

A NEW APPROACH TO WELSH NEGATION¹

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1. Introduction

Borsley and Jones (2005) (henceforth BJ) provide a detailed description of Welsh negation and develop formal analyses of the main facts within Head-driven Phrase Structure Grammar (HPSG). In this paper I want to reconsider some aspects of their analyses. In particular, I want to look at their treatment of three different types of negative verb and a restriction on negative subjects. I will argue that there are a number of weaknesses in their approach to these matters and also that it cannot be extended to some similar data in other languages. I will show that the weaknesses can be eliminated given different assumptions about the two features that are central to the BJ analysis and a reformulation of some of the main constraints. I will replace constraints referring to the COMPS list of verbs by constraints referring to superficial linear order and I will show that similar constraints can be proposed to accommodate some similar data in other languages.

The paper is organized as follows. In section 2 I present the relevant Welsh data, and in section 3 I outline the relevant aspects of the BJ analysis. In section 4 I highlight the weaknesses of the analysis. Then, in section 5, I show how the weaknesses can be eliminated. Finally, in section 6, I conclude the paper.

2. The data

BJ argue that Welsh has three distinct types of negative verbs. They call them weak negative verbs, strong negative verbs, and extra-strong negative verbs.

Weak negative verbs sometimes have a distinctive form but normally look like affirmative verbs. Their defining property is that they require a negative dependent, which may be a subject, a post-subject adverb or a complement. The first of these possibilities is illustrated in (1), the second in (2) and (3) and the third in (4).

- (1) Does neb yn yr ystafell.
 NEG-is no one in the room
 ‘There isn’t anyone in the room.’
- (2) Dydy o ddim yn darllen.
 NEG-is he NEG PROG read
 ‘He isn’t reading.’

¹ An earlier version of this paper was presented at the Twelfth Welsh Syntax Seminar at Gregynog, July 4-5, 2005. I am grateful to Henriette de Swart for very valuable discussion of the issues I consider here.

- (3) Dydy o byth yn darllen.
 NEG-is he never PROG read
 'He is never reading.'
- (4) Welish i neb.
 saw-1SG I no one
 'I saw no one.'

The following are related affirmative sentences:

- (5) Mae Gwyn yn yr ystafell.
 is Gwyn in the room
 'Gwyn is in the room.'
- (6) Mae o 'n darllen.
 is he PROG read
 'He is reading.'
- (7) Welish i Gwyn.
 saw-1SG I Gwyn
 'I saw Gwyn.'

Thus, in (1) – (3), the weak negative verb has a distinctive form, but the verb in (4) looks just like an affirmative verb. The following show that a negative dependent is necessary even when a weak negative verb has a distinctive form:

- (8) *Does unrhyw un yn yr ystafell.
 NEG-is anyone in the room
 'There isn't anyone in the room.'
- (9) *Dydy o 'n darllen.
 NEG-is he PROG read
 'He isn't reading.'

A negative element that is part of a complement cannot satisfy the requirement on weak negative verbs. Thus, (5) is ungrammatical:

- (10) *Dw i [wedi gweld neb]
 am I PERF see nobody
 'I haven't seen anybody.'

However, some speakers although not others accept examples like (11) (hence the '%' notation).

- (11) %Soniodd Sioned [am neb]
 mentioned Sioned about no-one
 'Sioned talked about no one.'

BJ propose that for some speakers prepositions and the phrases they head are negative when their complement is negative. (10) can be turned into a grammatical sentence by the

addition of *ddim*, and (11) can be turned into a sentence that is generally grammatical in the same way.

- (12) Dw i ddim [wedi gweld neb]
am I NEG PERF see nobody
'I haven't seen anybody.'
- (13) Soniodd Sioned ddim [am neb]
mentioned Sioned NEG about no-one
'Sioned talked about no one.'

We turn now to strong negative verbs. The main example is verbs preceded by *na* (*nad* before a vowel in subordinate clauses) in subordinate clauses. These verbs allow but do not require a negative dependent. The following illustrates:

- (14) O'n i 'n gwbod [nad oedd Gwyn (ddim) yn hapus]
was I PROG know NEG was Gwyn NEG PRED happy
'I knew that Gwyn wasn't happy.'

Here, unlike in (2), *ddim* is optional.

Like strong negative verbs, extra-strong negative verbs do not require a negative dependent, but unlike strong negative verbs they do not allow *ddim*. The main examples of an extra-strong negative verb are the forms *paid* and *peidiwch* which are used to form negative imperatives. Thus, *ddim* is impossible in (15) although *byth* is fine in (16).

- (15) Paid/ Peidiwch (*ddim) â mynd i Aberystwyth.
NEG.SG NEG.PL NEG NEG with go to Aberystwyth
'Don't go to Aberystwyth'
- (16) Paid/ Peidiwch byth â mynd i Aberystwyth
NEG.SG NEG.PL NEG never with go to Aberystwyth
'Don't ever go to Aberystwyth'

Other extra-strong negative verbs are certain negative forms of the copula that occur in southern dialects. Again we see that *ddim* is not possible although *byth* is fine.

- (17) Sa i (*ddim) yn gweithio.
NEG.is I NEG PROG work
'I'm not working.'
- (18) Sa i byth yn gweithio.
NEG.is I never PROG work
'I'm never working.'

A further important fact about Welsh negation is that *ddim* may not co-occur with a negative subject. Again, we have a contrast with *byth*. The following illustrate:

- (19) Fydd neb (*ddim) yma.
 will-be no one NEG here
 ‘No one will be here.’
- (20) Fydd neb byth yma.
 will-be no one never here
 ‘No one will ever be here.’

Summarizing this section, we can say that we have three constraints or restrictions here, as follows:

- A weak negative verb requires a negative dependent (a subject, post-subject adverb or complement).
- An extra-strong negative verb does not allow *ddim* as a dependent.
- A negative subject may not be followed by *ddim*.

Notice that we have no constraint on strong negative verbs. Notice also that two of the three constraints refer to *ddim*.

3. Aspects of the BJ analysis

We can now consider how the BJ analysis accommodates the facts that we have just presented. It involves certain features and certain formal constraints that make use of them.

Any account of the facts needs some way to distinguish the three types of negative verb. BJ do this with the feature POL(ARITY) as follows:

- | | |
|-----------------------------|--------------------------------|
| (21) Weak negative verbs | [POL <i>weak-neg</i>] |
| Strong negative verbs | [POL <i>strong-neg</i>] |
| Extra-strong negative verbs | [POL <i>extra-strong-neg</i>] |

Any account also needs a way to identify negative dependents, which can satisfy the constraint on weak negative verbs. BJ do this with the feature NEG, marking negative dependents as [NEG +]. [NEG +] elements are either semantically negative elements or contain an appropriately located semantically negative element. This normally means a head. However, as we have seen, for some speakers, a PP can be [NEG +] when the non-head daughter is semantically negative.

Turning to the constraints, we need to ensure firstly that a [POL *weak-neg*] verb has a [NEG +] dependent, which is either a subject, a post-subject adverb or a complement. BJ propose that both subjects and post-subject adverbs are extra complements of the preceding verb. It follows that [POL *weak-neg*] verb requires a [NEG +] complement. BJ formulate the necessary constraint as follows:

$$(22) \left[\begin{array}{l} \text{word} \\ \text{HEAD} [\text{POL } \textit{weak} - \textit{neg}] \end{array} \right] \rightarrow [\text{COMPS} \langle \dots, [\text{NEG } +], \dots \rangle]$$

Notice that the reference here is not to verbs but to words. There is no need to refer to verbs since verbs are the only words that may be [POL *weak-neg*].

As we have noted, we do not require any constraint on strong negative verbs, but we need to ensure that a [POL *extra-strong-neg*] verb does not have *ddim* as a dependent. BJ propose the following constraint:

$$(23) \left[\begin{array}{l} \text{HEAD} [\text{POL } \textit{extra} - \textit{strong} - \textit{neg}] \\ \text{COMPS} \langle [1], [2], \dots \rangle \end{array} \right] \rightarrow \neg ([2] = [\text{FORM } \textit{ddim}])$$

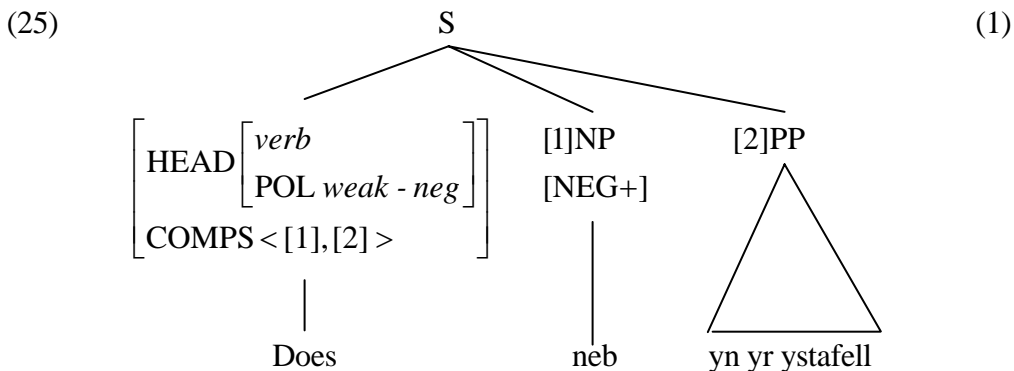
Essentially this says that a [POL *extra-strong-neg*] verb may not have *ddim* as its second complement. The second complement may be some other adverb, including, the negative adverb *byth*, or it may be a standard complement.

Finally, what about the constraint on negative subjects? BJ propose the following constraint:

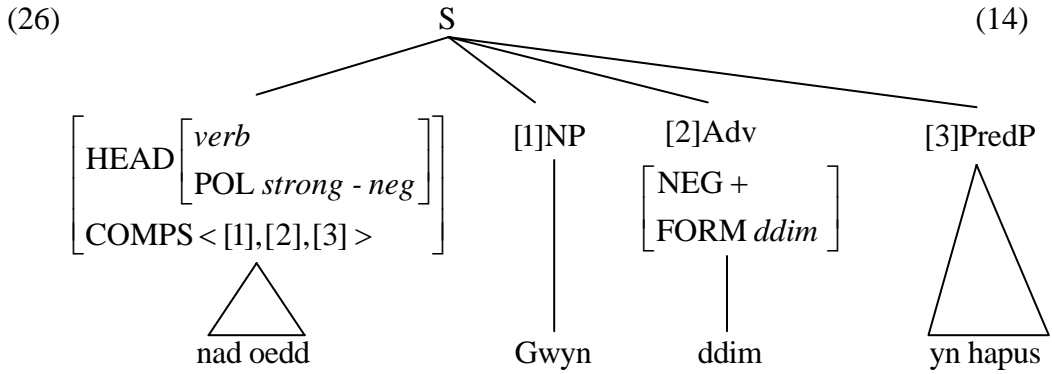
$$(24) [\text{COMPS} \langle [\text{NEG } +], [1], \dots \rangle] \rightarrow \neg ([1] = [\text{FORM } \textit{ddim}])$$

This says that if a first complement is [NEG +] the second complement may not be *ddim*. The only situation in which *ddim* could appear as a second complement is where the head is finite verb and the first complement is its subject.

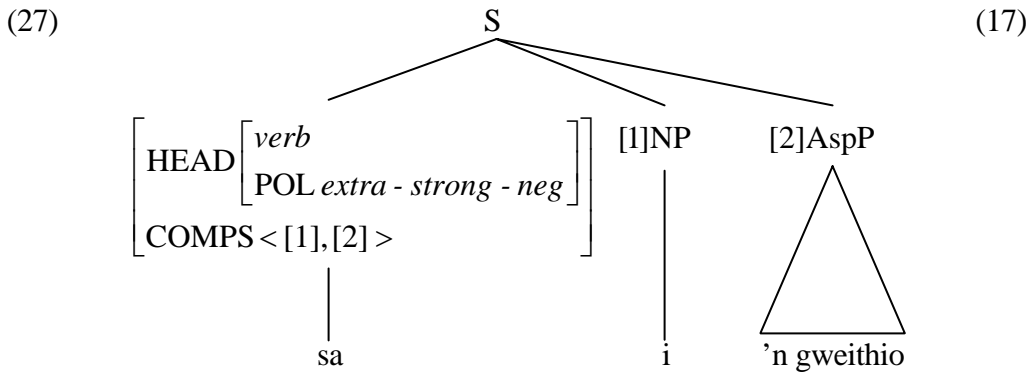
Before we highlight some weaknesses of this approach, it is appropriate to give some examples of the structures that BJ assume. (1) has the following structure:



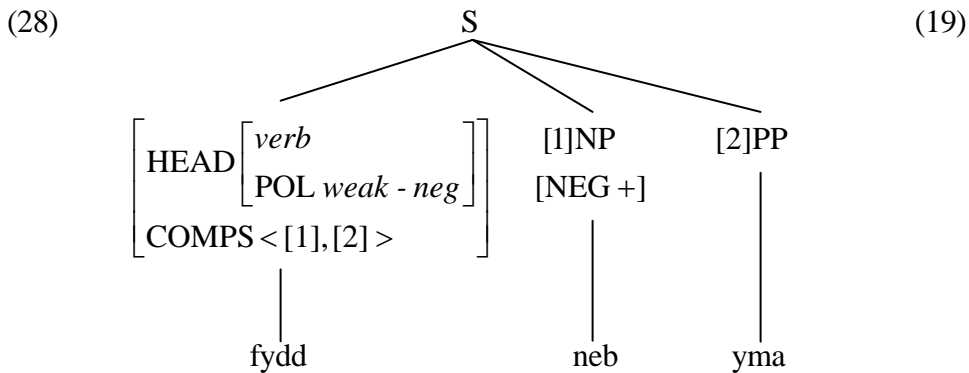
Here the verb is [POL *weak-neg*] and its first complement, which is its subject, is [NEG +]. Thus, this example conforms to the constraint in (22). The subordinate clause in (14) has the following structure when it contains *ddim*.



As we have emphasized, [POL *strong-neg*] verbs are not subject to any special constraint. Thus, this example is grammatical with or without *ddim*. The grammatical version of (17) has the structure in (27).



Here the second complement is an AspP. Hence, there is no violation of the constraint in (23).² The grammatical version of (19) has the structure in (28).



Here the second complement is a PP and there is no violation of (24)

² It is necessary here to assume that an imperative has a phonologically empty subject. Since otherwise *ddim* if it occurs in an imperative would not be the second member of a COMPS list.

4. Weaknesses of the BJ analysis

I will now highlight a number of features of the BJ analysis, which might be seen as weaknesses. Together they suggest that some revision would be appropriate.

The first two points involve the features POL and NEG. We have seen that POL has three possible negative values. It also has the values *pos(itive)* for forms like *mae* in (5) and (6), and *int(errogative)-cond(itional)* for forms like *ydy* in the following:

- (29) a. Ydy Sioned yn aros?
is Sioned PROG stay
'Is Sioned staying?'
b. os ydy Sioned yn aros
if is Sioned PROG stay
'If Sioned is staying'

Thus, the feature has five different values. It is natural to wonder whether this complexity is really necessary.

Turning to NEG, notice that [NEG +] identifies a subset of expressions which can make a sentence negative, the dependents. It is not clear why it should not identify all such expressions, heads as well as dependents.

A further issue arises about strong negative verbs. Notice that they are like extra-strong negative verbs in not requiring a negative dependent but like weak negative verbs in allowing *ddim*. This suggests that they may be ambiguous with either an extra-strong or a weak negative status.

Turning to the constraints, notice that two of them, (23) and (24), exclude *ddim*. It is natural to wonder whether two constraints are really necessary. They rule out examples in *ddim* is preceded by a semantically negative element and differ solely in that this element is a head in (23) and a dependent in (24). This strongly that a unified account is desirable.³

Further issues involve data in other languages. Firstly, there is Swedish data in Sells (2000). As described in Sells, Swedish negative sentences commonly contain a negative subject, a negative adverb, or a negative object. The following illustrate:

- (30) Ingen såg mig.
No one saw me
(31) Jag har inte gett boken till henne.
I have not given the book to her
(32) Jag såg ingen.
I saw no one

These are rather like the Welsh examples in (1), (2), and (4). A negative element inside a VP does not produce a well-formed negative sentence, as (33) shows:

³ BJ (2005: 9.2.3) note in this context that 'we may be missing a generalization'.

- (33) *Jag har [sett ingen]
I have seen noone
'I haven't seen anybody.'

This is like the Welsh example in (10). A negative element inside a PP is also unable to produce a well-formed negative sentence.

- (34) * Jag pratade [med ingen]
I spoke with noone
'I didn't speak to anyone.'

This is rather like (11), although, as we noted, (11) is acceptable for some Welsh speakers. Sells remarks that 'compared to English' examples like (33) and (34) 'are surprisingly ungrammatical'. Their ungrammaticality is not so surprising from a Welsh perspective.

An important contrast between the two languages is highlighted by the following examples:

- (35) Inga romaner har jag läst.
no novels have I read
'I have read no novels.'

- (36) *Neb welish i.
no one saw-1SG I
'It was no one that I saw.'

Both examples contain a pre-verbal non-subject, but only the Swedish example is grammatical.

In spite of this difference, the similarities between the two languages are quite striking. This being so, it is desirable to treat the two sets of data in similar ways. However, it is not easy to analyse the Swedish data in the same way as the Welsh data. Swedish does not have any overt negative heads. Hence it is not very plausible to suggest that these negative elements are required by a negative head. Moreover, a negative complement does not always produce a well-formed negative sentence, as the following show:

- (37) Jag lånade dig inga pengar.

I lent you no money

- (38) *Jag lånade Sven inga pengar.

I lent Sven no money

These are double object sentences and they show that a negative second object only produces a well-formed negative sentence if the first object is pronominal. Thus, not all negative complements give a well-formed negative sentence.

A further weakness of the BJ analysis is highlighted by some Italian data. The Welsh data in (39) is rather like the Italian data in (40). ((39a) is (19).)

- (39) a. Fydd neb (*ddim) yma.
 will-be no one NEG here
 ‘No one will be here.’
 b. Dw i *(ddim) [wedi gweld neb]
 am I NEG PERF see nobody
 ‘I haven’t seen anybody.’
- (40) a. Nessuno (*non) telefona a Gianni.
 no one NEG telephones to Gianni
 ‘No one calls Gianni.’
 b. Gianni *(non) telefona a nessuno.
 Gianni NEG telephones to no one
 ‘Gianni does not call anyone.’

The (a) examples show that both *ddim* and Italian *non* cannot be preceded by a semantically negative element. The (b) examples show that a negative element late in the sentence does not produce a well-formed negative sentence. Hence, *ddim* is required in (39b) and *non* is required in (40b). It seems clear that the two sets of data should be treated in similar ways. However, this is quite difficult given that *ddim* is a dependent and *non* a head.

It seems, then, that the BJ analysis has a number of weaknesses. Clearly it would be good to eliminate them.

5. An alternative analysis

I will now outline an alternative analysis, which does not have the weaknesses that I have identified in the BJ analysis. The analysis involves a simpler system of features, a simpler set of constraints, and it captures the similarities between the Welsh data and the Swedish and Italian data. It makes crucial use of the linearization-based version of HPSG, outlined in Kathol 2000), in which linear order is defined in terms of a system of order domains.

The revision to the feature system is quite simple. I propose to mark all expressions that that can make a sentence negative as [NEG +], heads as well as dependents. With this change it is no longer necessary to use the POL feature to distinguish different types of negative verbs. All can simply be labelled [POL *neg*]. With these assumptions, the three types of negative verb will have the following feature specifications:

- | | |
|-----------------------------|--------------------------|
| (41) Weak negative verbs | [POL <i>neg</i> , NEG –] |
| Strong negative verbs | [POL <i>neg</i>] |
| Extra-strong negative verbs | [POL <i>neg</i> , NEG +] |

Notice that strong negative verbs are unspecified for the feature NEG. This means that they are ambiguous between a weak negative and an extra-strong negative status, as suggested in the last section.

Turning to constraints I will propose two instead of the three of the BJ analysis, both referring to superficial linear order and both having counterparts in other languages. The BJ analysis ensures that negative clauses have either a strong negative verb or a weak

negative verb with a negative dependent. Using the revised feature system, it ensures that they have either a [NEG +] head or a [NEG +] dependent. However, I will show that a constraint that refers not to notions like head and dependent but to linear order has the advantage that it can be modified to accommodate other languages. Such a constraint can be formulated within the linearization-based HPSG framework of Kathol (2000).

For linearization-based HPSG, phrasal constituents have both a list of daughters and a list of domain elements. The domain elements of a constituent may be ‘compacted’ to form a single element in the order domain of the mother or they may just become elements in the mother’s order domain. In the latter case the mother has more domain elements than daughters. Within this framework, (42) might have the schematic representation in (43).

(42) Is Kim coming?

(43)

$$\left[\begin{array}{l} \text{PHON } is \text{ Kim } coming \\ \text{SYNSEM S} \\ \text{DTRS } \left\langle \left[\begin{array}{l} \text{PHON } Kim \\ \text{SYNSEM NP} \end{array} \right], \left[\begin{array}{l} \text{PHON } is \text{ coming} \\ \text{SYNSEM VP} \end{array} \right] \right\rangle \\ \text{DOM } \left\langle \left[\begin{array}{l} \text{PHON } is \\ \text{SYNSEM V} \end{array} \right], \left[\begin{array}{l} \text{PHON } Kim \\ \text{SYNSEM NP} \end{array} \right], \left[\begin{array}{l} \text{PHON } coming \\ \text{SYNSEM NP} \end{array} \right] \right\rangle \end{array} \right]$$

Here we have an S with two daughters but with three domain elements. This is because the domain elements of the VP daughter (not included in the representation) have not been compacted.

Kathol (2000) also proposes that clausal order domains may be divided into topological fields, and he shows how this assumption permits an account of a variety of syntactic phenomena in German. Kathol uses labels for topological fields taken from traditional German grammar. However, following Borsley and Kathol’s (2000) discussion of Breton, I will use the labels *first*, *second*, *third*, *fourth*. I will assume that pre-verbal constituents are in *first*, verbs in *second*, subjects, post-subject adverbs and complements in *third*, and various adverbial constituents in *fourth*. The following summarizes:

(44)

<i>first</i>	pre-verbal constituents
<i>second</i>	verbs
<i>third</i>	subjects, post-subjects adverbs, complements
<i>fourth</i>	adverbial constituents

These are essentially the assumptions made for Breton in Borsley and Kathol (2000). Given these assumptions, we will have the following schematic clausal order domains for a number of earlier examples:

$$(45) \quad \left[\text{DOM} \left\langle \left[\begin{array}{c} \textit{second} \\ \langle \textit{dydy} \rangle \end{array} \right], \left[\begin{array}{c} \textit{third} \\ \langle \textit{o} \rangle \end{array} \right], \left[\begin{array}{c} \textit{third} \\ \text{NEG +} \\ \langle \textit{ddim} \rangle \end{array} \right], \left[\begin{array}{c} \textit{third} \\ \langle \textit{yn darllen} \rangle \end{array} \right] \right\rangle \right] \quad (1)$$

$$(46) \quad \left[\text{DOM} \left\langle \left[\begin{array}{c} \textit{second} \\ \langle \textit{does} \rangle \end{array} \right], \left[\begin{array}{c} \textit{third} \\ \text{NEG +} \\ \langle \textit{neb} \rangle \end{array} \right], \left[\begin{array}{c} \textit{third} \\ \langle \textit{yn yr ystafell} \rangle \end{array} \right] \right\rangle \right] \quad (2)$$

$$(47) \quad \left[\text{DOM} \left\langle \left[\begin{array}{c} \textit{second} \\ \langle \textit{welish} \rangle \end{array} \right], \left[\begin{array}{c} \textit{third} \\ \langle \textit{i} \rangle \end{array} \right], \left[\begin{array}{c} \textit{third} \\ \text{NEG +} \\ \langle \textit{neb} \rangle \end{array} \right] \right\rangle \right] \quad (4)$$

$$(48) \quad \left[\text{DOM} \left\langle \left[\begin{array}{c} \textit{second} \\ \text{NEG +} \\ \langle \textit{sa} \rangle \end{array} \right], \left[\begin{array}{c} \textit{third} \\ \langle \textit{i} \rangle \end{array} \right], \left[\begin{array}{c} \textit{third} \\ \langle \textit{'n gweithio} \rangle \end{array} \right] \right\rangle \right] \quad (17)$$

These order domains contain a [NEG +] element either in *third* ((45) – (47)) or *second* ((48)). (36) shows that a [NEG +] element in *first* does not produce a well-formed sentence. What about *fourth*? Notice that the following are ungrammatical:

- (49) a. *Welish i Gwyn erioed.
 saw I Gwyn never.
 ‘I didn’t ever see Gwyn.’
 b. *Welish i Gwyn nunlle.
 saw I Gwyn nowhere
 ‘I didn’t see Gwyn anywhere.’

These will have the following clausal order domains:

$$(50) \text{ a. } \left[\text{DOM} \left\langle \left[\begin{array}{c} \textit{second} \\ \langle \textit{welish} \rangle \end{array} \right], \left[\begin{array}{c} \textit{third} \\ \langle \textit{i} \rangle \end{array} \right], \left[\begin{array}{c} \textit{third} \\ \langle \textit{Gwyn} \rangle \end{array} \right], \left[\begin{array}{c} \textit{fourth} \\ \text{NEG +} \\ \langle \textit{erioed} \rangle \end{array} \right] \right\rangle \right]$$

b.

$$\left[\text{DOM} \left\langle \left[\begin{array}{c} \textit{second} \\ \langle \textit{welish} \rangle \end{array} \right], \left[\begin{array}{c} \textit{third} \\ \langle \textit{i} \rangle \end{array} \right], \left[\begin{array}{c} \textit{third} \\ \langle \textit{Gwyn} \rangle \end{array} \right], \left[\begin{array}{c} \textit{fourth} \\ \text{NEG +} \\ \langle \textit{nunlle} \rangle \end{array} \right] \right\rangle \right]$$

The obvious conclusion, then, is that a [NEG +] element in *fourth* does not produce a well-formed negative sentence: Instead of (49a) we might have (51a) or (51b), and instead of (49b) we might have (51c).

- (51) a. Welish i erioed Gwyn
 saw I never Gwyn.
 ‘I didn’t ever see Gwyn.’
- b. Welish i mo Gwyn erioed.
 saw I NEG-of Gwyn never
 ‘I didn’t ever see Gwyn.’
- c. Welish i mo Gwyn nunlle.
 saw I NEG-of Gwyn nowhere
 ‘I didn’t see Gwyn anywhere.’

In the first of these, *erioed* is a post-subject adverb. In the second and third, the object contains what BJ call a negative pseudo-quantifier. These examples will have the following schematic clausal order domains:

(52) a.

$$\left[\text{DOM} \left\langle \left[\begin{array}{c} \textit{second} \\ \langle \textit{welish} \rangle \end{array} \right], \left[\begin{array}{c} \textit{third} \\ \langle \textit{i} \rangle \end{array} \right], \left[\begin{array}{c} \textit{third} \\ \text{NEG +} \\ \langle \textit{erioed} \rangle \end{array} \right], \left[\begin{array}{c} \textit{third} \\ \langle \textit{Gwyn} \rangle \end{array} \right] \right\rangle \right]$$

b.

$$\left[\text{DOM} \left\langle \left[\begin{array}{c} \textit{second} \\ \langle \textit{welish} \rangle \end{array} \right], \left[\begin{array}{c} \textit{third} \\ \langle \textit{i} \rangle \end{array} \right], \left[\begin{array}{c} \textit{third} \\ \text{NEG +} \\ \langle \textit{mo Gwyn} \rangle \end{array} \right], \left[\begin{array}{c} \textit{fourth} \\ \text{NEG +} \\ \langle \textit{erioed} \rangle \end{array} \right] \right\rangle \right]$$

c.

$$\left[\text{DOM} \left\langle \left[\begin{array}{c} \textit{second} \\ \langle \textit{welish} \rangle \end{array} \right], \left[\begin{array}{c} \textit{third} \\ \langle \textit{i} \rangle \end{array} \right], \left[\begin{array}{c} \textit{third} \\ \text{NEG +} \\ \langle \textit{mo Gwyn} \rangle \end{array} \right], \left[\begin{array}{c} \textit{fourth} \\ \text{NEG +} \\ \langle \textit{nunlle} \rangle \end{array} \right] \right\rangle \right]$$

It looks, then, as if we can say that a Welsh negative clause must contain a [NEG +] element in *second* or *third*. We can capture this fact with the following constraint:

(53)

$$\left[\begin{array}{l} \textit{clause} \\ \text{VFORM } \textit{fin} \\ \text{POL } \textit{neg} \end{array} \right] \rightarrow \left[\text{DOM} < \dots \left[\begin{array}{l} \textit{second} \vee \textit{third} \\ \text{NEG} + \end{array} \right] \dots > \right]$$

This constraint replaces BJ's constraint in (22), which requires a weak negative verb to have a negative complement. Given (53) a weak negative verb must have a negative complement because it heads a negative clause and is not itself [NEG +].

We can turn now to the Swedish data. Sells proposes that Swedish requires a negative element outside VP. He assumes that the verb is outside VP in a main clause and that negative objects may also appear outside VP. He also proposes that a pronominal object but not a non-pronominal object can be outside VP. It follows that a negative element following a pronominal object can be outside VP but a negative object following a non-pronominal object cannot. This accounts for the contrast between (37) and (38). We saw earlier that the BJ analysis of Welsh cannot be extended to Swedish. I will now show that Sells's analysis of Swedish cannot be extended to Welsh.

In Borsley (forthcoming) I argue against an analysis of Welsh finite clauses involving a VP and in favour of a flat structure. If these arguments are sound, there is no question about whether some constituent of a finite clause is inside or outside VP. Analyses involving a VP have often been proposed for Welsh. However, as far as I am aware, all analyses of Welsh clause structure which have assumed a VP have assumed that objects remain within VP. Interestingly, it has been proposed by Bobaljik and Carnie (1996) that objects in Irish VSO clauses are outside VP. The evidence comes from non-finite clauses, where the object normally appears before the verb. Consider, for example, (54), where the non-finite clause is bracketed.

(54) Ba mhaith liom [iad Ciarán a fhostú]
I-would-like them Ciaran hire.INF
'I would like them to hire Ciaran.'

In Welsh non-finite clauses the object always follows the verb. (55) contains a typical example.

(55) Disgwyliodd Emrys [i Megan weld draig]
expected Emrys to Megan see dragon
'Emrys expected Megan to see a dragon.'

It seems, then, that there is no reason to think that objects may be outside VP in Welsh. Hence, Sells's analysis of Swedish cannot be extended to Welsh.

I will now show that it is quite easy to extend the linearization-based approach to Swedish. Kathol (2000: chapter 9) proposes that initial constituents in a Swedish finite clause, whether subjects or non-subjects, are in *first* and finite verbs in *second*, constituents which follow the finite verb in a main clause but precede the finite verb in a subordinate clause are in *third*, the finite verb in a subordinate clause is in *fourth*, and

constituents which follow the finite verb in a subordinate clause are in *fifth*. The following summarizes:

<i>first</i>	initial constituents
<i>second</i>	finite verbs in main clauses
<i>third</i>	constituents which follow the finite verb in a main clause but precede it in a subordinate clause
<i>fourth</i>	finite verbs in subordinate clauses
<i>fifth</i>	constituents which follow the finite verb in a subordinate clause

With these assumptions, (30)–(32) will have the following clausal order domains:

$$(56) \quad (30) \quad \left[\text{DOM} \left\langle \left[\begin{array}{l} \textit{first} \\ \langle \text{jag} \rangle \end{array} \right], \left[\begin{array}{l} \textit{second} \\ \langle \text{har} \rangle \end{array} \right], \left[\begin{array}{l} \textit{third} \\ \text{NEG +} \\ \langle \text{inte} \rangle \end{array} \right], \left[\begin{array}{l} \textit{fifth} \\ \langle \text{gett boken til henne} \rangle \end{array} \right] \right\rangle \right]$$

$$(57) \quad (31) \quad \left[\text{DOM} \left\langle \left[\begin{array}{l} \textit{first} \\ \text{NEG +} \\ \langle \text{ingen} \rangle \end{array} \right], \left[\begin{array}{l} \textit{second} \\ \langle \text{såg} \rangle \end{array} \right], \left[\begin{array}{l} \textit{third} \\ \langle \text{mig} \rangle \end{array} \right] \right\rangle \right]$$

$$(58) \quad (32) \quad \left[\text{DOM} \left\langle \left[\begin{array}{l} \textit{first} \\ \langle \text{jag} \rangle \end{array} \right], \left[\begin{array}{l} \textit{second} \\ \langle \text{såg} \rangle \end{array} \right], \left[\begin{array}{l} \textit{third} \\ \text{NEG +} \\ \langle \text{ingen} \rangle \end{array} \right] \right\rangle \right]$$

These order domains contain a [NEG +] element in *first* or *third*. What about (37) and (38)? Pronominal objects but not non-pronominal objects can precede the finite verb in a subordinate clause. It follows that pronominal objects but not non-pronominal objects can be in *third*. Thus, (37) can have the clausal order domain in (59) but (38) can only have that in (60).

$$(59) \quad (37) \quad \left[\text{DOM} \left\langle \left[\begin{array}{l} \textit{first} \\ \langle \text{jag} \rangle \end{array} \right], \left[\begin{array}{l} \textit{second} \\ \langle \text{lanade} \rangle \end{array} \right], \left[\begin{array}{l} \textit{third} \\ \langle \text{dig} \rangle \end{array} \right], \left[\begin{array}{l} \textit{third} \\ \text{NEG +} \\ \langle \text{inga pengar} \rangle \end{array} \right] \right\rangle \right]$$

$$(60) \qquad \qquad \qquad (38)$$

$$\left[\text{DOM} < \left[\begin{array}{c} \textit{first} \\ < jag > \end{array} \right], \left[\begin{array}{c} \textit{second} \\ < lanade > \end{array} \right], \left[\begin{array}{c} \textit{fifth} \\ < Sven > \end{array} \right], \left[\begin{array}{c} \textit{fifth} \\ \text{NEG +} \\ < inga pengar > \end{array} \right] > \right]$$

Only (59) contains a [NEG +] element in *third*. It seems, then, that a Swedish negative clause must contain a [NEG +] element in *second* or *third*. We can capture this fact with the following constraint:

$$(61)$$

$$\textit{negative-clause} \rightarrow \left[\text{DOM} < \dots \left[\begin{array}{c} \textit{first} \vee \textit{third} \\ \text{NEG +} \end{array} \right] \dots > \right]$$

A constraint like (53) and (61) also seems appropriate for Italian. One might suppose that Italian simply requires a negative element before the verb. However, Kim (2000) proposes that *non* is a clitic-auxiliary, hence a type of negative verb. It looks, then, as if we should say that Italian requires either a preverbal negative element or a negative verb. If we assume following that the preverbal region is *first* and the verbal region *second*, we can propose the following constraint:⁴

$$(62)$$

$$\textit{negative-clause} \rightarrow \left[\text{DOM} < \dots \left[\begin{array}{c} \textit{first} \vee \textit{second} \\ \text{NEG +} \end{array} \right] \dots > \right]$$

Obviously this is very similar to (53) and (61).

We must now consider how to exclude a semantically negative element before *ddim* in Welsh and before *non* in Italian. Clearly we need some way to refer to these elements. I will assume that they have the kind of analysis which de Swart and Sag (2002) propose for French *pas*. That is, I will assume that these are elements whose only content is a non-variable binding negative operator which is placed in storage and retrieved at an appropriate position. This means that they share the following features:

$$(63)$$

$$\left[\begin{array}{l} \text{CONT} [1] \text{NO} \\ \text{STORE} \{ [1] \} \end{array} \right]$$

We can exclude a semantically negative element before *ddim* and *non* with the following constraint:

⁴ A different but related domain-based approach to Italian negation is outlined in Przepiórkowski (1999).

$$(64) \quad \left[\text{DOM } W_1 \oplus \left\langle \begin{array}{l} \text{CONT [1]NO} \\ \text{STORE \{[1]\}} \end{array} \right\rangle \oplus W_2 \right] \rightarrow \neg (W_1 = \langle \dots [\text{NEG } +] \dots \rangle)$$

This says that if an order domain contains a word with the semantic properties of *ddim* or *non* the preceding part of the order domain may not contain a [NEG +] element. This applies equally to *ddim* and *non* since although they differ syntactically, they have the relevant semantic properties. In the case of Welsh it rules both an extra-strong negative verb and a negative subject before *ddim* since it says nothing about the syntactic status of the [NEG +] element and applies equally to a [NEG +] head and a [NEG +] dependent.⁵ The ungrammatical version of (17) will have the clausal order domain in (65):

$$(65) \quad \left[\text{DOM} \left\langle \begin{array}{l} \textit{second} \\ \text{NEG } + \\ \langle \textit{sa} \rangle \end{array} \right\rangle, \left[\begin{array}{l} \textit{third} \\ \langle \textit{i} \rangle \end{array} \right], \left[\begin{array}{l} \textit{third} \\ \text{NEG } + \\ \langle \textit{ddim} \rangle \end{array} \right] \left[\begin{array}{l} \textit{third} \\ \langle \textit{'n gweithio} \rangle \end{array} \right] \right] \right] \quad (17)$$

The ungrammatical version of (19)/(39a) will have the clausal order domain in (66):

$$(66) \quad \left[\text{DOM} \left\langle \begin{array}{l} \textit{second} \\ \langle \textit{fydd} \rangle \end{array} \right\rangle, \left[\begin{array}{l} \textit{third} \\ \text{NEG } + \\ \langle \textit{neb} \rangle \end{array} \right], \left[\begin{array}{l} \textit{third} \\ \text{NEG } + \\ \langle \textit{ddim} \rangle \end{array} \right] \left[\begin{array}{l} \textit{third} \\ \langle \textit{yma} \rangle \end{array} \right] \right] \right] \quad (19)/(39a)$$

Finally, if we assume that the material following *non* is a single domain element, the ungrammatical version of (40a) will have the clausal order domain in (67):⁶

$$(67) \quad \left[\text{DOM} \left\langle \begin{array}{l} \textit{first} \\ \text{NEG } + \\ \langle \textit{nessuno} \rangle \end{array} \right\rangle, \left[\begin{array}{l} \textit{second} \\ \text{NEG } + \\ \langle \textit{non} \rangle \end{array} \right], \left[\begin{array}{l} \textit{third} \\ \langle \textit{telefona a Gianni} \rangle \end{array} \right] \right] \right] \quad (40a)$$

These examples differ in various ways, but in each case the order domain violates the constraint in (64).

⁵ BJ (2005: 9.2.3) consider the possibility of a domain-based constraint to rule out a negative subject before *ddim*, but they do not consider the possibility of such a constraint to rule out an extra-strong negative verb before *ddim*.

⁶ There are other possible analyses here. *Telefona* and *a Gianni* might be two separate members of the *third* field. Alternatively, *telefona* might be a second member of *second*. Both possibilities are compatible with the approach outlined here.

6. Conclusions

I have now provided an analysis which has none of the weaknesses of the BJ analysis. The analysis

- has a more useful NEG feature, marking all expressions that make a sentence negative, not just some
- has a simpler POL feature with three values rather than five
- has a single constraint ruling out both an extra-strong negative verb and a negative subject before *ddim*
- has a better account of strong negative verbs
- captures the similarities between Welsh and Swedish negation
- captures the similarities between Welsh *ddim* and Italian *non*

A crucial feature of the analysis is the replacement of constraints on COMPS list by constraints on order domains. It is this that makes it possible to propose similar analyses for the Welsh, Swedish and Italian data. It looks, then, as if linear order is of some importance in the grammar of negation.

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