal

subcategorization frames. Whatever the ultimate analysis of problematic constructions such as the one presented here may turn out to be, better, more specific and better founded definitions of LFG's grammatical functions—which after all are its basic building blocks—are called for.

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