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Apparent Filler-gap Mismatches in Welsh

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APPARENT FILLER–GAP MISMATCHES IN WELSH[1]

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1. Introduction

A central feature of natural languages is what are often known as filler–gap dependencies, where there is an extra clause-initial constituent of some kind and a gap somewhere later in the clause (possibly in an embedded clause). The basic situation is as follows, where I use an underscore to indicate the gap followed by a bracketed category to indicate its type:

(1)

XP

        ... ___ (XP) ...
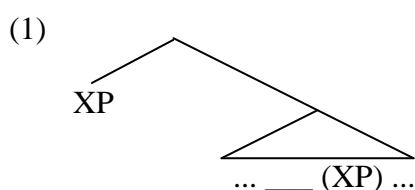
The following *wh*-interrogatives provide a simple illustration:

(2)   a. [NP Who] did Kim talk to ___ (NP)?
       b. [PP To whom] did Kim talk ___ (PP)?
       c. [AP How long] is a piece of string ___ (AP)?
   d. [AdvP How quickly] did you do it ___ (AdvP)?

In each case the filler and the gap are of the same category. They typically match in other respects as well. For example, if they are nominal, they match in number, as the following illustrate:

(3)   a. [NP[SING] Which student] do you think ___ (NP[SING]) knows the answer?
       b. [NP[PLUR] Which students] do you think ___ (NP[PLUR]) know the answer?

In languages with grammatical gender or morphological case, they share these properties as well.

      Filler–gap dependencies have had a great deal of attention, and from time to time attention has been drawn to what can be called filler–gap mismatches, where there is apparently a filler–gap dependency but where what looks like a filler differs from the gap in some way. Here we have the situation in (4).

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(4)
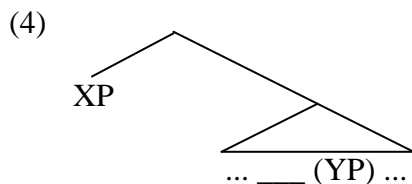
A well-known type of example, discussed in Bresnan (2001), Bouma, Malouf & Sag (2001), and Webelhuth (forthcoming), is illustrated by the following:

(5)   That he might be wrong, he didn't think of ___.

Here, the apparent filler is a clause, but as the following shows, the gap is not in a position which allows an overt clause.

(6)   *He didn't think of that he might be wrong.[2]

For Minimalism and earlier transformational approaches, filler–gap dependencies are the result of movement of the filler constituent from the position of the gap. Hence, within such approaches one expects filler and gap to have all the same properties. For Head-driven Phrase Structure Grammar (HPSG), filler–gap dependencies involve the SLASH feature, which makes information about a gap available higher in the structure. Its value is a set of local feature structures (normally a singleton set), and constraints ensure that a filler and the associated gap have the same local feature structure. A local feature structure encodes most of the syntactic and semantic properties of an expression. It does not include the WH feature which identifies interrogative *wh*-elements, but it includes categorical features and, in the case of noun phrases, person, number, gender and case features. It follows that a gap associated with a filler which is an interrogative *wh*-element does not have the WH feature, but filler and gap have the categorical features, and the same person, number, gender and case features if the filler is a noun phrase. Thus, an example like (5) poses a challenge for both transformational approaches and HPSG.

As emphasized in Webelhuth (2008), there are a number of types of filler–gap mismatch in English, and a number of approaches that might be taken to them within HPSG. In the case of examples like (5), Webelhuth (forthcoming) argues that what looks like a filler is not really a filler although it is coindexed with the gap. If this is the right approach to take here, it does not necessarily follow that it is the right approach to take to other filler–gap mismatches. It may well be that different cases require different sorts of analyses.

In this paper I will investigate a number of apparent filler–gap mismatches in Welsh and outline analyses within HPSG. I will argue that there are reasons for employing a number of different mechanisms, including one not envisaged in Webelhuth's discussion of the English phenomena. The analyses will be quite complicated but that is because the facts are complicated. I doubt whether simpler analyses are possible.

The paper is organized as follows. In Section 2 I look at what I will call nominal cleft sentences, which provide an interesting example of an apparent filler–gap

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[2] For some discussion of another type of English filler–gap mismatch, exemplified by (i), see Arnold & Borsley (2010).

(i) Kim will sing, which Lee won't ___.

mismatch. Then in Sections 3 and 4, I consider a variety of cleft sentences involving *bod* 'be'. In Section 5 I consider some further apparent mismatches, which arise not just with clefts but also with *wh*-interrogatives. Finally in Section 6, I provide some concluding remarks.

2. Nominal cleft sentences

Nominal cleft sentences, which I discussed in Borsley (2008), provide a notable Welsh example of an apparent filler–gap mismatch. Here are some typical examples:[3]

(7) a. Emrys (a)   brynodd ___ lyfr.
       Emrys PART buy.PAST.3SG book
       'It was Emrys that bought a book.'
    b. Llyfr (a)   brynodd   Emrys ___.
       book   PART buy.PAST.3SG Emrys
       'It was a book that Emrys bought.'

In (7a) the gap is in subject positon, which is post-verbal because Welsh is a VSO language, and in (7b) it is in object position. Tallerman (1996) assumed that clefts are a filler–gap construction and proposed a transformational analysis in which the initial constituent is the result of movement to Spec CP. However, the initial constituent may differ from the associated gap in certain ways. This makes it unlike a typical filler constituent.

      An important feature of Welsh is that a verb agrees with a pronoun but not with a non-pronominal NP.[4] The following illustrate agreement with a following pronominal subject:

(8) a. Gwelodd   o.
       see.PAST.3SG he
       'He saw.'
    b. Gwelon   nhw.
       see.PAST.3PL they
       'They saw.'

With a following non-pronominal subject, singular or plural, the third person form appears:

(9) a. Gwelodd   y bachgen.
       see.PAST.3SG the boy
       'The boy saw.'
    b. Gwelodd   y bechgyn.
       see.PAST.3SG the boys
       'The boys saw.'

---

[3] Both the verb *brynodd* 'buy' and the noun *lyfr* 'book' in (7a) are mutated. The basic unmutated forms are *prynodd* and *llyfr*. In the present context mutation is generally not important, and I will pass over most instances without comment.

[4] For detailed discussion see Borsley (2009).

    c. *Gwelon   y bechgyn.
       see.PAST.3PL   the boys
       'The boys saw.'

In a cleft sentence with an initial constituent associated with a subject gap, the finite verb does not agree, whether the initial constituent is pronominal, as in (10), or non-pronominal, as in (11):

(10) a. Nhw welodd   ___   ddraig.
         they   see.PAST.3SG   dragon
         'It was they that saw a dragon.'
      b. *Nhw welon   ___   ddraig.
          they see.PAST.3PL   dragon

(11) a. Y   bechgyn welodd   ___ ddraig.
         the boys   see.PAST.3SG   dragon
         'It was the boys that saw a dragon.'
      b. *Y bechgyn welon   ___ ddraig.
         the boys   see.PAST.3PL   dragon

This suggests that the gap is non-pronominal whatever the nature of the associated initial constituent.

    A second type of contrast between initial constituent and gap is highlighted by the examples in (12):

(12) a. Fi mae   Gwyn wedi 'i   ddewis / *fy   newis ___.
         I   be.PRES.3SG Gwyn PERF 3SGM choose.INF 1SG choose.INF
         'It's me that Gwyn has chosen.'
      b. Ti   mae   Gwyn wedi 'i   ddewis / *dy   ddewis ___.
         you.SG be.PRES.3SG Gwyn PERF 3SGM choose.INF   2SG choose.INF
         'It's you that Gwyn has chosen.'

In these examples the gap is object of a non-finite verb. In this situation, the non-finite verb is preceded by a clitic agreeing with the gap. The clitic is third person singular masculine, and so we presumably have a third person singular masculine gap, but the initial constituent is first person singular in (12a) and second person singular in (12b). The clitic cannot be first person in (12a) or second person in (12b). Thus, initial constituent and gap differ in person.

    We have a similar situation with resumptive pronouns. Consider the following examples:

(13) Fi soniodd   Gwyn amdano   (fo)/*amdanaf (fi).
      I   talk.PAST.3SG Gwyn about.3SGM he about.1SG I
      'It was me that Gwyn talked about?'

(14) Fi wyt   ti   'n   siarad   efo fo/*fi.
      I   be.PRES.2SG you.SG PROG speak.INF with he I
      'It is me that you are talking to.'

In (13) a resumptive pronoun appears as object of an inflected preposition, where it is optional, as the bracketing indicates. In (14) a resumptive pronoun appears as object of a preposition which does not inflect, and it is obligatory. In both examples, the resumptive pronoun is third person and cannot be first person although the initial constituent is first person. It seems, then, that clefts have a third person gap or resumptive pronoun, whatever the person of the initial constituent.

Thus, the initial constituent in a cleft sentence and the associated gap or resumptive pronoun differ in two important respects. This is not what one expects of a filler.

These two contrasts between the apparent filler and the gap in nominal clefts suggest that the apparent filler is not real filler. This was the conclusion I came to in Borsley (2008). I proposed there that the apparent filler in a cleft sentence is one term of an identity predication. On this view, the cleft sentences in (7a), (10a) and (12a) above are similar to examples like the following, which we might call quasi–pseudo-clefts:

(15) a. Emrys ydy   ’r un (a)   brynodd ___ lyfr.
        Emrys be.PRES.3SG the one PART buy.PAST.3SG book
        ‘The one that bought a book is Emrys.’
     b. Nhw   ydy   ’r rhai (a)   welodd ___ ddraig.
        they be.PRES.3SG the ones PART see.PAST.3SG dragon
        ‘The ones that saw a dragon were them.’
     c. Fi ydy   ’r un   mae   Gwyn wedi ’i   ddewis ___.
        I be.PRES.3SG the one be.PRES.3SG Gwyn PERF 3SGM choose.INF
        ‘The one that Gwyn has chosen is me.’

They are also similar to English examples like the following, from Akmajian (1970: 150):

(16) It’s me who __ is responsible.

Both types of example contain an overt identity predication. In the Welsh examples there is no requirement of pronominality and person identity between the two terms of the identity relation. Similarly in the English example there is no requirement for the focused constituent and the following relative clause to have the same person. Thus, the contrasts between the initial constituent and the gap that we have seen are only to be expected on this approach.

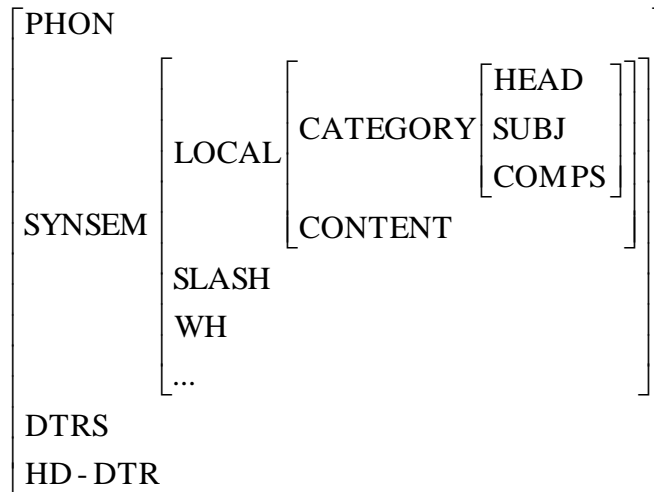I suggested in Borsley (2008) that negative sentences like the following provide evidence for the hidden identity predication:

(17) a. Nid/dim   Emrys (a)   brynodd ___ lyfr.
        NEG   Emrys PART buy.PAST.3SG book
        ‘It wasn’t Emrys that bought a book.’
     b. Nid/dim   llyfr (a)   brynodd   Emrys ___.
        NEG   book PART buy.PAST.3SG Emrys
        ‘It wasn’t a book that Emrys bought.’

On the face of it, it is an identity predication that is negated in such examples.[5] Thus, the idea that Welsh clefts involve a hidden identity predication seems quite well motivated.

It is not difficult to formalize this approach within HPSG. For HPSG, all aspects of linguistic expressions, including their internal structure, are analysed in terms of features. A phrasal sign has the following feature makeup:

(18)

$$
\begin{bmatrix}
\text{PHON} & \\
\text{SYNSEM} & \begin{bmatrix} \text{LOCAL} & \begin{bmatrix} \text{CATEGORY} & \begin{bmatrix} \text{HEAD} \\ \text{SUBJ} \\ \text{COMPS} \end{bmatrix} \\ \text{CONTENT} \end{bmatrix} \\ \text{SLASH} \\ \text{WH} \\ \text{...} \end{bmatrix} \\
\text{DTRS} & \\
\text{HD - DTR} &
\end{bmatrix}
$$

Thus, a phrasal sign has phonological properties, syntactic and semantic properties, one or more daughters (DTRS), and possibly a head daughter (HD-DTR). A lexical sign does not have the features DTRS and HD-DTR. Hence, it has phonological properties, syntactic and semantic properties, but no daughters. The LOCAL feature brings together most of the syntactic and semantic properties of a sign. Within the value of LOCAL, the feature CATEGORY encodes the main syntactic properties of the sign while CONTENT encodes the main semantic properties. Within the value of CATEGORY, HEAD encodes the basic categorical status of the sign, whether it is nominal, verbal, etc., SUBJ(ECT) indicates what kind of subject the sign requires, and COMP(LEMENT)S indicates what complements the sign takes. For a phrasal sign, the value of COMPS is always the empty list (<>) because phrases never require complements. In the following discussion, I will abbreviate SYNSEM, LOCAL, CATEGORY and CONTENT as SS, LOC, CAT and CONT, respectively, and I will use the traditional tree format to represent constituent structure.

Assuming that clefts involve a hidden identity predication, (7a) will have an analysis which can be represented as follows:

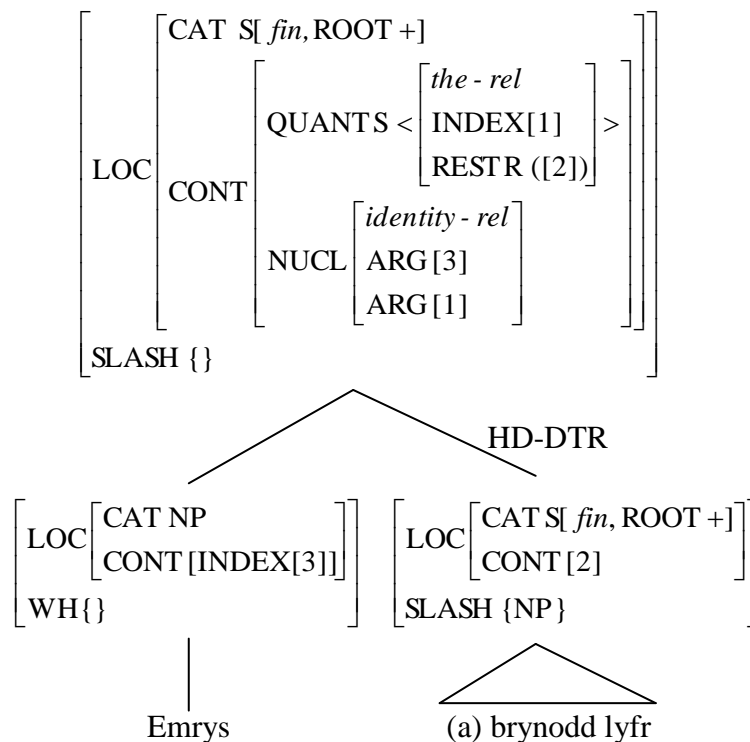[5] The clausal part of the cleft sentence can also be negated, as in (i).

(i) Nhw welodd   ddim draig.
    they see.PAST.3SG NEG   dragon
    'It was they that didn't see a dragon'.

It is also possible to have both parts of the sentence negated, as in (ii).

(ii) Nid/dim nhw welodd   ddim draig.
     NEG   they see.PAST.3SG NEG   dragon
     'It was not they that didn't see a dragon.'

(19) *Emrys* (*a*) *brynodd lyfr* 'It was Emrys that bought a book' (= (7a))

$$
\begin{bmatrix}
\text{LOC} \begin{bmatrix} \text{CAT S}[\textit{fin}, \text{ROOT} +] \\ \text{CONT} \begin{bmatrix} \text{QUANTS} < \begin{bmatrix} \textit{the - rel} \\ \text{INDEX}[1] \\ \text{RESTR ([2])} \end{bmatrix} > \\ \text{NUCL} \begin{bmatrix} \textit{identity - rel} \\ \text{ARG}[3] \\ \text{ARG}[1] \end{bmatrix} \end{bmatrix} \end{bmatrix} \\
\text{SLASH } \{\}
\end{bmatrix}
$$

HD-DTR

$$
\begin{bmatrix}
\text{LOC} \begin{bmatrix} \text{CAT NP} \\ \text{CONT [INDEX[3]]} \end{bmatrix} \\
\text{WH}\{\}
\end{bmatrix}
\qquad
\begin{bmatrix}
\text{LOC} \begin{bmatrix} \text{CAT S}[\textit{fin}, \text{ROOT} +] \\ \text{CONT [2]} \end{bmatrix} \\
\text{SLASH } \{\text{NP}\}
\end{bmatrix}
$$

Emrys   (a) brynodd lyfr

Here, the second daughter is the head but the first daughter is a not a filler and its LOCAL value is not identified with the local feature structure in the value of SLASH in the second daughter. The value of SLASH in the mother is the empty set {} because the head daughter is the top of the dependency. The CONTENT value of the mother makes it clear that the second daughter is interpreted as a definite description and identified with the first daughter.

How should structures like (19) be licensed? Following Borsley (2008), I will assume a type *slashed-head-phrase* with subtypes *cleft* and *head-filler-phrase* as follows:[6]

(20)   *slashed-head-phrase*

cleft   *head-filler-phrase*
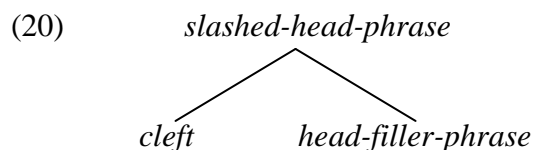
This allows us to capture both the similarities and the differences between clefts and head-filler-phrases. Slashed-head-phrases will be subject to the following constraint:

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[6] In Borsley (2008) I treated *slashed-head-phrase* as a subtype of *slashed-daughter-phrase*, the latter having two daughters where one has a single local feature structure within the value of SLASH and neither is identified as the head. This was to provide an account of free relatives, which I argued involve a slashed daughter which is not a head. I ignore this matter here.

(21)

$$
\textit{sl-hd-ph} \;\Rightarrow\; \begin{bmatrix} \text{SS}\,[\text{SLASH}\,\{\}] \\ \text{DTRS} < [\,\textit{phrase}\,],[1]\text{S}[\text{SLASH}\,\{[]\}] > \\ \text{HD-DTR}\,[1] \end{bmatrix}
$$

This says that a slashed-head-phrase is SLASH { } and has one daughter which is a phrase and another which is a head, and a clause with a single local feature structure within the value of SLASH. Clefts are subject to the constraint in (22).

(22)

$$
\textit{cleft} \;\Rightarrow\; \begin{bmatrix} \text{SS} \mid \text{LOC} \begin{bmatrix} \text{CAT} \;\; \text{S}[\,\textit{fin},\text{ROOT}\,+] \\ \text{CONT} \begin{bmatrix} \text{QUANTS} < \begin{bmatrix} \textit{the-rel} \\ \text{INDEX}[1] \\ \text{RESTR}\,([2]) \end{bmatrix} > \oplus \text{L} \\ \text{NUCL} \begin{bmatrix} \textit{identity-rel} \\ \text{ARG}\,[3] \\ \text{ARG}\,[1] \end{bmatrix} \end{bmatrix} \end{bmatrix} \\ \text{DTRS} < \begin{bmatrix} \text{SS} \begin{bmatrix} \text{LOC} \mid \text{CONT}\,[\text{INDEX}[3]] \\ \text{WH}\{\} \end{bmatrix} \end{bmatrix}, [\text{SS} \mid \text{LOC} \mid \text{CONT}\,[2]] > \end{bmatrix}
$$

This says that a cleft is a finite root clause whose first daughter is not an interrogative *wh*-phrase and the two daughters are interpreted as the two terms of an identity predication.

To complete this analysis, we need to say something about gaps. Bouma et al. (2001) propose that the *synsem* objects that encode the syntactic and semantic properties of linguistic expressions have a number of sybtypes. In particular, there are *canonical-synsem* objects, which are realized as ordinary constituents, and *gap-synsem* objects, which are realized as gaps. I assume that nominal gaps are required to be third person and non-pronominal by the following constraint:

(23)

$$
\begin{bmatrix} \textit{gap} \\ \text{SS} \mid \text{LOC} \mid \text{CAT}\,[\text{HEAD}\,\textit{noun}] \end{bmatrix} \;\Rightarrow\; [\text{CONTENT}\;\textit{npro}[\textit{third}]]
$$

Given this constraint, there will be a mismatch between the initial constituent and the gap whenever the initial constituent is not third person or is pronominal.

Here, then, we have an analysis which seems to capture the central properties of nominal clefts. Crucially it claims that the initial constituent is not a filler. Hence, we only have apparent filler–gap mismatches here. There is, however, more to be said about Welsh clefts. There are number of additional types of apparent filler–gap mismatches, mainly involving *bod* 'be', which require a number of different mechanisms. There are situations where only a gap is possible. Then there are situations where the initial constituent undergoes a deletion process which makes it look like a different category. Finally, there are situations where a verb with a gap as its complement has a distinctive form.

3. Identity *bod*

I will look first look at a what Borsley, Tallerman & Willis (2007: Section 4.4) call the identity copular construction. What we called quasi–pseudo-clefts in the last section are an example of this construction. There are simpler examples, such as the following:

(24) Y meddyg ydy   Sioned ___.
      the doctor   be.PRES.3SG Sioned
      'Sioned is the doctor.'

In the examples in (15) above, the post-verbal constituent is a complex NP containing a relative clause. In (24) it is a simple NP. I have indicated in (24) that the post-verbal constituent is a subject and that there is a gap in complement position. The agreement in an example like the following, from Zaring (1996: 130), provides evidence for this:

(25) Y   tîm arall ydyn   nhw ___.
      the   team other be.PRES.3PL they
      'They are the other team.'

Thus, what we have here are cleft sentences where the verb has an identity interpretation and there is a gap in complement position. Notice that given the analysis that I am proposing for cleft sentences there are in fact two identity predications in these examples. In effect, the meaning of (24) is 'It is the doctor that Sioned is'.

The initial constituent in this construction is most often a definite NP, but can also be an indefinite NP, a PP or VP, as the following show:

(26) a. Rhaff ydy   'r ateb   ___.   (Jones & Thomas 1977: 49)
         rope be.PRES.3S   the answer
         'The answer is a rope.'
     b. Yn yr ardd   ydy   'r lle   i fod ar ddiwrnod braf ___.
         in   the garden be.PRES.3SG the place to be   on day   fine
         'In the garden is the place to be on a fine day.'
     c. Gweithio ydy   beth mae   Siôn yn
         work   be.PRES.3SG what be.PRES.3SG Siôn PROG
         ei   wneud ___.   (Zaring 1996: 134)
         3SGM do.INF
         'What Siôn is doing is working.' ('Siôn is working.')

As emphasized by Zaring (1996), the construction has two surprising properties. First, the copula has a surprising form. In ordinary declarative sentences the present tense of *bod* is *mae* with third person singular pronominal subjects and non-pronominal subjects singular or plural, and *maen* with third person plural pronominal subjects. In interrogative and conditional clauses, *ydy* appears with third person singular pronominal subjects and *ydyn* with third person plural pronominal subjects.[7] With non-pronominal subjects, *ydy* appears if the subject is definite while *oes* appears

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[7] There are differences with other persons, but the differences are clearest in the third person.

if it is indefinite. Among other things, this means that we have contrasts like that between (27) and (28).

(27) Mae   Sioned yn   aros.
      be.PRES.3S Sioned PROG stay.INF
      'Sioned is staying.'

(28) a. Ydy   Sioned yn   aros?
          be.PRES.3S Sioned PROG stay.INF
          'Is Sioned is staying?'
      b. os ydy   Sioned yn   aros
          if be.PRES.3S Sioned PROG stay.INF
          'if Sioned is staying'

Secondly, there is no possibility of an identity interpretation with a verb-initial clause with any form of the copula:
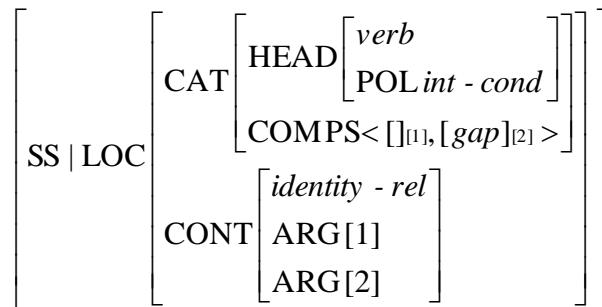
(29) *Mae/Ydy   Sioned y   meddyg.
       be.PRES.3SG Sioned the doctor
      'Sioned is the doctor.'

It seems, then, that the identity copular construction has some surprising properties. However, it is easy to handle these properties. Within HPSG we can stipulate that when *bod* has an identity interpretation it can only have a gap and not an overt constituent as its complement. Bouma et al. (2001) assume that *gap-synsem* objects appear in the ARG-ST (ARGUMENT-STRUCTURE) lists of words, which encode their basic combinatorial potential, but not in their COMPS lists, which indicate what complements they actually combine with. However, there is evidence from mutation (Borsley 1999) and agreement (Borsley 2009) that gaps in Welsh should be analysed as empty categories. I assume, therefore, that *gap-synsem* objects appear in both ARG-ST lists and COMPS lists. Their special property is that they are subject to the following constraint, which requires that they have no phonology:
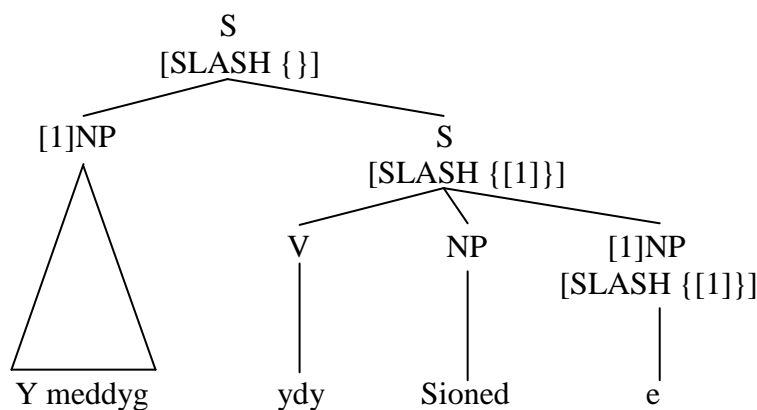
(30) [*gap*] ⇒ [PHON <>]

I also assume, following Borsley (1989), that the post-verbal subjects of Welsh finite verbs are realizations of an extra member of the COMPS list. Finally, I assume, following Borsley & Jones (2005: Chapter 8), that forms like *ydy* have the value *int(errogative)-cond(itional)* for a POL(ARITY) feature. Given these assumptions, we can specify the syntactic and semantic properties of identity *bod* as follows:

(31) *Identity* bod *'be'*

$$
\left[SS \mid LOC \left[\begin{array}{l} CAT \left[\begin{array}{l} HEAD \left[\begin{array}{l} verb \\ POL\, int\text{-}cond \end{array} \right] \\ COMPS < []_{[1]}, [gap]_{[2]} > \end{array} \right] \\ CONT \left[\begin{array}{l} identity\text{-}rel \\ ARG[1] \\ ARG[2] \end{array} \right] \end{array} \right] \right]
$$

This ensures that identity *bod* has the appropriate form and takes a subject and a complement which is a gap. Given the properties in (31), (24) will have the following structure:

(32) *Y meddyg ydy Sioned* 'Sioned is the doctor' (= (24))

```
                      S
                  [SLASH {}]
                 /          \
            [1]NP            S
             /\         [SLASH {[1]}]
            /  \        /    |      \
           /    \      V    NP    [1]NP
          /_____\     |     |    [SLASH {[1]}]
         Y meddyg     ydy  Sioned      |
                                       e
```

As noted above, there are two identity predications here on the analysis that I am proposing. However, there is just a single identity predication in the related *wh-*interrogative in (33).

(33) Pwy   ydy   Sioned ___?
     who   be.PRES.3SG   Sioned
     'Pwy is Sioned?'

It seems, then, that it is not difficult to accommodate the rather surprising properties of the identity copular construction. We just need an appropriate set of properties for identity *bod*.[8] In the next two sections I will be concerned with some surprising properties of predicational *bod*.

---

[8] One might wonder whether it is possible to have a non-finite identity predication. Strictly speaking, the answer is no. All one can do is use predicational *bod* and rely on the context to convey an identity meaning. The following are relevant examples:

(i) Dw   i 'n   gobeithio bod   yn   gapten.
     be.PRES.1SG I PROG hope.INF be.INF PRED captain
     'I hope to be a captain.'/'I hope to be the captain.'
(ii) Dw   i 'n   disgwyl   i   Gwyn fod   yn   gapten.
     be.PRES.1SG I PROG expect.INF for Gwyn be.INF PRED captain
     'I expect Gwyn to be a captain.'/ 'I expect Gwyn to be the captain.'

4. Predicational *bod*

Predicational *bod* allows a number of types of complement. We can have a PP, as in (34).

(34) Mae   Gwyn yn yr   ardd.
     be.PRES.3SG Gwyn in the   garden
     'Gwyn is in the garden.'

We can also have what I will call a Perfect Phrase (PerfP), consisting of the perfective particle *wedi* and a VP, and what I will call a Progressive Phrase (ProgP), consisting of the progressive particle *yn* and a VP.[9] The following illustrate:

(35) Mae   Gwyn wedi darllen y   llyfr.
     be.PRES.3SG Gwyn PERF   read.INF the book
     'Gwyn has read the book.'
(36) Mae   Gwyn yn   darllen y   llyfr.
     be.PRES.3SG Gwyn PROG read.INF the book
     'Gwyn is reading the book.'

Finally, we have what I will call a Predicative Phrase (PredP), consisting of the predicative particle *yn* and an AP or NP, as in the following:

(37) Mae   Gwyn yn   glyfar.
     be.PRES.3SG Gwyn PRED clever
     'Gwyn is clever.'
(38) Mae   Gwyn yn   feddyg.
     be.PRES.3SG Gwyn PRED doctor
     'Gwyn is a doctor.'

---

[9] In addition to these aspectual particles, Welsh has a number of aspectual particles which are homophonous with prepositions. In the following, we have what look like the prepositions *ar* 'on', *heb* 'without' and *am* 'about' (hence the glosses):

(i) a. Mae   Rhiannon   ar adael.
         be.PRES.3S Rhiannon   on leave.INF
         'Rhiannon is about to leave.'
     b. Mae   Rhiannon   heb   adael.
         be.PRES.3S Rhiannon   without leave.INF
         'Rhiannon has not left.'
     c. Mae   Rhiannon   am adael.
         be.PRES.3S Rhiannon   for leave.INF
         'Rhiannon wants to leave.'

There is also one aspectual particle which looks like an adjective. In the following, we have what looks like the adjective *newydd* 'new':

(ii) Mae   Rhiannon   newydd adael.
     be.PRES.3S Rhiannon   new   leave.INF
     'Rhiannon has just left.'

See Jones (2010: Chapter 9) for discussion.

Predicative *yn* differs from progressive *yn* in triggering soft mutation. Thus, *glyfar* in (37) is the mutated form of *clyfar*, and *feddyg* in (38) is the mutated form of *meddyg*.

Predicational *bod* is not very different from English *be* in its complement selection properties, and as with *be*, it seems reasonable to propose that the various complements of *bod* are all [PRED +]. This suggests that finite forms of *bod* have the following COMPS feature:

(39)
$$\left[\text{COMPS} < \text{NP,} \begin{bmatrix} \text{HEAD[PRED+]} \\ \text{SUBJ} <[]> \\ \text{COMPS} <> \end{bmatrix} > \right]$$

Complications arise when predicational *bod* appears in a cleft sentence. We have examples with an initial PP or PerfP but it seems no examples with an initial ProgP:

(40) Yn yr ardd mae Gwyn ___.
    in the garden be.PRES.3SG Gwyn
    'Gwyn is IN THE GARDEN.'

(41) Wedi darllen y llyfr mae Gwyn ___.
    PERF read.INF the book be.PRES.3SG Gwyn
    'Gwyn has READ THE BOOK.'

(42) *Yn darllen y llyfr mae Gwyn ___.
    PROG read.INF the book be.PRES.3SG Gwyn
    'Gwyn is READING THE BOOK.'

It also seems that we can have a VP-initial constituent although a VP complement is not possible.

(43) Darllen y llyfr mae Gwyn ___.
    read.INF the book be.PRES.3SG Gwyn
    'Gwyn is READING THE BOOK.'

(44) *Mae Gwyn ddarllen y llyfr.
    be.PRES.3SG Gwyn read.INF the book
    'Gwyn is reading the book.'

Finally, it seems that a PredP-initial constituent is not possible.

(45) *Yn glyfar mae Gwyn ___.
    PRED clever be.PRES.3SG Gwyn
    'Gwyn is clever.'

(46) *Yn feddyg mae Gwyn ___.
    PRED doctor be.PRES.3SG Gwyn
    'Gwyn is clever.'

What should we make of these facts? If we assume that the initial constituent in a cleft sentence must have the same category as the gap, the facts suggest that we have a number of contrasts between overt constituents and gaps as complements summarized in Table 1.[10]

Complement	Overt constituent	Gap
PP	yes	yes
PerfP	yes	yes
ProgP	yes	no
PredP	yes	no
VP	no	yes

Table 1. Complements of predicational *bod*: first version

The COMPS feature in (39) will not allow a VP gap, and will allow a ProgP and a PredP gap. It looks, then, as if we require something more complex. The obvious suggestion is that we need the following COMPS feature:

(47)

$$\left[\text{COMPS}< \text{NP}, \begin{bmatrix} canon \\ \text{HEAD[PRED+]} \\ \text{SUBJ} <[]> \\ \text{COMPS}<> \end{bmatrix} \vee \begin{bmatrix} gap \\ \text{HEAD } prep \vee perf \vee verb \\ \text{SUBJ} <[]> \\ \text{COMPS}<> \end{bmatrix} >\right]$$

However, further data provides evidence for a somewhat different treatment.

There are in fact certain examples with predicational *bod* and a ProgP-initial constituent. Consider, for example, the following:

(48) a. Wrthi   yn   golchi   'r   car   mae   Mair ___.
         at.3SGF PROG wash.INF the   car   be.PRES.3SG Mair
         'Mair is in the process of washing the car.'
      b. *Wrthi   golchi   'r   car   mae   Mair ___.
   at.3SGF wash.INF the   car   be.PRES.3SG Mair

In (48a) the initial constituent contains progressive *yn*, and (48b) shows that this is obligatory. This might suggest that we have a VP-initial constituent under some circumstances and a ProgP-initial constituent under others. I want to propose, however, that we always have a ProgP-initial constituent but that under certain conditions the progressive particle *yn* is suppressed or deleted. What the conditions are is not entirely clear. The contrast between (42) and (48a) might lead one to propose that *yn* is deleted in sentence-initial position. However, the following shows that it is also deleted after the negative particle *nid/dim*:

---

[10] That the initial constituent in a cleft sentence must have the same category as the gap might follow from the nature of identity predications. Alternatively it could be the result of a further stipulation on cleft sentences.

(49) Nid/dim (*yn)   golchi   'r car   mae   Mair ___.
      NEG   PROG wash.INF   the car   be.PRES.3SG   Mair
      'It's not washing the car that Mair is doing.'

Why do *wrthi* and *nid/dim* differ in this way? One possibility is that the contrast reflects a structural difference. Tallerman (1996) suggests that *nid/dim* is a kind of complementizer. On this view it is separate from the initial phrase of the cleft. *Wrthi* is presumably part of the initial phrase. It looks, then, as if we may have two rather different structures as follows:

(50) *Wrthi yn golchi'r car mae Mair* 'Mair is in the process of washing the car'

(= (48a))
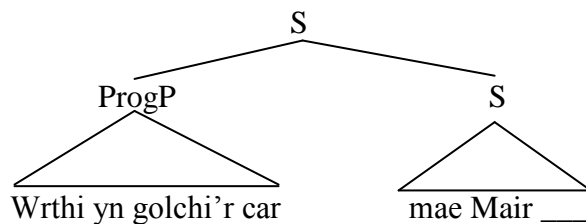
(51) *Nid/dim golchi'r car mae Mair* 'It's not washing the car that Mair is doing'

(= (49))
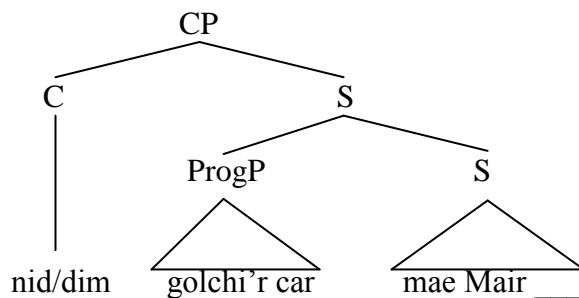
If these structures were viable, there would be an obvious account of the contrast between (48a) and (49). We could say that progressive *yn* is deleted just in case it is sentence-initial. However, the analysis in (51) is problematic.

First, it complicates the description of the word *mai* seen in the following examples:

(52) a. Dywedodd   Gwyn mai   (nid/dim) Megan welish   i ___.
       say.PAST.3SG Gwyn COMP   NEG   Megan   see.PAST.1SG I
       'Gwyn saw that it was (not) Megan that I saw.'
   b. Credodd   Emrys   mai   (nid/dim) draig   welodd   o ___.
       believe.PAST.3SG Emrys   COMP   NEG   dragon   see. PAST.1SG he
       'Emrys believed that it was (not) a dragon that he saw.'

I assume that this *mai* a complementizer (hence the gloss). It would be natural to say that it is a complementizer which introduces embedded cleft sentences. However, given the structure in (51), it would be necessary to say that it introduces either a cleft sentence or a CP containing a cleft sentence. This seems undesirable.

Second, examples like the following, drawn to my attention by David Willis (personal communication), cast doubt on the analysis in (51):

(53) Nid/dim draig   ond uncorn welish   i ___.
     NEG   dragon but unicorn see.PAST.1SG I
     'It was not a dragon but a unicorn that I saw.'

Here, it seems that *nid*/*dim* is part of the initial constituent of the cleft. Notice that the following material cannot appear without *nid*/*dim*:

(54) *Draig ond uncorn welish   i ___.
      dragon but unicorn see.PAST.1SG I

One might think that (53) is a different sort of example from (49). However, in this sort of example, as in (49), we have what looks like a VP where a ProgP is expected. The following illustrates:

(55) Nid/dim sgrifennu ond darllen   mae   Mair ___.
     NEG   write.INF but read.INF be.PRES.3SG Mair
     'It is not writing but reading that Mair is doing.'

Thus, the analysis in (51) seems quite dubious. Hence, it is likely that (49) has the following structure:
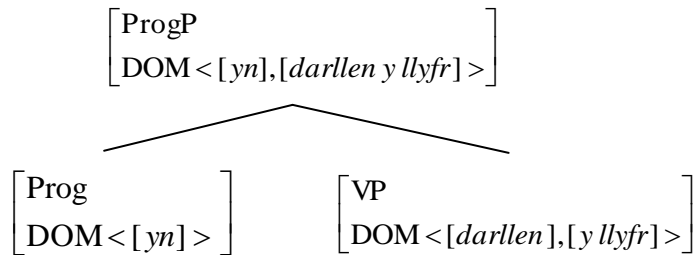
(56) *Nid/dim golchi'r car mae Mair* 'It's not washing the car that Mair is doing'

                                     (= (49))
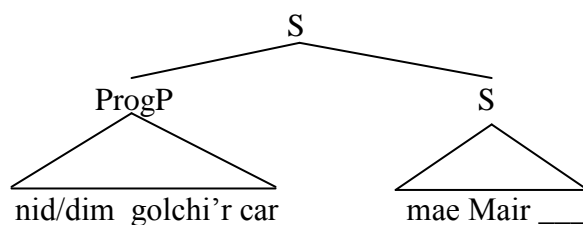
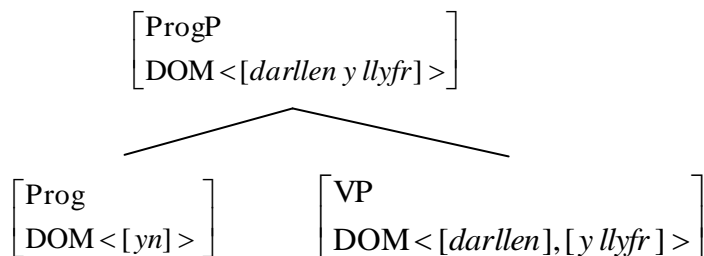This is essentially the structure that (48) has.

If (48) and (49) have essentially the same structure, it is not easy to specify when progressive *yn* is deleted. However, it is not difficult within HPSG to require the head of a phrase to be deleted under cetain circumstances. Since Kathol (2000), much HPSG work has assumed that expressions have an order domain, which provides a basis for an account of word order facts among other things. (In Borsley (1999) I propose that Welsh mutation involves constraints on order domains, and in Borsley (2009) I argue that the same is true of Welsh agreement.) Normally the domain elements of a constituent become elements in the order domain of the mother or are 'compacted' to form a single element in the mother's order domain. The latter is the norm in languages with a fixed word order. Order domains are encoded as the value of a feature DOM(AIN). If we use bracketed orthography to represent domain elements, we can give the following schematic analysis for the ProgP complement in (36):

(57)

$$\begin{bmatrix} \text{ProgP} \\ \text{DOM} < [\,yn\,],[\,darllen\ y\ llyfr\,] > \end{bmatrix}$$

$$\begin{bmatrix} \text{Prog} \\ \text{DOM} < [\,yn\,] > \end{bmatrix} \qquad \begin{bmatrix} \text{VP} \\ \text{DOM} < [\,darllen\,],[\,y\ llyfr\,] > \end{bmatrix}$$
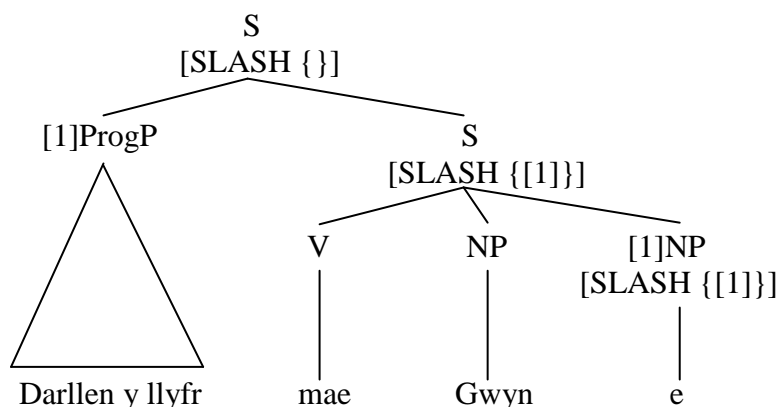
Notice that the two elements of in the order domain of VP are compacted to form a single element in the order domain of ProgP. As discussed in Crysmann (2003), Beavers & Sag (2004) and Chaves (2006), deletion can be analysed within this framework as a situation in which an element in the order domain of some expression is neither an element nor part of an element in the mother's order domain. Adopting this approach, we can assign the following representation to the initial constituent in (43):

(58)

$$\begin{bmatrix} \text{ProgP} \\ \text{DOM} < [\,darllen\ y\ llyfr\,] > \end{bmatrix}$$

$$\begin{bmatrix} \text{Prog} \\ \text{DOM} < [\,yn\,] > \end{bmatrix} \qquad \begin{bmatrix} \text{VP} \\ \text{DOM} < [\,darllen\,],[\,y\ llyfr\,] > \end{bmatrix}$$

This sentence will then have the following structure:

(59) *Darllen y llyfr mae Gwyn* 'Gwyn is reading the book' (= (43))

```
                    S
                 [SLASH { }]
          ┌─────────┴─────────┐
     [1]ProgP                  S
        /\                [SLASH {[1]}]
       /  \           ┌───────┼────────┐
      /    \          V       NP      [1]NP
     /_____\                      [SLASH {[1]}]
  Darllen y llyfr    mae     Gwyn       e
```

Requiring representations like (58) under appropriate circumstances will account for the general apparent absence of ProgP-initial constituents with *bod* and the apparent appearance of VP-initial constituents.[11]

---

[11] It may be that deletion within a filler is involved in English examples like the following, highlighted by Pullum (2009):

(i)   Good linguist though he is ___, …

If apparent VP-initial constituents with *bod* are really ProgP constituents, then rather than the situation summarized in Table 1 we have the following somewhat simpler situation:

Complement	Overt constituent	Gap
PP	yes	yes
PerfP	yes	yes
ProgP	yes	yes
PredP	yes	no

Table 2. Complements of predicational *bod*: second version

However, there is evidence that this is still more complex than necessary.

We noted earlier that we do not seem to have cleft sentences with *bod* with a PredP-initial constituent. In other words, we do not seem to have cleft sentences related to (37) and (38) above. But we do have the following cleft sentences.

(60) Clyfar   ydy   Gwyn ___.
     Clever   be.PRES.3SG Gwyn
     'Gwyn is clever.'

(61) Meddyg   ydy   Gwyn ___.
     doctor   be.PRES.3SG Gwyn
     'Gwyn is a doctor.'

These examples are surprising in two ways. First, they seem to have an AP- and an NP-initial constituent and not the PredP-initial constituent that we would expect. Secondly, they have the form of the copula that appears in interrogatives and conditionals and identity statements. I will consider how they should be analysed in the remainder of this section.

The first point to note is that just as we find some examples with a ProgP-initial constituent, so we find some examples with a PredP-initial constituent. Consider, for example, the following:

(62) a. Bron   yn   barod ydy   Mair ___.
        almost PRED   ready be.PRES.3SG Mair
        'Mair is almost ready.'
     b. *Bron   parod ydy   Mair ___.
         almost   ready be.PRES.3SG Mair

(63) a. Braidd yn   siomedig   ydy   hi ___.
        rather PRED   disappointed be.PRES.3SG she
        'She is rather disappointed.'

A related example with an in-situ complement contains the indefinite article:

(ii) He is a good linguist.

Thus, there is an apparent filler–gap mismatch in (i). It may well be that deletion of *a* is responsible for this.
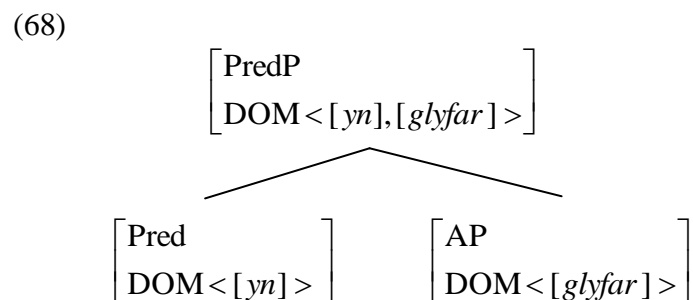
b. *Braidd siomedig   ydy   hi ___.
   rather disappointed be.PRES.3SG she

(64) a. Bron   yn   fradychwr ydy   o ___.
        almost PRED traitor   be.PRES.3SG he
        'He is almost a traitor.'
     b. *Bron   bradychwr ydy   o ___.
        almost traitor   be.PRES.3SG he

The (a) examples contain predicative *yn* and the (b) examples show that it is obligatory. I suggest, then, that examples like (60) and (61) involve a PredP-initial constituent where the predicative particle *yn* is deleted. As with progressive *yn*, the deletion applies not just in sentence-initial position but also after the negative particle *nid/dim*. The following illustrate:
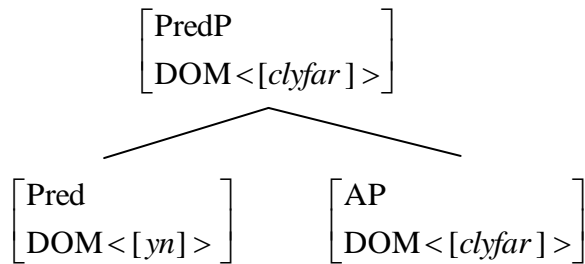
(65) a. Nid/dim   parod ydy   Mair ___.
        NEG   ready be.PRES.3SG Mair
        'Mair is not READY.'
     b. *Nid/dim yn   barod ydy   Mair ___.
        NEG   PRED   ready be.PRES.3SG Mair

(66) a. Nid/dim   siomedig   ydy   hi.
        NEG   disappointed be.PRES.3SG she
        'She is not DISAPPOINTED.'
     b. *Nid/dim yn   siomedig   ydy   hi ___.
        NEG   PRED   disappointed be.PRES.3SG she

(67) a. Nid/dim   bradychwr ydy   o ___.
        NEG   traitor   be.PRES.3SG he
        'He is almost a traitor.'
     b. *Nid/dim yn   fradychwr ydy   o ___.
        NEG   PRED   traitor   be.PRES.3SG he

It looks, then, as if predicative *yn* is deleted under essentially the same conditions as progressive *yn*.
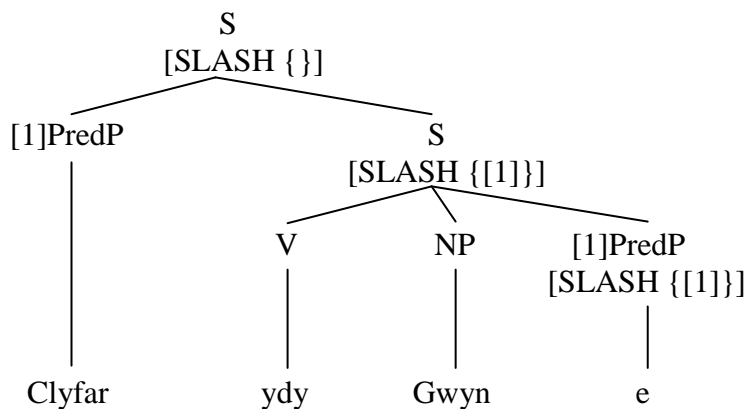
If we assume a deletion approach, while the PredP complement in (36) will have the schematic analysis in (68), the initial constituent in (60) will have the schematic analysis in (69).

(68)

(69)

$$\begin{bmatrix} \text{PredP} \\ \text{DOM} < [\mathit{clyfar}\,] > \end{bmatrix}$$

$$\begin{bmatrix} \text{Pred} \\ \text{DOM} < [\,\mathit{yn}] > \end{bmatrix} \quad \begin{bmatrix} \text{AP} \\ \text{DOM} < [\mathit{clyfar}\,] > \end{bmatrix}$$

(60) will then have the following structure:

(70) *Clyfar ydy Gwyn* 'Gwyn is clever' (= (60))

$$
\begin{array}{c}
\text{S} \\
\text{[SLASH \{\}]}
\end{array}
$$

[1]PredP

S
[SLASH {[1]}]

V   NP   [1]PredP
                  [SLASH {[1]}]

Clyfar   ydy   Gwyn   e

Thus, (60) and (61) are another case where an initial constituent undergoes deletion, making it look like a different category.

One point to note about this analysis is that it correctly predicts the absence of mutation when predicative *yn* is deleted. In (68), *yn* and the adjective appear in the same order domain. Hence, we expect mutation. In (69), *yn* does not appear in the same order domain as the adjective. Hence, no mutation is expected.

What, then, about the fact that we have *ydy* and not *mae* in (60) and (61)? We have already noted that *ydy* and not *mae* appears in interrogatives, conditionals and identity statements. We just need to ensure that we have the same situation with predicational *bod* when it has a PredP gap as its complement. We can propose the following constraint:

(71)

$$\begin{bmatrix} \mathit{predicational\text{-}bod} \\ \\ \text{SS} \mid \text{LOC} \mid \text{CAT} \begin{bmatrix} \text{HEAD[TENSE } \mathit{present}] \\ \\ \text{COMPS} < [], \begin{bmatrix} \mathit{gap} \\ \text{HEAD } \mathit{pred} \end{bmatrix} \end{bmatrix} \end{bmatrix} \Rightarrow [\text{POL } \mathit{int\text{-}cond}']$$

This constraint makes predicational *bod* with a PredP gap as its complement look like identity *bod*. Thus, (61) looks very similar to (24) above. However, on the analyses developed here, they are rather different. Whereas (24) has an initial NP, (61) has an initial PredP with a deleted head. As one might expect, it is possible to find examples

which are ambiguous between an identity and a predicational interpretation. Consider, for example, the following, from Zaring (1996: 134):

(72) Anarferol ydy   beth ydy   Siôn ___.
      unusual be.3SGM what be.3SGM Siôn
      'What Siôn is is unusual.'

This is ambiguous in the same way as the English translation. It may mean that Siôn is unusual (the identity interpretation) or that some property that Siôn has is unusual (the predicational interpretation).

     We have now provided a fairly full account of apparent filler–gap mismatches with predicational *bod*. It involves three distinct mechanisms: (i) a deletion process affecting progressive *yn*, (ii) a deletion process affecting predicative *yn*, and (iii) the constraint in (70), which makes predicational *bod* with a PredP gap as its complement look like identity *bod*. This is quite complex, but the complexity seems justified. One point to note is that we now have the following very simple pattern of complement selection:

Complement	Overt constituent	Gap
PP	yes	yes
PerfP	yes	yes
ProgP	yes	yes
PredP	yes	yes

Table 3. Complements of predicational *bod*: final version

This means that the simple COMPS feature in (39) is satisfactory after all.

5. Further phenomena

I will now consider two further examples of apparent filler–gap mismatches which arise not just with clefts but also with *wh*-interrogatives and relatives. Both are cases where a verb has a special form when a dependent is a gap. The first involves predicational *bod*. The second involves all transitive verbs.

     The first of these phenomena is illustrated by the following examples:

(73) a. Gwyn sydd   ___ yn   canu.
         Gwyn be.PRES.3SG   PROG sing.INF
         'It's Gwyn who is singing.'
      b. *Sydd   Gwyn yn   canu.
          be.PRES.3SG Gwyn PROG sing.INF
      C. *Gwyn mae   ___ yn   canu.
         Gwyn be.PRES.3SG   PROG sing.INF

(73a) is a cleft sentence with a gap in subject position and the present tense of *bod* takes the form *sydd*. (73b) shows that this form cannot appear with an overt subject, and (73c) shows that the normal third person singular form *mae* cannot appear when there is a gap in subject position. The pattern that we see in (73) is also found in *wh*-interrogatives and relatives, as the following show:

(74) a. Pwy sydd _____ yn canu?
    who be.PRES.3SG   PROG sing.INF
    'Who is singing?'
   b. *Pwy mae _____ yn canu?
     who be.PRES.3SG   PROG sing.INF

(75) a. y dyn sydd _____ yn canu
    the man be.PRES.3SG   PROG sing.INF
    'the man who is singing'
   b. *y dyn mae _____ yn canu
     the man be.PRES.3SG   PROG sing.INF

It is a fairly simple matter to account for this phenomenon. With identity *bod* and predicational *bod* with a PredP gap as its complement there is a set of special forms that appears. Here we are just concerned with a single special form. Hence we just need a constraint specifying the phonology of a present tense form of predicational *bod* when it has a gap as its subject. In other words, we need something like the following:

(76)
$$\begin{bmatrix} predicational\text{-}bod \\ \text{SS}\,|\,\text{LOC}\,|\,\text{CAT} \begin{bmatrix} \text{HEAD[TENSE } present\,] \\ \text{COMPS} < [gap],[\,] > \end{bmatrix} \end{bmatrix} \;\Rightarrow\; [\text{PHON } sydd]$$

Assuming that the constraint that is responsible for the normal realization of the present tense of predicational *bod* is a default constraint which can be overridden, this will handle the facts.

The other apparent filler–gap mismatch is more complex. It is illustrated by the following:

(77) a. Beth mae o 'n ei wneud ___?
    what be.PRES.3SG he PROG 3SGM do.INF
    'What is he doing?'
   b. *Mae o 'n ei wneud rhywbeth.
     be.PRES.3SG he PROG 3SGM do.INF something
    'He is doing something.'
   c. Mae o 'n gwneud rhywbeth.
    be.PRES.3SG he PROG do.INF something
    'He is doing something.'

The example in (77a) illustrates the fact, mentioned in Section 2 above, that a non-finite verb with a gap as its object is preceded by a clitic agreeing with the gap. The examples in (77b) and (77c) show that a non-finite verb with a non-pronominal NP as its object is not preceded by a clitic. One might suppose that the gap in (77a) is not a true gap but a phonologicaly null resumptive pronoun, and this is the conclusion that a number of researchers have reached (see Awbery 1977, Sadler 1988 and Rouveret 2002: 124). There are, however, reasons for rejecting this view. First, as emphasized in Willis (2000: 545), an overt resumptive pronoun is not possible in this position:

(78) *Beth mae   o   'n   ei   wneud o?
     what be.PRES.3SG he PROG 3SGM do.INF   he

Second, as noted in Borsley et al. (2007: 114), colloquial Welsh allows a third person singular masculine clitic to appear when the *wh*-phrase is feminine or plural. Thus, instead of the examples in (79), those in (80) may occur. (The third person singular masculine and feminine clitics are identical in form, but the former triggers soft mutation while the latter triggers aspirate mutation.)

(79) a. Pa   gath ydych   chi 'n   ei   phrynu ___?
      which cat be.PRES.2PL you PROG 3SGF buy.INF
      'Which cat are you buying?'
    b. Pa   lyfre ydych   chi 'n   eu   prynu ___?
      which books be.PRES.2PL you PROG 3PL   buy.INF
      'Which books are you buying?'

(80) a. Pa   gath ydych   chi 'n   ei   brynu ___?
      which cat   be.PRES.2PL you PROG 3SGM buy.INF
    b. Pa   lyfre ydych   chi 'n   ei   brynu ___?
      which books be.PRES.2PL you PROG 3SGM buy.INF

It seems clear, then, that examples like (77a) contain not a null resumptive pronoun but a true gap.[12]

    We noted earlier that there is evidence that nominal gaps are non-pronominal. We have seen that a non-finite verb does not have a clitic when its object is an overt non-pronominal NP. Thus, the appearance of a clitic in (77a) is surprising. In Borsley (2009) I propose that both agreement suffixes and clitics are realizations of an AGR(EEMENT) feature and that lexical heads are by default [AGR *none*]. Certain constraints override this and ensure that an agreement suffix or a clitic appears under certain conditions. In Borsley (2009), I propose that the main cases of agreement are the result of a constraint on order domains, and it seems reasonable to propose such a constraint here, as follows:

(81)

$$
\left[\text{DOM} < \left[\text{SS} \mid \text{LOC} \mid \text{CAT} \mid \text{HEAD} \begin{bmatrix} verb \\ \text{VFORM}\ inf \\ \text{AGR}\,[1] \end{bmatrix} \right],\ \left[\text{SS} \begin{bmatrix} gap \\ \text{LOC} \begin{bmatrix} \text{CAT NP} \\ \text{CONT[INDEX[2]]} \end{bmatrix} \end{bmatrix} \right], ... > \right]
$$

$\Rightarrow [1] = [[2] \vee [\textit{3rd, sing, masc}]]$

---

[12] There are, of course, questions about how resumptive pronouns should be analysed. See Borsley (2010) for discussion.

This requires the value of AGR on a non-finite verb followed by a nominal gap to be either the person, number and gender features of the gap's index or third person singular masculine. It is rather more complex than the constraint in (76), but that is because the facts are more complex.

6. Concluding remarks

I have now investigated a number of examples of apparent filler–gap mismatches and considered how they might be accounted for within HPSG. My main focus has been cleft sentences, where I have argued that the initial constituent is not a filler but one term of a hidden identity predication. As we have seen, however, there is much more to be said. We have one case where a word (identity *bod*) only allows a complement which is a gap. We have two cases where a deletion process conceals the identity of the initial constituent in a cleft sentence, making a ProgP look like a VP and a PredP look like an AP or an NP. Finally, there are three cases where a verb with a gap as dependent has a special form, two cases involving *bod* and one involving all transitive verbs. The facts require a variety of constraints, but it is not difficult to accommodate them within HPSG.

What about other frameworks? It seems to me that it might well be possible to provide analyses within a transformational approach. It would presumably be possible to analyse cleft sentences as involving movement of an empty operator which is required to have same category and, in the case of nominals, the same number and gender but not person as the clause-initial phrase. Identity *bod* would be no problem if one can stipulate that certain complements obligatorily undergo A′-movement. With predicational *bod* it would be necessary to require deletion to apply to certain constituents in Spec CP, which is presumably possible in a transformational approach. It would also be necessary to ensure that the present tense of predicational *bod* has a special form when a PredP complement is fronted. This is presumably not a problem. It would probably also be possible to handle the facts considered in the last section.

It looks, then, as if the Welsh data may be unproblematic for a transformational approach. However, it does look problematic for the Principles and Parameters view of language, at least if that is the position that grammatical systems are the result of setting a relatively small number of parameters. It seems most unlikely that the phenomena we have been concerned with here could be the product of setting parameters which have effects elsewhere. Rather, they look like the sort of idiosyncratic phenomena which Culicover (1999) calls 'syntactic nuts', which suggest that there must be more to the grammars of natural languages than parameter setting.

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