# On the structure of Welsh noun phrases

Robert D. Borsley 

University of Essex and Bangor University

**Abstract**

Welsh noun phrases have had much less attention than Welsh clauses, and there are unresolved issues about the nature of possessors, attributive adjectives, and the definite article and agreement clitics. There is evidence, especially from agreement, that possessors are complements, evidence that attributive adjectives are adjoined to a preceding [LEX+] nominal constituent, and evidence that the definite article and agreement clitics are specifiers. The last of these positions makes it fairly simple to capture the relation between the definite article and agreement clitics and possessors. It is not difficult to formalize these ideas within HPSG.

## 1. Introduction

The structure of Welsh clauses has been a major focus of research since the 1970s (see e.g. Awbery 1976, Jones & Thomas 1977, Sproat 1985, Rouveret 1994), but the structure of Welsh noun phrases has had much less attention. Some analytic issues are discussed in Jones & Thomas (1977: chapter VII), Sadler & Butt (1997), Willis (2006), and Borsley, Tallerman & Willis (2007: chapter 5), and analyses of some of the main features are outlined within Minimalism in Rouveret (1994: chapter 3), and within Lexical-Functional Grammar (LFG) in Sadler (2003), but major analytic questions remain unresolved. There are questions about possessors, attributive adjectives, and certain NP-initial elements, including the definite article and agreement clitics. As we will see, there are even questions about complements. All these questions are considered in the following pages. There are, of course, other questions about the structure of Welsh NPs, but hopefully the conclusions reached here will provide a sound foundation for their investigation.

## 2. Basic data

Welsh is a head-initial language, and unsurprisingly a noun is followed by any complements it takes, as in (1), and also by a possessor, as in (2):

(1)　llyfr　　am　　Gymru
　　　book　　about　　Wales
　　　'a book about Wales'

---

(2) llyfr Rhiannon
   book Rhiannon
   'Rhiannon's book'

Where both a possessor and a complement are present, they come in that order:

(3) llyfr Rhiannon am Gymru
   book Rhiannon about Wales
   'Rhiannon's book about Wales'

This is reminiscent of the verb–subject–complement order in Welsh finite clauses:

(4) Ysgrifennodd Rhiannon am Gymru.
   write.PAST.3.SG Rhiannon about Wales
   'Rhiannon wrote about Wales.'

This suggests that NPs and clauses should have broadly similar analyses. Attributive adjectives also follow the noun and precede both possessors and complements:

(5) llyfr newydd am Gymru
   book new about Wales
   'a new book about Wales'
(6) llyfr newydd Rhiannon
   book new Rhiannon
   'Rhiannon's new book'
(7) llyfr newydd Rhiannon am Gymru
   book new Rhiannon about Wales
   'Rhiannon's new book about Wales'

Also important are certain elements occupying initial position in an NP. These include the definite article and certain agreement clitics:

(8) y llyfr
   the book
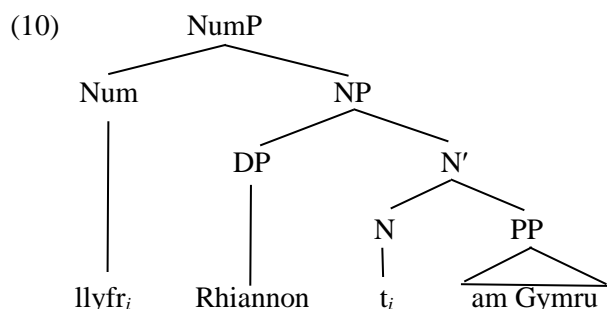   'the book'
(9) ei lyfr o
   3.SG.M book he
   'his book'

The definite article takes the form *y* before a consonant and *yr* before a vowel (e.g. *yr afon* 'the river'), and there is also an enclitic form *'r*, discussed in section 5. There is no indefinite article, as (1) and (5) illustrate. A clitic appears

when the noun is followed by a pronominal possessor, which may be null in the literary language.[1] The third person singular masculine clitic triggers so-called soft mutation, which here replaces a voiceless lateral [ɬ] by a voiced lateral [l].[2] Mutation is a pervasive feature of Welsh, but I will ignore it in the following pages except where it is relevant to an issue I am addressing.

## 3. Possessors

For both Rouveret (1994) and Sadler (2003) possessors are specifiers, but within quite different analyses. For Rouveret a possessor precedes its sister, whereas for Sadler it follows.

Rouveret (1994) proposes a right branching structure, in which the possessor is a specifier in a nominal constituent from which the noun has been extracted by head-movement. For (3) this means the following structure:[3]

(10)

```
                    NumP
                   /    \
                 Num     NP
                  |     /   \
                  |    DP     N'
                  |    |     /   \
                  |    |    N     PP
                  |    |    |     /\
               llyfr_i Rhiannon t_i  am Gymru
```

This is similar to the standard transformational analysis of Welsh finite clauses, in which the subject is a specifier in a verbal phrase from which the verb has been extracted by head-movement (see e.g. Sproat 1985, Rouveret 1994: chapter 1, Borsley, Tallerman & Willis 2007: chapter 2). A similar external head analysis could be proposed in any framework which has a mechanism allowing a word to appear outside the associated phrase, including versions of

---

[1] For some discussion of the relation between literary Welsh and other varieties, see Borsley, Tallerman & Willis (2007: section 1.3)

[2] The full set of changes that constitute soft mutation is as follows:

| | | |
|---|---|---|
| p > b | b > f ([v]) | m > f ([v]) |
| t > d | d > dd ([ð]) | ll ([ɬ]) > l |
| c ([k]) > g | g> Ø | rh ([rʰ]) > r |

[3] For Rouveret, the core of a nominal phrase is an NP. This is contained in a NumP, and a full nominal phrase is a DP.

HPSG which have such a mechanism.[4] If one assumes an external head analysis for finite clauses, as Rouveret does, it is perhaps natural to assume such an analysis for NPs. But, as we will see, Sadler, who assumes an external head analysis for finite clauses, rejects such an analysis for NPs.[5] However, if one is sceptical about an external head analysis for finite clauses, as I am (Borsley 2006), one will also be sceptical about such an analysis for NPs.

Perhaps the main argument for Rouveret's analysis comes from attributive adjectives. Rouveret highlights examples like (11), in which the order of adjectives is the same as in its English translation:

(11) cwpan  mawr  gwyrdd  Sieineaidd
     cup    big     green     Chinese
     'a big green Chinese cup'

He argues that this is expected if adjectives are adjoined to a following nominal constituent in Welsh as in English. However, as Willis (2006) shows in detail, the order of adjectives is not always the same as in English. In the following from Willis (2006: 1826), the order of adjectives is the mirror image of the English translation:

(12) caneuon  newydd  gwych  eraill
     songs     new      great    other.PL
     'other great new songs'

Thus, the order of attributive adjectives does not provide evidence for idea that they are adjoined to a following nominal constituent, as in Rouveret's analysis. Hence, this analysis seems dubious. Some evidence will be presented in section 4 below that attributive adjectives are in fact adjoined to a preceding nominal constituent, as proposed by Sadler (2003) and Borsley (2009: 3.2).

Sadler (2003) proposes a left branching structure, in which the possessor is a specifier following the associated head. This gives the following structure for (3):

---

[4] Much HPSG work, especially on German, uses a DOUBLE SLASH (DSL) feature to allow a word to appear outside the associated phrase. See e.g. Müller (2021: 5.1).

[5] Sadler (2003) notes that whereas verbs follow the associated subject when non-finite, nouns never follow a possessor. Thus, one type of argument that has been advanced for an external head analysis of finite clauses is not available for an external head analysis of NPs.

(13)

```
                        NP
               _____
              NP              PP
            _____          /\
           N     DP        /  \
           |      |       /____\
         llyfr Rhiannon  am Gymru
```
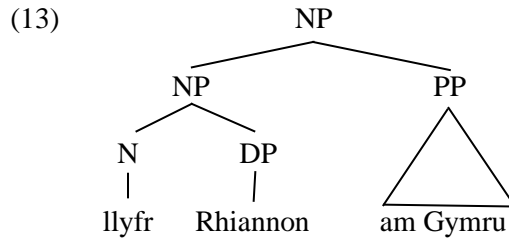
Given the fairly standard assumption that complements are lower in the structure than specifiers, inside a constituent with which a specifier combines, what we have viewed as complements cannot be complements. Sadler proposes that they are in fact adjuncts, noting that they are always optional. As noted earlier, she assumes an external head analysis of finite clauses. Thus, she assumes very different analyses for NPs and finite clauses. They differ in various ways, but the similarities cast doubt on any proposal for radically different analyses.

The idea that possessors are post-head specifiers seems problematic. It seems unlikely that Welsh has any other specifiers which follow the associated head. Other items that might be seen as specifiers are pre-head elements, e.g. pre-adjectival elements in comparatives:

(14) Dw          i 'n    fwy / llai  cyfforddus   na    ti.
     be.PRES.1.SG I PRED  more   less  comfortable  than  you
     'I am more/less comfortable than you.'

Subjects are also pre-head specifiers on the external head approach to finite clauses favoured by Sadler.

The adjunct analysis of apparent nominal complements is also problematic. With derived nominals, the supposed adjuncts generally reflect the complement selection properties of the related verb. Verbs and related derived nominals commonly combine with the same type of PP or clause, as the following illustrate:

(15) a.  Dibynnai         Heledd    ar  Llinos.
         rely.COND.3.SG   Heledd    on  Llinos
          'Heledd relied on Llinos.'
     b.  dibyniaeth  Heledd  ar   Llinos
         reliance    Heledd  on   Llinos
         'Heledd's reliance on Llinos'
(16) a.  Dadleuodd         Heledd    am      wleidyddiaeth.
         argue.COND.3.SG   Heledd    about   politics
         'Heledd argued about politics.'

   b. dadl        Heledd  am    wleidyddiaeth
      argument  Heledd  about  politics
      'Heledd's argument about politics'

(17) a. Cytunodd        Emrys i   weithio  oriau  ychwanegol.
      agree.COND.3.SG Emrys to  work     hours  extra
       'Emrys agreed to work extra hours.'

     b. cytundeb Emrys i   weithio oriau  ychwanegol
       agreement Emrys to  work    hours  extra
       Emrys' agreement to work extra hours'

(18) a. Credai           Heledd  mai   ffŵl oedd       Llinos.
      believe.COND.3.SG Heledd  COMP  fool  be.IMPF.3.SG Llinos
      'Heledd believed that Llinos was a fool.'

     b. cred Heledd mai   ffŵl oedd      Llinos
       belief Heledd  COMP  fool  be.IMPF.3.SG Llinos
       'Heledd's belief that Llinos was a fool'

Thus, an adjunct analysis of apparent nominal complements requires the head-adjunct relation to somehow mimic complement selection. Clearly, this is dubious. Therefore, I will continue to assume, contrary to Sadler, that they are complements.

The problems that face these specifier analyses of possessives suggest that we should look for an alternative. An obvious alternative is a complement analysis (Borsley 1989, 1995). Possessors appear between a head and a complement, and one thing that can appear between a head and a complement in most frameworks is another complement.[6] In Welsh, possessors resemble clear examples of complements in two ways: (a) they follow the associated head, and (b) they trigger agreement. The second point requires some discussion.

As we have seen, possessors trigger agreement in the form of a preceding clitic, as shown by (9), repeated here for convenience:

(9) ei       lyfr   o
   3.SG.M  book  he
   'his book'

---

[6] A complement analysis is probably not possible within Minimalism, where it has generally been assumed since Larson (1988) that the first of what looks like a pair of complements is actually a specifier following the associated head as a result of movement of the latter. However, as far as I can see, a complement analysis would be possible in LFG, and it is not clear to me why Sadler does not consider such an analysis.

Pronominal objects of non-finite verbs also trigger agreement in the form of a preceding clitic:[7]

(19) Ceisiodd        Rhiannon [ei        weld    o].
     try.PAST.3.SG   Rhiannon  3.SG.M   see     he
     'Rhiannon tried to see him.'

The bracketed non-finite verbal constituent in (19) looks quite like the noun phrase in (9). I assume that the noun in (9) and the non-finite verb in (19) agrees with the pronoun and that this is realized as a clitic.

Pronominal objects of many prepositions also trigger agreement, but in the form of a suffix:

(20) ar-no        fo
     on-3.SG.M   he
     'on him'

In all three cases, agreement also occurs with a pronoun which is the first conjunct of a coordinate structure in the relevant position, as the following illustrate:

(21) ei         llyfr   [o   a     hi]
     3.SG.M    book    he  and   she
     'his and her book'
(22) Gwnaeth        Emrys ei        weld [o     a     hi].
     do.PAST.3.SG   Emrys 3.SG.M   see  he    and   she
     'Emrys saw him and her.'
(23) arno         [fo    a     hi]
     on.3.SG.M   he    and   she
     'on him and her'

These similarities are unsurprising if possessors, like objects of non-finite verbs and prepositions, are complements.

Finite subjects also follow the associated head and trigger agreement, as the following illustrate:

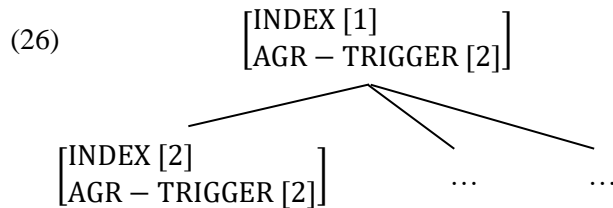(24) Ysgrifennon       nhw     am      Gymru.
     write.PAST.3.PL   they    about   Wales
     'They wrote about Wales.'

---

[7] The similarity between nouns and non-finite verbs with respect to agreement is the main reason why non-finite verbs are traditionally known as verb-nouns. See Borsley (1993) and Borsley, Tallerman & Willis (2007: section 3.1.2-3) for critical discussion of this terminology.

(25) Gweles            [i    a    ti]        ddafad.
     see.PAST.1.SG   I    and   you.SG  sheep
     'You and I saw a sheep.'

This suggests that they too are complements, as argued in Borsley (1989, 1995).

All four cases of agreement can be analyzed as agreement with the first member of a COMPS list. Following Borsley (2009), I assume that nouns, non-finite verbs, prepositions, and finite verbs have a feature AGR, whose value is an index or *none*, and I assume that the default value is *none*. Agreement is with a pronoun which is either a complement of the agreeing word or the first conjunct of a coordinate structure which is a complement. In the first case, the value of AGR is the index of the complement, but this is not so in the second case. To address this issue, I assume a feature AGR–TRIGGER. I assume that the default value is *none*, but that the value of AGR–TRIGGER for pronouns is the INDEX value. I also assume that the AGR-TRIGGER value for a coordinate structure is the same as the AGR-TRIGGER value of the first conjunct. This means structures of the following form when the first conjunct is a pronoun:[8]

(26)
$$\begin{bmatrix} \text{INDEX } [1] \\ \text{AGR} - \text{TRIGGER } [2] \end{bmatrix}$$

$$\begin{bmatrix} \text{INDEX } [2] \\ \text{AGR} - \text{TRIGGER } [2] \end{bmatrix} \qquad \ldots \qquad \ldots$$

Given these assumptions, AGR will have an index as its value in just the right situations if we assume the following constraint:

(27)  [AGR [1], COMPS <[AGR–TRIGGER [2]], …>]  $\Rightarrow$  [1] = [2]

This says that where a head with the feature AGR has a first complement with the feature AGR-TRIGGER, the two features have the same value. It ensures *inter alia* that a noun with a pronominal possessor or a coordinate possessor with a pronominal first conjunct has an index as its AGR value. How agreement is realized as a clitic will be discussed in section 5.

---

[8] In Borsley (2009: 256), I dealt with agreement with a first conjunct by assuming that agreement constraints refer to order domains in the sense of Kathol (2000) and that a coordinate structure appears in an order domain as a sequence of conjuncts and not as a single unit. In the absence of independent evidence for this treatment of coordinate structures, this approach seems rather dubious.

Given the assumption that possessors are complements, the example in (3), *llyfr Rhiannon am Gymru* 'Rhiannon's book about Wales', will be a head-complement structure of the following form: [9]

(28)

$$\begin{bmatrix} \text{HEAD } [1]noun \\ \text{COMPS } <> \end{bmatrix}$$

$$\begin{bmatrix} \text{HEAD } [1] \\ \text{COMPS } < [2], [3] > \end{bmatrix} \quad [2]\text{NP} \quad [3]\text{PP}[am]$$

llyfr　　　　　　Rhiannon　　　am Gymru
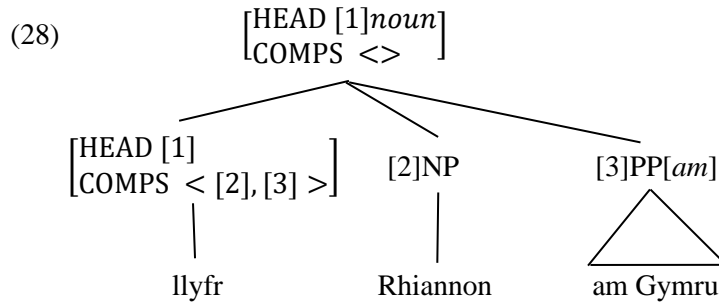
Finite clauses will have a similar structure with a verbal head and a number of complements. Here is a structure for (4), *Ysgrifennodd Rhiannon am Gymru* 'Rhiannon wrote about Wales':

(29)

$$\begin{bmatrix} \text{HEAD } [1] \begin{bmatrix} verb \\ \text{VFORM } fin \end{bmatrix} \\ \text{COMPS } <> \end{bmatrix}$$

$$\begin{bmatrix} \text{HEAD } [1] \\ \text{COMPS } < [2], [3] > \end{bmatrix} \quad [2]\text{NP} \quad [3]\text{PP}[am]$$

ysgrifennodd　　　Rhiannon　　　am Gymru
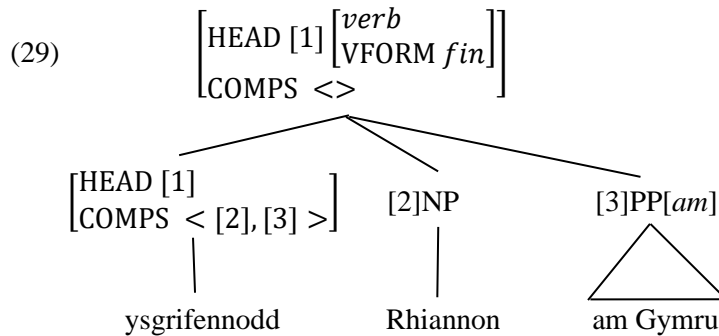
As noted earlier, it seems desirable that NPs and finite clauses should have broadly similar analyses.

Before we can provide lexical descriptions for possessed nouns, we should note that there is evidence that an NP with a possessor is definite if the possessor is definite and indefinite if the possessor is indefinite.

One type of evidence comes from the form *oes*, which is a present tense form of the copula appearing in interrogative and conditional clauses with an indefinite subject. Thus, while (30a), with a simple indefinite subject, is fine, (30b), with a definite possessor, is unacceptable, but (30c), with an indefinite possessor, is also fine:

---

[9] Complement analyses of post-nominal possessors have also been proposed for Arabic (Borsley 1995), Hebrew (Wintner 2000), and Persian (Samvelian 2007).

(30) a. Oes   [llyfr] ar y bwrdd?
   be.PRES.3.SG book on the table
   'Is there a book on the table?'
  b. *Oes   [llyfr Rhiannon] ar y bwrdd?
   be.PRES.3.SG book Rhiannon on the table
  c. Oes   [llyfr merch] ar y bwrdd.
   be.PRES.3.SG book woman on the table
   'Is there a woman's book on the table?'

Further evidence comes from the Welsh counterpart of an existential *there* sentence, in which *yna* 'there' appears between the copula and the notional subject. Again, a definite possessor is unacceptable, but an indefinite possessor is fine:

(31) a. Mae   yna  lyfr ar y bwrdd.
   be.PRES.3.SG there book on the table
   'There is a book on the table
  b. *Mae   yna  lyfr Rhiannon ar y bwrdd.
   be.PRES.3.SG there book Rhiannon on the table
  c. Mae   yna  lyfr merch ar y bwrdd.
   be.PRES.3.SG there book woman on the table
   'There is a woman's book on the table.'

It seems, then, that a noun agrees in definiteness with a possessor. This suggests that while basic nouns have a representation of the form in (32), where L is a possibly empty list of ordinary complements, possessed nouns have a representation of the form in (33).

(32) [HEAD *noun*, COMPS L]
(33) [HEAD *noun*[DEF [1]], COMPS <NP[DEF [1]]> ⊕ L]

Representations for possessed nouns could be derived from representations for basic nouns by a lexical rule or they could be alternative realizations of a basic noun type.

## 4 Attributive adjectives

We turn now to attributive adjectives, which we can deal with fairly quickly. We have seen that there is no good evidence for an analysis of the kind proposed by Rouveret, in which they are adjoined to a following nominal constituent. So it seems reasonable to assume that they are adjoined to a preceding noun, forming a complex nominal constituent, as proposed by Sadler (2003) and Borsley (2009: 3.2).

Sadler notes that coordination provides evidence that a noun and a following attributive adjective form a constituent. She highlights examples like the following:

(34) gwallt du a llygaid gwyrdd Mair
 hair back and eyes green Mair
 'Mair's black hair and green eyes'

Such examples suggest rather strongly that attributive adjectives modify a preceding noun.

Borsley (2009: 3.2) argues that there is evidence for such an analysis from what is known as mutation – systems of word-initial consonant alternations, which are a prominent feature of Welsh and other Celtic languages. As (35) illustrates, an adjective undergoes soft mutation after a feminine singular noun. (The mutated adjective is given in bold and the basic form is given in brackets.)

(35) cath **fawr** (mawr)
 cat big
 'a big cat'

A second adjective is also mutated:

(36) cath **fawr ddu** (mawr, du)
 cat big black
 'a big black cat'

This is not surprising if adjectives are adjoined to a preceding nominal element. On this analysis, the second adjective follows a feminine singular nominal element just as much as the first, and so the mutation is only to be expected.

One might suppose that the positioning of attributive adjectives could be accounted for by assuming that they modify a preceding nominal constituent with a non-empty COMPS list. But this won't work because many nouns have an empty COMPS list. Instead, I will assume a distinction between [LEX +] expressions, which head head–complement phrases, and [LEX –] expressions, which are typical phrases, and propose that attributive adjectives modify a preceding [LEX +] nominal, creating a larger [LEX +] nominal (which can be modified by another attributive adjective). This means categories of the following form:[10]

---

[10] Most Welsh adjectives have a single form (ignoring mutations), but a few have distinct masculine, singular, and plural forms, e.g. *gwyn* 'white', which has the forms *gwyn* (masculine), *gwen* (feminine), and *gwynion* (plural). These forms can be associated with more specific values for SELECT.

(37) $\begin{bmatrix} \text{HEAD } adj \\ \text{LEX } - \\ \text{SELECT } \begin{bmatrix} \text{HEAD } noun \\ \text{LEX } - \end{bmatrix} \end{bmatrix}$

This will give the following schematic structure for the example in (7) with an attributive adjective, a possessor, and a complement:[11]

(38)

$\begin{bmatrix} \text{HEAD } [1]noun \\ \text{LEX } - \\ \text{COMPS } <> \end{bmatrix}$

$\begin{bmatrix} \text{HEAD } [1] \\ \text{LEX } + \\ \text{COMPS } < [2], [3] > \end{bmatrix}$ \qquad [2]NP \qquad [3]PP

[4]$\begin{bmatrix} \text{HEAD } [1] \\ \text{LEX } + \\ \text{COMPS } < [2], [3] > \end{bmatrix}$ \qquad $\begin{bmatrix} \text{HEAD } adj \\ \text{SELECT } [4] \end{bmatrix}$

llyfr \qquad newydd \qquad Rhiannon \qquad am Gymru

## 5. NP-initial elements

We now turn to NP-initial elements, especially the definite article and clitics. As we saw earlier, clitics appear when a noun is followed by a pronominal possessor or a coordinate possessor whose first conjunct is a pronoun. In contrast, the definite article only appears when there is no following possessor. Hence, while (39) is fine, (40) is unacceptable:

(39)  y      llyfr    am      Gymru
      the    book    about   Wales
      'the book about Wales'
(40)  *y      llyfr    Rhiannon
       the     book    Rhiannon
      'Rhiannon's book'

---

[11] I ignore here the question of whether *newydd* is just an adjective (hence [LEX +]) or an adjective phrase containing a single adjective (hence [LEX –]).

Thus, there are two dependencies between NP-initial elements and possessors that need to be accounted for. But before we can decide how this should be done, we need to determine what sort of elements clitics and the definite article are.

Pollard & Sag (1994: section 9.3), drawing on data in Borsley (1989), propose that clitics are nominal prefixes. One might propose the same for the definite article. This would account for the fact that both must be repeated in coordination:

(41)  a.  *ei       fam       a       thad
           3.SG.M  mother    and    father
      b.  ei       fam       a       'i       dad
           3.SG.M  mother    and    3.SG.M  father
(42)  a.  *y       bachgen  a       geneth
           the      boy               and    girl
      b.  y        bachgen  a       'r       eneth
           the      boy               and    the     girl

It would also make ageement in the form of a clitic very similar to agreement in the form of a suffix.

It is clear, however, that clitics cannot be nominal prefixes, among other things because numerals and certain nonstandard adjectives may intervene between clitic and noun:

(43)  ei       dair       gwahanol   iaith
      3.SG.M  three.F    various       language
      'his three different languages'
(44)  ei       unig  ddwy  stori
      3.SG.M  only  two.F    story
      'his only two stories'

It is the same with the definite article:

(45)  y       tair       gwahanol   iaith
      the     three.F    various       language
      'the three different languages'
(46)  yr      unig  ddwy  stori
      the     only  two.F    story
      'the only two stories'

One might propose instead that the clitics and the article are edge inflections realizing certain properties of nominal phrases (and also non-finite verbal phrases in the case of clitics) in phrase-initial position. But it is not obvious how this would work. One might propose that the article appears at the left

edge of a nominal phrase which is [DEF +]. But, as noted in section 3, it is clear that nominal phrases containing a definite possessor are definite, but they do not allow the definite article. Hence, not all [DEF +] nominal phrases have the definite article.

There are also two other NP-initial elements, *pob* 'every, all' and *pa* 'which', which, like the definite article, cannot co-occur with a following possessor:[12]

(47) *pob    llyfr    Dafydd
     every   book   Dafydd
(48) *pa       lyfrau  Dafydd
     which   book   Dafydd

These do not need to be repeated in each conjunct, and there is no reason to doubt that they are words:

(49) pob     mam     ac     thad
    every  mother  and   father
    'every mother and father'
(50) pa      fachgen a     geneth
    which  boy     and   girl
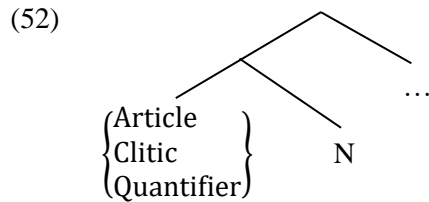    'which boy and girl'

Hence, it seems reasonable to assume that the definite article and the clitics are also words.

Assuming all these elements are words, an important question is: are they high in the structure, as in (51), or low in the structure (as part of a complex head), as in (52)? (I use 'Quantifier' here to cover both *pa* and *pob*.)

(51)

$$\left\{\begin{array}{l}\text{Article}\\\text{Clitic}\\\text{Quantifier}\end{array}\right\} \quad \text{N} \qquad \ldots$$

---
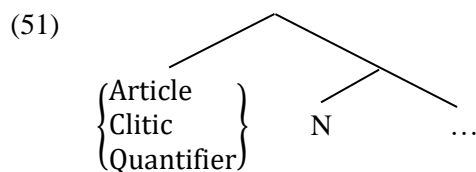
[12] The meanings that one might try to express with these examples can be expressed by the following:

(i) pob   un    o   lyfrau  Dafydd
   every one   of  books  Dafydd
   'every one of Dafydd's books'
(ii) p'     un    o   lyfrau  Dafydd
   which one  of  books  Dafydd
   'which one of Dafydd's books'

(52)

```
              ╱╲
            ╱    ╲
          ╱        ╲
        ╱            ╲  …
      ⎧Article  ⎫    ╲
      ⎨Clitic    ⎬    N
      ⎩Quantifier⎭
```

Sadler & Butt (1997) propose an analysis of clitics within LFG, in which they are low in the structure, but Sadler (2003) assumes that the article is high in the structure. A second question is: are NP-initial elements selected by the expression with which they combine as specifiers or do they select the expression with which they combine as markers? Do we have structures of the form in (53) or structures of the form in (54)?

(53)

```
        ╱╲
      ╱    ╲
    [1]    [SPR <[1]>]
```

(54)

```
        ╱╲
      ╱    ╲
[SELECT <[1]>]   [1]
```
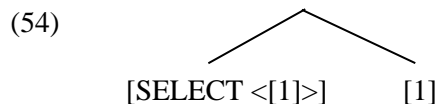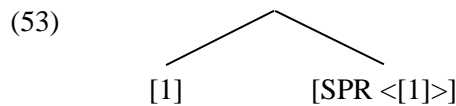
Standardly both specifiers and markers are high in the structure combining with a constituent containing a head and its complements. (This was noted earlier in connection with specifiers.) However, this does not seem to be a necessary property of the two types of element. It looks, then, as if there are four possible analyses: high specifier, high marker, low specifier, and low marker.

A number of considerations argue against an analysis in which NP-initial elements are low in the structure. Firstly, the variety of elements that can appear between an NP-initial element and the noun, illustrated in (43)-(46), casts some doubt on the idea that there is a complex head here. Secondly, examples like the following are relevant:

(55) pob    llyfr    am    Gymru
     every  book    about  Wales
     'every book about Wales'

This refers to every member of the set of books about Wales. Thus, both the noun *llyfr* and the PP *am Gymru* are within the scope of *pob*. This is unsurprising if *pob* is high in the structure. as in (51), but is a complication if it is part of a complex head, as in (52). Finally, as seen in (41b) and (42b), both the article and the clitics are realized as enclitics when following certain vowel-final words, especially prepositions. Thus, we have pairs like the following (where mutated nouns appear in bold and the basic form appears in brackets):

(56) a. y **dre** (tre)
the town
'the town'

b. o 'r **dre** (tre)
from the town
'from the town'

(57) a. ei **dŷ** o (tŷ)
3.SG.M house he
'his house'

b. o 'i **dŷ** o (tŷ)
to 3.SG.M house he
'from his house'

It is not obvious what sort of analysis would be appropriate here. It could be that the enclitic examples involve nonstandard syntactic structures, in which special forms of prepositions take as complements constituents which would normally combine with the article or a clitic. But it could also be that they involve standard syntactic structures but some special phonological processes. It is in fact not clear that the same analysis is appropriate in all cases. The enclitic '*r* triggers soft mutation on a following feminine singular noun just like *y*(*r*), and '*i* triggers soft mutation on any following noun just like *ei*. Consider, however, the following:

(58) a. fy **nhŷ** i (tŷ)
1.SG house I
'the house'

b. o 'm tŷ i
from 1.SG house I
'from my house'

Whereas *fy* triggers nasal mutation, the enclitic '*m* triggers no mutation. It may be, then, that '*m* requires a different analysis from '*r* and '*i*. Thus, there is some uncertainty here. However, it is likely that it will be easier to offer a satisfactory account of the facts if the article and the clitics are high in the structure.

If a low analysis is rejected, the various NP-initial elements should be analysed as either markers or specifiers high in the structure. High marker analyses seem problematic in two ways. Firstly, it is not obvious how to exclude the definite article from NPs that contain a possessor. It is likely that a nominal expression containing a possessor will have the same feature makeup as a nominal expression not containing a possessor, something like the following:

(59)
$$\begin{bmatrix} \text{HEAD } [1]noun \\ \text{LEX } - \\ \text{COMPS } <> \end{bmatrix}$$

But if this is the case, there is no obvious way to exclude the definite article in the first case while allowing it in the second. Secondly, the fact that the clitics, like other realizations of agreement, are obligatory in formal Welsh seems problematic. Given the AGR feature on the noun and on phrases it heads, it should be possible to ensure that a clitic agrees with a pronominal possessor, but it is not obvious how to ensure that they are obligatory. It looks, then, as if a high specifier analysis should be preferred.

It is not too difficult to deal with the key facts within a specifier analysis. The constraint in (27) above ensures that a noun with a pronominal possessor or a coordinate possessor with a pronominal first conjunct has an index as its AGR value. To ensure that such a noun is preceded by an agreeing clitic, we can propose the following constraint:

(60) [HEAD *noun*, AGR [1]*index*] $\Rightarrow$ [SPR <Cl[AGR [1]>]

This says that where a noun has an index as its AGR value it takes a clitic with the same AGR value. Assuming this constraint, we will have the following structure for (9), *ei lyfr o* 'his book':

(61)

$$\begin{bmatrix} \text{HEAD } noun \\ \text{AGR } [1] \\ \text{SPR } <> \\ \text{COMPS } <> \end{bmatrix}$$

[2]Cl[AGR [1]]

$$\begin{bmatrix} \text{HEAD } noun \\ \text{AGR } [1] \\ \text{SPR } < [2] > \\ \text{COMPS } <> \end{bmatrix}$$

$$\begin{bmatrix} \text{HEAD } noun \\ \text{AGR } [1] \\ \text{SPR } < [2] > \\ \text{COMPS } < [3] > \end{bmatrix}$$

[3]NP[AGR–TRIGGER [1]]

ei                    lyfr                    o

We saw earlier that agreement also takes the form of a clitic with non-finite verbs. This suggests that we actually need the following slightly more complex constraint:

(62) [HEAD *noun* ∨ *verb*[VFORM *inf*], AGR [1]*index*] ⇒
    [SPR <Cl[AGR [1]>]

We also need a constraint to ensure that a noun with a non-pronominal possessor is not preceded by an article, clitic or quantifier. We can propose the following:

(63) [HEAD *noun*, COMPS <NP[AGR–TRIGGER *none*], …>] ⇒
    [SPR <>]

This says that a noun with an NP complement which does not trigger agreement, i.e. neither a pronoun nor a coordinate structure whose first conjunct is a pronoun, does not take a specifier. It will rule out (17), (22), and (23), in which a possessor co-occurs with the definite article, *pob*, and *pa*. It is also necessary to rule out examples like (18a) and (19a), in which a coordinate nominal is preceded by the article and a clitic. This could be done by stipulating that a coordinate nominal can only take a quantifier as a specifier. Assuming coordinate structures are marked [COORD +], the necessary constraint might take the following form:

(64)  [HEAD *noun*, COORD +]  ⇒ [SPR <Quant> ∨ <>]

This requires a coordinate nominal to have either a quantifier as its specifier or no specifier at all.[13]

## 6. Concluding remarks

In the preceding pages, I have investigated the properties of Welsh NPs and argued for a number of positions. Firstly, I have argued, especially on the basis of agreement, that possessors are complements and not specifiers, as they were assumed to be in Rouveret (1994) and Sadler (2003). I have also argued that attributive adjectives are adjoined to a preceding [LEX +] nominal element and not an invisible following nominal, as proposed by Rouveret (1994: chaper 3).

---

[13] At least one more constraint is required to provide a reasonably full account of the facts that we have focused on here. A basic noun with no possessor allows the definite article or a quantifier as a specifier, but not a clitic. Clitics only appear when required by (59)/(61). I won't try to decide how exactly this restriction should be imposed, but there is clearly no difficulty here.

Finally, I have argued that the definite article and the clitics are specifiers and shown how this allows their relation to possessors to be captured.

There are of course, other aspects of Welsh NPs that need to be investigated, notably the numerals and other elements that intervene between NP-initial elements and noun and also quantifiers. There is an important discussion of the facts in Borsley, Tallerman & Willis (2007: chapter 5), but what sort of analysis would be appropriate for these elements remains to be determined. However, I have outlined analyses for what are arguably the most important features of Welsh NPs. Hopefully they will be a solid foundation for further research in this area.

# REFERENCES

Awbery, Gwenllian M. 1976. *The Syntax of Welsh: A Transformational Study of the Passive*. Cambridge: Cambridge University Press.

Borsley, Robert D. 1989. An HPSG approach to Welsh. *Journal of Linguistics* 25, 333–354.

Borsley, Robert D. 1993. On so-called 'verb-nouns' in Welsh. *Journal of Celtic Linguistics* 2, 35–64.

Borsley, Robert D. 1995. On some similarities and differences between Welsh and Syrian Arabic. *Linguistics* 33, 99–122.

Borsley, Robert D. 2006. On the nature of Welsh VSO clauses. *Lingua* 116, 462-490.

Borsley, Robert D. 2009. On the superficiality of Welsh agreement. *Natural Language & Linguistic Theory* 27, 225–265.

Borsley, Robert D., Maggie Tallerman & David Willis. 2007. *The Syntax of Welsh*. Cambridge: Cambridge University Press.

Jones, Morris & Alan R. Thomas 1977. *The Welsh Language: Studies in its Syntax and Semantics*. Cardiff: University of Wales Press.

Kathol, Andreas. 2000. *Linear Syntax*, Oxford: Oxford University Press.

Larson, Richard. 1988. On the double object construction. *Linguistic Inquiry* 19, 595–621.

Müller, Stefan. 2021. Constituent order. In Stefan Müller, Anne Abeillé, Robert D. Borsley & Jean-Pierre Koenig (eds.), *Head-Driven Phrase Structure Grammar: The Handbook* (*Empirically Oriented Theoretical Morphology and Syntax 9*), 369–417. Berlin: Language Science Press. doi: 10.5281/zenodo.5599836.

Pollard, Carl J. & Ivan A. Sag. 1994. *Head-driven Phrase Structure Grammar*. Chicago, IL: University of Chicago Press & Stanford, CA: CSLI.

Rouveret, Alain. 1994. *Syntaxe du gallois: Principes généraux et typologie*, Paris: Editions du CNRS.

Sadler, Louisa. 2003. Noun phrase structure in Welsh. In Miriam Butt & Tracy Holloway King (eds.), *Argument Realization*, 73–110. Stanford, CA: CSLI Publications.

Sadler, Louisa & Miriam Butt. 1997. Clitics and the structure-function mapping. In Miriam Butt & Tracy Holloway King (eds.), *Proceedings of LFG97*. Stanford, CA: CSLI Publications.

Samvelian, Pollet. 2006. A (phrasal) affix analysis of the Persian Ezafe. *Journal of Linguistics* 43, 605–645.

Sproat, Richard. 1985. Welsh syntax and VSO structure. *Natural Language & Linguistic Theory* 3, 173–216.

Willis, David. 2006. Against N-raising and NP-raising analyses of Welsh noun phrases. *Lingua* 116, 1807–1839.

Wintner, Shuly. 2000. Definiteness in the Hebrew noun phrase. *Journal of Linguistics* 36, 319–363.