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Congruence and Welsh–English code-switching*

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This paper aims to contribute to elucidating the notion of congruence in code-switching with particular reference to Welsh–English data. It has been suggested that a sufficient degree of congruence or equivalence between the constituents of one language and another is necessary in order for code-switching to take place. We shall distinguish between paradigmatic and syntagmatic congruence in relation to the grammatical categories of the two languages, focusing on the insertion of English nouns and noun phrases, adjectives, verbs and participles in otherwise Welsh utterances. We shall demonstrate how differing degrees of congruence between grammatical categories in the two languages are reflected in different code-switching outcomes.

1. Introduction

The main aim of this paper is to contribute to elucidating the notion of congruence in code-switching with particular reference to Welsh–English data. We shall seek to address the question "What is sufficient congruence?" for code-switching to take place. We shall distinguish between paradigmatic and syntagmatic congruence and predict that where both obtain for a particular grammatical cateogory, code-switching will be facilitated. Where one obtains but not the other, we predict that code-switching will be possible but restricted (to periphrastic constructions), and where neither obtain we predict that code-switching will not occur.

2. Terminology

2.1. Code-switching

The term CODE-SWITCHING has been defined in various ways in the literature (see e.g. Clyne, 2003, pp. 70–73). A recent definition relevant to the approach to be adopted here is "the use of two languages in the same clause" (Myers-Scotton, 2002, p. 3). Code-switching in fact occurs both within and between clauses, but our focus here will be on switching within a clause. This type of switching is of particular interest to linguists since it raises questions about how the grammars of different languages can interact in the same clause.

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The following are some examples of intra-sentential code-switching from Welsh–English conversational data:[1]

(1) o'n i'm yn gwybod am
be.1S.IMP-PRT PRON.1S-NEG PRT know.NONFIN about
y **thing** 'ma
DET thing here
"I didn't know about this thing" [MEG485][2]

(2) achos fod gen ti dy **silk**
because be to PRON.2S your silk
handkerchief yn dy boced
handkerchief in your pocket
"Because you have your silk handkerchief in your pocket" [MEW41]

(3) oedd o'-n hollol **ridiculous**
be.3S.IMP PRON.3S.M-PRT completely ridiculous
yn doedd
PRT NEG-BE.3S.IMP
"It was completely ridiculous, wasn't it?" [MEG193]

(4) dw i'n **love**-io **soaps**
be.1S.PRES 1S-PRT love-VBZ soaps
"I love soaps" [B12B8]

[1] The data were collected by Welsh-English bilingual students from informal conversations by bilinguals from Bangor and Caernarfon in Northwest Wales. I would like to thank Bob Hollyman-Mawson, Sioned Jones, Tanya Moss, Martin Sanderson and Mari-Eluned Williams for permission to use their data. The following abbreviations are used in the glosses: 1, 2, 3 = 1st, 2nd, 3rd person; COP = copula; DET = determiner; F = feminine; IMP = imperfect; M = masculine; NEG = negative, NONFIN = nonfinite; PART = participle; PAST = past tense; PL = plural; POSSPRON = possessive pronoun; PRES = present tense; PRON = pronoun; PRT = particle; S = singular; VBZ = verbaliser suffix.

[2] The material in brackets identifies the dataset, speaker and utterance number from which each example is drawn.

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(5) mae o'n fath-â **catching**
be.3S.PRES PRON.3S.M-PRT sort-of catching
"It's sort of catching" [T112A2]

These examples illustrate (1) the insertion of a noun, (2) a noun phrase, (3) an adjective, (4) a verb and (5) what might be considered a participle (but see section 10.2).

2.2. Code-switching vs. borrowing

Examples (1)–(5) include the switching of both individual words and individual phrases. In the case of individual words like *ridiculous* in (3) many researchers would draw a distinction between code-switching and borrowing, that is between the use of words in a way that involves switching from one language to another and the use of borrowed words which originally came from the other language but can now be considered part of the recipient language. For reasons to be explained below, we shall consider English words in Welsh to be switches unless they are listed in an authoritative Welsh dictionary.

The reason for drawing a distinction between switching and borrowing is that borrowed words (or loans) are more likely than switches to be fully integrated into the recipient language, and some researchers wish to leave open the possibility that borrowings may be used by speakers in a different way from switches. The problem is that it is tricky to draw a distinction between switches and borrowings in all cases, especially since integration turns out not to be a foolproof criterion (see Poplack, 2000, p. 221–223). Some researchers solve the problem by defining many or most single words from another language as borrowings and thus excluding them from the scope of their code-switching theory. For example, MacSwan (2000) considers Spanish words used with Nahuatl inflections by Spanish–Nahuatl bilinguals to be borrowings. Poplack and Meechan (1998) consider most "lone other-language items" to be borrowings on the grounds that they are mostly well morphologically integrated into the recipient language, behaving like established borrowings and items which indisputably belong to the recipient language. However, Myers-Scotton (2002) points out that this similarity of behaviour between other-language and recipient language items is exactly what she would predict for single-word switches if the recipient language projects the morphosyntactic frame as in her Matrix Language theory (see section 5). For Myers-Scotton, the distinction between borrowings and switches for single words is of no great theoretical consequence, although she points out that borrowings will be more predictable or frequent than switches, and that "if a borrowing has a dictionary entry, its status is undisputed" (Myers-Scotton, 2002, p. 41). This "dictionary" criterion is a practical version of the more theoretical criterion of "listedness" defined by Muysken (2000, p. 71) as "the degree to which a particular element or structure is part of a memorized list". Borrowings are assumed to be listed in the vocabulary of monolingual speakers of the recipient language, whereas switches are not. However, a criterion of knowledge by monolingual speakers cannot be applied to a language like Welsh, which has virtually no monolingual speakers. We shall therefore assume that for Welsh, listedness is reflected in established dictionaries of the language, in particular the comprehensive *Geiriadur Prifysgol Cymru*[3] for Welsh. If an English-origin item is found in this Welsh dictionary we shall assume that it is a borrowing, whereas if it is absent we shall assume that it is a switch. For example, words like *ffitio* "fit" and *cwpwrdd* "cupboard" in (6) are considered to be borrowings since they are listed in the dictionary.

(6) doedd 'na ddim byd yn ffitio i
NEG-be.3S.IMP there NEG world PRT fit to
mewn i'-r cwpwrdd 'ma
inside to-DET cupboard here
"There was nothing that fitted inside this cupboard"
[MEG164]

On the other hand, a word like *ridiculous* as in (3) is not considered to be a borrowing because it does not appear in the dictionary. This is admittedly an entirely arbitrary criterion, especially since we recognise that dictionaries reflect usage at an earlier point in time rather than the present. The main consequence of this fact for our analysis is that we may identify some single words as switches when they should be considered borrowings. However, we shall report on steps taken to counter the effects of possible errors of this kind in sections 5, 6 and 8.

2.3. Congruence

The term "congruence" is being used here to refer to a notion of equivalence between the grammatical categories or word classes of different languages, viewed from both a paradigmatic and a syntagmatic perspective. Paradigmatic congruence is defined as similarity or equivalence between the grammatical categories of two languages, whereas syntagmatic congruence is defined in terms of similarity of word order.[4] From a paradigmatic point of view the category of adjective, for example, may be (but is not necessarily) equivalent in two languages. From a syntagmatic point of view the placement of an adjective in relation to a head noun may or may not be congruent, depending, for example, on whether or not the two languages have the same relative order for head and

[3] Dictionary of the University of Wales: the most authoritative and comprehensive Welsh dictionary.

[4] An anonymous referee points out that our view of congruence is surface-oriented. We would agree, and would refer the reader to Muysken's (2000, p. 118) argument that research to date favours a surface rather than 'deep structure' orientation. See also note 19.

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modifier. In English and French, for example, one might argue that adjectives are paradigmatically equivalent in that they modify nouns in both languages but that they are not syntagmatically equivalent because adjectives generally precede nouns in English but follow them in French. Welsh behaves like French in this respect.

Our focus in this paper will be on explaining the code-switching patterns of Welsh–English conversation in terms of congruence. We shall explore the idea that code-switching between two languages is (a) enhanced where there is both paradigmatic and syntagmatic congruence between the categories concerned, (b) restricted where there is one type of congruence but not the other and (c) blocked where both types of congruence are lacking. We may expect enhancement to be reflected by the relatively frequent switching of unmodified items in the relevant categories, restriction to be reflected by less frequent switching and/or modification of the relevant items, and blocking to be reflected by the absence of switching.

3. Previous work on congruence

As Sebba (1998, p. 3) points out, Weinreich (1953, p. 33) argued several decades ago that "it stands very much to reason that the transfer of morphemes is facilitated between highly congruent structures". His concern here was mainly with the paradigmatic aspect of congruence. He suggested that although bound morphemes would be more difficult to "transfer" than free morphemes because of their language-specific grammatical function, transfer would be possible if there was sufficient congruence between the bound morphemes of one language and another. His notion of "transfer" covered both borrowings and code-switching, but the importance of his observations on congruence for code-switching have not been realised until relatively recently.

The notion of congruence certainly did not figure in Labov's (1971) view of code-switching: he stated that "bilingual speakers do produce strange mixtures of the two languages" but that "no one has been able to show that such rapid alternation is governed by any systematic rules or constraints" (Labov, 1971, p. 457). However, research in the 1980s focused on identifying constraints on code-switching, beginning with Poplack's (1980, p. 586) seminal proposal of the equivalence constraint: "Code-switches will tend to occur at points in discourse where juxtaposition of L1 and L2 elements does not violate a syntactic rule of either language, i.e. at points around which the surface structures of the two languages map onto each other". While not using the term "congruence", this proposed constraint reflects concern with the syntagmatic aspects of congruence. Since the time of its formulation, however, the constraint has been found not to apply to some sets of data (see e.g. Bentahila and Davies, 1983; Berk-Seligson, 1986). This may be partly because the constraint approach did not recognise the possibility of asymmetry in the roles of the two languages (see section 5), but also because it neglected paradigmatic congruence or categorical equivalence. Muysken (2000, p. 25) suggests that the important role of categorical equivalence is one reason for the failure of the government constraint, which he and his colleagues had proposed earlier (see DiSciullo, Muysken and Singh, 1986).

While the syntagmatic aspects of congruence were implicitly addressed by Poplack's work as suggested above, its paradigmatic aspects were implicitly addressed by Sridhar and Sridhar (1980). They argued that large constituents such as clauses and major constituents such as NPs, VPs and PPs were more likely to be switched than smaller constituents. They found that among single words, nouns were most frequently switched, then adjectives, adverbs and verbs. Items least likely to be switched alone were "grammatical items such as articles, quantifiers, auxiliaries, prepositions, and clitics" (Sridhar and Sridhar, 1980, p. 409).

Sebba (1998, p. 8) also addresses the paradigmatic aspect of congruence, talking about the replacement of one category by another. He proposes that "[a]n element of language L_1 (morpheme, word or phrase) may be replaced by a congruent[5] element from the other language, L_2, if one exists". He suggests that different degrees of congruence will give rise to different switching strategies. For example, "harmonisation" is where there is full congruence and categories can freely be switched between one another, "neutralisation" is where congruence may be enhanced by some kind of morphological integration, and "blocking" is where lack of congruence prevents switching.

As Sebba (1998, p. 3) points out, many accounts of code-switching assume congruence or the equivalence of grammatical categories across languages without providing evidence for this (see e.g. Joshi, 1985, p. 192). One might argue that the use of universal labels for categories such as NP, VP, IP has helped to perpetuate the view that these are equivalent categories across languages. Croft (2001, p. 30) labels this "cross-linguistic methodological opportunism" and argues from the perspective of construction grammar that there are no universal grammatical categories.

Muysken (1995, p. 192) uses the term "equivalence" rather than "congruence", arguing that "[t]he guiding assumption is that equivalence between the grammars of two languages facilitates bilingual usage, be it second language learning, lexical borrowing, or code-switching".

[5] Sebba (1998, pp. 8f.) considers grammatical categories to be congruent if they have similar syntactic function, similar semantic properties, or are phonologically similar.

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He explicitly identifies both the paradigmatic and syntagmatic aspects of equivalence as follows: "There can be equivalence of categories (lexical elements, phonemes, phrase structure nodes, morpho-syntactic features) or of relations between categories, in structuralist terms. The latter are either syntagmatic (e.g. word-order or agreement rules) or paradigmatic (equivalent oppositions) (Muysken 1995, pp. 192f.).

Myers-Scotton and Jake (1995) devote considerable attention to the notion of congruence and how it affects code-switching. They envisage congruence as involving the checking of a match between the two participating languages "at the lemma level with respect to linguistically relevant features" (Myers-Scotton and Jake, 1995, p. 985). (Lemmas are entries in the mental lexicon.) They suggest that congruence checking applies to three aspects of "lemmas" (abstract entries in the mental lexicon which relate to lexemes): semantic/pragmatic features, predicate-argument structure and morphological realization patterns.

In my own analysis, however, I assume that while the lack of semantic/pragmatic equivalence between lexemes in two languages may be an important cause of code-switching in the first place, it is considerations of grammatical rather than semantic congruence which determine whether or not a switch can take place. This congruence applies in my view to the grammatical categories of the two languages, viewed from a syntagmatic and paradigmatic point of view. To take an example from the Welsh–English data, I am told that the English word *exciting* in (7) has connotations which are not found in the closest Welsh equivalent.[6]

(7) mae'n eitha **exciting**
be.3S.PRES-PRT rather exciting
"It's rather exciting" [RC130303]

Thus it may be the semantic/pragmatic differences between *exciting* and its Welsh equivalent which have motivated the switch in the first place, but I shall argue that it is the grammatical congruence between English participial adjectives and Welsh predicative adjectives which make it possible for the switch to occur at all. (See section 10.2.)

Wei (2001) adopts Myers-Scotton and Jake's notion of congruence and congruence checking in his discussion of its role in Chinese–English code-switching data. He argues that the insertion of English content morphemes in Chinese is possible because they are congruent with their Chinese counterparts. On the other hand, he suggests that incongruence in semantic/pragmatic features or predicate argument structure can lead to "compromise" strategies such as the production of "islands" in English, as in the phrase *work in the lab* which is inserted into an otherwise Chinese utterance (Wei, 2001, p. 161).

Jake, Myers-Scotton and Gross (2002, p. 70) compare congruence checking to feature checking within the Minimalist Program (Chomsky, 1995): "Congruence checking at the lemma level verifies that the abstract structures projected by a content morpheme are congruent enough to be inserted. Viewed from the minimalist perspective, insertion of an EL [i.e. Embedded Language or other language] content morpheme depends on features that figure in the narrow syntax (what Chomsky calls interpretable features) and play a role at the level of logical form (LF)". Radford (1997, pp. 172f.) describes interpretable features as grammatical features which have some semantic content, e.g. gender, tense, but excluding purely semantic features which have no morphosyntactic consequences, e.g. [YOUNG] in English. Uninterpretable features, however, which are grammatical features without semantic content, e.g. case, are argued by Jake et al. not to be involved in congruence checking. Their conception of feature checking for congruence in fact differs from feature checking in minimalism in that it involves the paradigmatic rather than the syntagmatic dimension. This is made clear in the following, where "EL" (Embedded Language) and "ML" (Matrix Language) refer to different languages: "Once a speaker selects an EL content morpheme, the relevant feature matching is between the EL form and the features of an ML counterpart, not between the EL content morpheme and the ML system morpheme" (Jake et al., 2002, p. 78).

Jake et al. (2002, p. 69) also point out that their model "incorporates a basic asymmetry between the languages participating in CS [code-switching]", and this also affects their consideration of congruence. According to Jake and Myers-Scotton (1997, p. 27), when a speaker engages in intrasentential code-switching "an EL content item is inserted into the grammatical frame prepared by the ML. Part of this process is the evaluation of its congruence with an ML counterpart". So it is the EL item which is evaluated for congruence with an ML equivalent, rather than the reverse. This assumption of asymmetry would certainly seem to make the concept of congruence more tractable, and we shall report in section 5 on the empirical justification for assuming asymmetry in the Welsh–English data.

Jake et al. (2002, p. 86) consider that "what constitutes "sufficient congruence" in CS data remains an issue". Myers-Scotton (2002, p. 20) echoes this, reminding us that "the reason that congruence is worth exploring is that it seems that lack of sufficient congruence may explain why certain structures are avoided or impossible in switching between specific language pairs" and why speakers sometimes use compromise strategies. This is indeed the motivation for exploring congruence in relation to Welsh–English code-switching.

[6] Not all native speakers agree on this, however. A possible translation of *exciting* in Welsh would be the adjective *cyffrous*.

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4. The data

The data available for this study were collected by bilingual Welsh–English speakers from a range of informal conversations which took place in northwest Wales. The conversations included a group of professional women at a social gathering, pairs of working class men, groups of parents meeting in each other's homes, and groups of secondary school pupils. The corpus is about five and a half hours in length, and is used for two kinds of analysis: a qualitative analysis, in which it is drawn upon for examples to illustrate the notion of congruence, and a quantitative analysis in which one conversation segment of forty minutes is exhaustively analysed. This conversation was chosen because of the high quality of the transcription,[7] and consisted of seven female participants, all in professional occupations.

Six of the speakers were reported to be "fully bilingual" but to prefer speaking Welsh to speaking English. The seventh speaker is described as a "recovering bilingual" who is regaining full proficiency in Welsh after a period of living outside Wales. Speakers in all the conversations of the corpus opted to speak mainly in Welsh, although all conversations include some English words, phrases and clauses also.[8] Most of the switches were intrasentential (see section 2.1); intersentential switches to English mostly occurred when quoting something originally said in English, or in using an English cliché such as "Beauty is in the eye of the beholder".

5. Asymmetry in Welsh–English code-switching

As outlined in section 3, one of the most developed approaches to congruence (see Jake et al. 2002) involves assuming asymmetry between the two languages involved in code-switching, such that one language, the ML (Matrix Language) provides the morphosyntactic frame into which items from the EL (Embedded Language) can be inserted, subject to certain restrictions. We have suggested in section 3 that the notion of congruence may be more tractable if this asymmetry is assumed, and we have empirical evidence from an earlier study that justifies this assumption. Deuchar (forthcoming) used Welsh–English code-switching data to test the claim that "[b]ilingual speech is characterized by asymmetry in terms of the participation of the languages concerned" (Myers-Scotton 2002, p. 9). This claim was interpreted as suggesting that a Matrix Language would be unambiguously identifiable in most clauses. All bilingual (mixed language) clauses in a sub-sample of the data were assigned an ML, where possible, on the basis of two criteria, morpheme order, and the source of "outside late morphemes" (Myers-Scotton, 2002, p. 75) indicating subject-verb agreement. A clause was considered to have an unambiguous ML where both criteria indicated the same language, either both indicating Welsh or both English. The results showed that an ML could be unambiguously identified in 89% of the clauses analysed (87% having a Welsh ML, 2% an English ML); those clauses for which it did not hold were mostly incomplete and lacked enough information for the ML to be identified. We also conducted a further analysis which excluded all switches of only one word, to counter the possible objection that our first analysis might have been distorted by the inclusion of words which should have been classified as borrowings rather than switches (see section 2.2). In this second analysis we found that 96% of the clauses analysed had an unambiguous ML (92% having a Welsh ML, 4% an English ML), supporting the asymmetry assumption even more strongly. In this paper we shall therefore assume asymmetry, and will discuss congruence in terms of the extent to which aspects of the secondary or embedded language (EL) of a clause are congruent with the ML of the clause.

6. Insertion as the predominant code-switching pattern in the data

Related to the assumption of asymmetry is the assumption that the primary pattern of code-switching in these data is one of insertion. Muysken (2000) suggests that there are three main code-switching patterns to be found in bilingual communities: insertion, alternation and congruent lexicalization. In the insertion pattern, one language determines the overall structure into which constituents from the other language are inserted, whereas this is not the case in the other patterns. Diagnostic features can be used to identify both the pattern for each switch, and the overall pattern for a set of data, and a quantitative method to do this was developed by Deuchar (2005). Applying this method to a subset of the Welsh–English data considered here revealed that insertion was the dominant pattern. An additional analysis (Deuchar, 2003) excluded single word switches for the same reason as that reported in section 5 above, to guard against the possibility that the analysis might have been distorted by the inclusion of single word switches which should have been classified as borrowings. However, this analysis again showed that insertion was the dominant pattern in the data. Muysken (2000, p. 15) considers that Myers-Scotton's work "exemplifies the insertion approach", and from this point of view our findings on insertion in the data are consistent with the assumption of asymmetry in terms of an ML versus an EL in bilingual clauses reported in section 5 above.

Our discussion of congruence will thus be guided by the assumptions of asymmetry and insertion. Because the

[7] I am grateful to Mari-Eluned Williams for this.

[8] A count of the percentage of English vs. Welsh words in a subsample of the data showed that less than 8% of the total number of words were in English.

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Table 1. *The expected consequences of varying combinations of paradigmatic and syntagmatic congruence.*

Paradigmatic congruence?	Syntagmatic congruence?	Effect on code-switching of grammatical category
√	√	facilitated
√	×	possible but restricted
×	√	possible but restricted
×	×	blocked

overwhelming majority of bilingual clauses had Welsh as ML, we shall be dealing mainly with the insertion of English items in an otherwise Welsh morphosyntactic structure.

7. Degrees of congruence in the Welsh–English data

As outlined in section 1.2.3, we shall consider the ways in which different degrees of congruence are reflected in the code-switching data. Table 1 shows the expected consequences of varying combinations of paradigmatic and syntagmatic (in)congruence. As shown in the table and outlined in the Introduction, where both paradigmatic and syntagmatic congruence obtain for a particular grammatical category, we expect code-switching to be facilitated. This will be reflected in relatively frequent switching of items of that category in relation to other categories. However, where paradigmatic but not syntagmatic congruence obtains, or vice versa, we expect code-switching to be possible but restricted. This may be reflected in relatively infrequent switching of items of that category, or morphological modification of the items. Finally, where neither paradigmatic nor syntagmatic congruence obtain, we will expect code-switching of that category to be blocked.

These predictions will be tested in relation to those clauses in the data for which Welsh is the matrix language (the vast majority). We shall consider to what extent grammatical categories of English match those of Welsh sufficiently to allow the insertion of English material in otherwise Welsh utterances. The categories to be examined are nouns and noun phrases, adjectives and verbs. In each category we shall conduct both a qualitative analysis using examples from the dataset as a whole, and a quantitative analysis based on a subset of the data.

8. Nouns and noun phrases

Nouns in Welsh may be preceded by a definite determiner and followed by an adjectival or nominal modifier, as exemplified in (8).

(8) y llyfr newydd
DET book new
"the new book"

In Welsh the adjectival modifier follows rather than precedes the head noun (unlike English) and the head noun is preceded by the definite article (as in English). However, there is no equivalent of the English indefinite article, so that the Welsh translation of "a new book" would be *llyfr newydd* without a preceding determiner. As in English, plural nouns in Welsh have a plural suffix (e.g. *-au*) as shown in (9).

(9) y llyfr-au newydd
DET book-PL new
"the new books"

As pointed out by many others, content words, and in particular nouns and noun phrases, are the category most likely to be equivalent across languages (see e.g. Weinreich, 1953, p. 37; Muysken, 1995, p. 193; Sebba, 1998, p. 8; Myers-Scotton, 2002, p. 76). This may be because the prototypical function of a noun is reference to an object (Croft, 2001, p. 89), and because objects have a concrete realization in physical reality. This claim that nouns across languages are largely equivalent amounts to a claim that they are paradigmatically congruent. From a paradigmatic point of view, the noun phrase is thus the category we expect to be switched from English into Welsh most frequently. We suggest that syntagmatic considerations would also favour the insertion of English NPs following Welsh determiners, because of the fact that determiners (if realised) precede the NP in both languages and because plural affixes follow the noun stem in both languages.[9]

Analysis of a subset of our data indeed showed that nouns and noun phrases are the most frequent category of English insertions into the Welsh data, accounting for over half. These insertions are almost entirely either single nouns or phrases consisting of a noun or adjectival modifier plus a head noun. The insertion of single nouns is exemplified in (10) and (11).

(10) o'n i'm yn gwybod
be.IS.IMP-PRT PRON.IS-NEG PRT know.NONFIN
am y **thing** 'ma (=(1))
about DET thing here
"I didn't know about this thing" [MEG485]

[9] We assume here an analysis in which the determiner is head of a Determiner Phrase (DP) and the NP is its complement. An anonymous referee points out that the insertion of NPs is not prevented in other code-switching pairs where syntagmatic congruence in the DP is not found. We would predict, however, that syntagmatic congruence would facilitate code-switching nevertheless, and this could be reflected in a higher frequency of switched NPs in pairs of languages with syntagmatic congruence. This prediction awaits empirical testing, however.

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(11) os wyt ti angen **toothpick**
if be.2S.PRES PRON.2S need toothpick
"If you need a toothpick" [MEG42]

In (11) *toothpick* is inserted without any preceding determiner, as is the norm for nouns with indefinite reference in Welsh.

Example (12) illustrates the insertion of a multiple word English NP, in which the first occurrence of the noun *news* is preceded by an English adjectival modifier *main*.

(12) ar y **main news,** ar y **news**
on DET main news on DET news
oedd o
be.3S.IMP PRON.3S.M
"On the main news, it was on the news" [MEP23]

Example (13) shows the insertion of an NP consisting of a noun (rather than adjectival) modifier and a head noun.

(13) ni oedd y **media stars**
we be.3S.IMP DET media stars
"We were the media stars" [MEM97]

The English insertions in examples like (12) and (13) would be described by Myers-Scotton as "EL islands" because they are multi-morphemic "full constituents consisting only of Embedded Language morphemes occurring in a bilingual CP [Complementiser Phrase] that is otherwise framed by the Matrix Language" (Myers-Scotton, 2002, p. 139). Within an English EL island the word order follows English norms even though the word order of the rest of the clause and the ML is Welsh.

Some single nouns with English plural marking are also inserted in Welsh clauses, as in (14) and (15).

(14) dw i'n meddwl fod
be.1S-PRES PRON.1S-PRT think be.NONFIN
D. yn mynd trwy'-r **motions** yna
D PRT go through-the motions there
"I think that D. was going through the motions there" [MEP192]

(15) doedd hi-'m yn mynd ar y
be.IMP.NEG PRON.3S.F.-NEG PRT go on DET
motorways na-'r **dual carriageways**
motorways nor-DET dual carriage ways
"She didn't go on the motorways or the dual carriage ways" [ME84]

English nouns with plural marking may be considered to be EL islands since they satisfy the definition of EL islands given above, being multi-morphemic English phrases which operate as constituents in utterances which have Welsh as their ML.

Another possible approach to our data is not to treat the English plural morpheme as switched material at all, but as a borrowed morpheme in Welsh.[10] Thomas (1982, p. 214) points out that it may be used not only as an alternative suffix in English borrowings (e.g. *bom* "bomb", pl. *boms* or *bomiau*) but also with some indigenous Welsh words as an alternative to the indigenous Welsh suffix, as in e.g. *pregethwrs* ("preachers", singular form *pregethwr*, indigenous plural *pregethwyr*). Jones (1993, p. 45) provides further examples of nouns with singular form ending in *-wr* which can appear with *-s* plural forms, e.g. *chwarelwr* "quarryman" pluralises in the spoken (but not written) language as either *chwarelwyr* or *chwarelwrs*.[11]

Thus if the English plural morpheme is available in Welsh for borrowings and even some indigenous words, it is not surprising if it appears alongside head nouns switched from English. Backus (2003) suggests (in relation to Turkish–Dutch data) that it is possible that some nouns together with their plurals are treated as multi-morphemic lexical units that are inserted from the lexicon in the same way as single nouns. However, we would argue against this position in relation to our data because of evidence that English switched noun phrases with plural meaning do not have plural marking where this would not be appropriate in Welsh. This is shown in examples (18) and (19).

(18) beth fi wedi cael yw dou **James Bond**
what PRON.1S PRT get COP two James Bond
DVD
DVD
"What I've got is two James Bond DVDs" [MS38]

(19) dau neu dri gwahanol **chew**
two or three different chew
"two or three different chews" [ME60]

Example (19) is part of a list of items which the speaker used to carry in her car for her baby. In both (18) and (19) the nouns have plural meaning but no plural suffix, as is the case in Welsh noun phrases where the numeral directly precedes the noun. Thorne (1993, p. 149) gives the example *dau afal* "two apples", where *afal* has no plural suffix. The lack of plural morphemes on the English nouns in (18) and (19) can be explained by the assumption that Welsh is the ML in the clauses in which they are inserted, and that the morphosyntactic frame is therefore Welsh.

As pointed out earlier, nouns and noun phrases are often congruent across languages, and this seems to be the case with English and Welsh. The frequency with which English nouns and noun phrases are inserted in Welsh can be explained by the paradigmatic congruence of these

[10] '*-s*' is in fact listed separately as a plural morpheme in the *Geiriadur Prifysgol Cymru*.

[11] Jones suggests that this possibility is available in particular for agentive nouns, but it is not clear whether it is their semantic nature or the irregular Welsh plural *-wyr* which favours the regular English plural *-s*.

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two categories. Added to this paradigmatic congruence is syntagmatic congruence, since in both languages the plural affix follows the noun, and in both languages the noun is preceded by a definite determiner where this is appropriate.

Overall, we have argued that the frequent insertion of English NPs with or without plural marking in Welsh utterances can be accounted for by the existence of both paradigmatic and syntagmatic congruence between the noun and plural categories of the two languages.

9. Adjectives

As we saw in example (12) in section 8 above, English attributive adjectives can be inserted preceding English nouns as part of "EL islands" in otherwise Welsh utterances. In this section, however, we shall examine the possibility of inserting single English adjectives in otherwise Welsh utterances. We saw in section 8 that NP insertions accounted for over half of all switches, and suggested that this could be accounted for by the relatively high degree of syntagmatic and paradigmatic congruence between NPs in English and Welsh. The proportion of switches which are adjectives is much lower, in fact about 10%. However, in discussing relative congruence this cannot be compared directly to the proportion accounted for by NPs, since NPs occurred far more frequently in the data as a whole than adjectives, as one might expect. Instead we propose to investigate the relative proportion of two types of inserted English adjectives, attributive and predicative, which appear to have different degrees of congruence with Welsh adjectives, and to compare these to the relative proportion of Welsh attributive and predicative adjectives in the same data.

In Welsh, as in English, adjectives may be attributive (modifying the noun) or predicative. The attributive usage is illustrated in (20), where the adjective *ifanc* "young" modifies *ffermwyr* "farmers".

(20) wnes i ennill cadair ffermwyr ifanc
do.IS PRON.1S win chair farmers young
Cymru
Wales
"I won a Wales Young Farmers' chair" [MEG141]

In (20) the attributive adjective follows the head noun as is normal in Welsh.

The predicative use of the adjective in Welsh is illustrated in (21), where the adjective *iawn* "fine" follows the verb and predicative particle:

(21) mae-'n iawn
be.3S.PRES-PRT fine
"It's fine" [MEW1]

The translatability of Welsh adjectives such as those in (20) and (21) into English adjectives suggests paradigmatic congruence between the categories in the two languages. However, syntagmatic congruence appears to be greater for adjectives being used predicatively than attributively. This is because the normal post-nominal position of attributive adjectives in Welsh contrasts with their pre-nominal position in English. Predicative adjectives, on the other hand, follow the verb in both Welsh and English.

Myers-Scotton (2002, p. 132) finds that "very few Embedded Language adjectives modifying Matrix Language nouns occur in codeswitching corpora, possibly because of congruence problems at all levels". Although she does not specifically distinguish between congruence in relation to attributive vs. predicative adjectives, this distinction is drawn by Pfaff in relation to her Spanish–English data. Spanish, like Welsh, normally has its adjectival modifiers following rather than preceding the noun. Pfaff (1979, p. 314) finds that "adjective switches are unrestricted when they take the form of predicate adjectives, but are limited within the NP". This limitation was presumably reflected in Pfaff's data in the lesser frequency of switched attributive adjectives compared with predicative adjectives. However, a difference of this kind would only be important if attributive adjectives overall were not less frequent than predicative adjectives. Such a difference, if found, could be accounted for in terms of difference in syntagmatic congruence between attributive and predicative adjectives.

In the Welsh–English data, inserted English adjectives appeared in both attributive and predicative position, as illustrated in (22) and (23).

(22) oedd gynnon ni ystafell yn Plas
be.3S.IMP with-us PRON.3S room in Plas
yn Dref, ystafell **brilliant**
y Dref room brilliant
"We had a room in Plas y Dref, a brilliant room"
[MEG186]

(23) oedd o'-n **awful**
be.3S.IMP PRON.3S.M-PRT awful
"It was awful" [MEG181]

(22) illustrates attributive usage and is parallel to (20) while (23) illustrates predicative usage and is parallel to (21). In the subset of data analysed quantitatively, we found 6/16 (37.5%) insertions of attributive English adjectives and 10/16 (62.5%) insertions of predicative English adjectives.[12] While these are small numbers from which it may be difficult to draw significant conclusions,

[12] English participles used as adjectives (see section 10.2) were excluded from this analysis, as were English adjectives used as adverbs or inserted adjacent to other English material as part of EL islands. Two English adjectives were not classifiable as either attributive or predicative because of their occurrence in incomplete clauses.

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Table 2. *Proportion of Welsh and English attributive vs. predicative adjectives in a sub-sample of the Welsh–English data.*

Relative proportions of adjective types	Attributive	Predicative
Welsh	**54%**	46%
English (inserted in Welsh)	37.5%	**62.5%**

we shall nevertheless compare the proportion of English predicative (vs. attributive) adjectives inserted in Welsh with the proportion of Welsh predicative (vs. attributive) adjectives used in the same data. We would expect to see the greater syntagmatic congruence of English and Welsh predicative adjectives reflected in a higher proportion of English predicative adjectives being inserted than the proportion of Welsh predicative adjectives being used.

Thus to supplement the analysis reported above of inserted English predicative vs. attributive adjectives, the same data were used to identify all Welsh attributive and predicative adjectives.[13] A total of 98 Welsh adjectives were found in the sample analysed, of which 50 were attributive, 42 were predicative and 6 could not be classified because of their appearance in incomplete clauses. Of those which could be classified, 54% (50/92) were attributive and 46% (42/92) were predicative. The relative distribution of Welsh attributive and predicative adjectives in the data is compared with that of English inserted adjectives in Table 2. This table shows that the proportions of attributive and predicative Welsh and English adjectives are somewhat different. Whereas the majority of the Welsh adjectives are attributive (54%), the majority of the inserted English adjectives are predicative (62.5%) (compare figures in bold in the table). A chi square test showed this difference not to be significant, but it should be noted that two of the six occurrences of English "attributive" adjectives are expletives (all *bloody*) inserted in pre-nominal rather than post-nominal position.[14] If these expletives were to be considered unclassifiable rather than as attributive, then the relative proportion of English attributive and predicative adjectives would be 29% and 71% respectively. All this suggests that whereas English adjectives can be inserted relatively freely in Welsh utterances in predicative position, where there is considerable syntagmatic as well as paradigmatic congruence, their insertion is less free and frequent in attributive position, where the syntagmatic congruence is less because of differences in the word order of the two languages.[15]

Another possible explanation for our findings should be considered following Treffers-Daller's (1994) suggestion that the more frequent insertion of French adjectives in Dutch sentences in predicative than attributive position was morphophonologically constrained. She reports that Dutch requires attributive but not predicative adjectives to be inflected, which may have facilitated the insertion of French adjectives in predicative position. Welsh has a morphophonological process known as soft mutation which affects some adjectives in both predicative and attributive position. When soft mutation applies, it changes the initial sound of words beginning with stops and some fricatives (for details see e.g. Thomas 1992, p. 34). Soft mutation applies to all such adjectives occurring in predicative position (following the particle *yn*), and to attributive adjectives which modify feminine nouns only.

Since the mutation of adjectives (with the relevant initial sounds) applies more widely in predicative than attributive position, a morphophonological constraint of the kind proposed by Treffers-Daller would presumably predict that the insertion of English adjectives would be inhibited more in predicative than attributive position. Our findings suggest the reverse, however. This does not necessarily mean that morphophonological constraints are not relevant, but that considerations of congruence may be more important in our data. We must of course be cautious about the interpretation of this finding because it is based on only a small amount of data, and further quantitative research will be necessary before we can draw firmer conclusions.

10. Verbs

Backus (1996, p. 212) finds in his Turkish–Dutch data that it is normally non-finite verbs from the EL which are inserted in ML utterances. This in fact follows from the definition of the ML, for which the language of subject-verb agreement is an important criterion (see section 5). In this section we shall focus on the insertion in Welsh of non-finite forms of English, in particular base verb forms and participles.

10.1. Base forms of verbs

Myers-Scotton (2002, p. 76) argues that "sufficient congruence across grammatical systems in different languages is more of an issue with verbs than nouns". The

[13] I am grateful to Sioned Jones for her assistance with this.

[14] Although attributive adjectives in Welsh normally occur post-nominally, there are exceptions which occur pre-nominally: some of these arguably have emotive connotations (cf. Thorne 1993, p. 135).

[15] An anonymous referee states that predicative adjectives are inserted more frequently than attributive adjectives in other code-switching datasets, and suggests that "there must be something special about the predicative position itself". Further research comparing the relative frequency of the two types of adjective in a wide range of monolingual and code-switching datasets would certainly be worthwhile.

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reason she gives is that although verbs, like nouns, are content words and, in her terms, "[+ conceptually activated]", they are also "[+ thematic role assigner] and therefore carry more 'syntactic baggage' than nouns, meaning their fit with the recipient language may be harder to make" (Myers-Scotton 2002, p. 76).

In a review of the literature on the insertion of EL verbs in various language pairs, Backus (1996, p. 212) observes that these verbs are usually non-finite but are made finite by "ML means". One means of making EL verbs finite is by inserting them in periphrastic constructions in which the finite auxiliary comes from the ML. This is the strategy adopted in Welsh for the insertion of English verbs, as we shall see.

Verbs in Welsh appear in two main construction types: synthetic, where the sole verb is inflected for person, number and tense, and periphrastic, where a non-finite verb form appears in construction with an auxiliary such as *bod* "be" and a particle *yn*. The synthetic construction is more common in formal speech and writing, while the periphrastic construction is more common in informal speech of the kind being analysed here. The difference between the two is illustrated in (24) and (25).

(24) dw i-'n cof-io
be.1S-PRES PRON.1S-PRT remember-NONFIN
"I remember"

(25) cofi-af
remember-1S.PRES
"I remember"

Grammarians of Welsh traditionally refer to finite forms of verbs like *cofiaf* in (25) as verbs, but non-finite forms like *cofio* in (24) as verb-nouns (cf. King, 1993, p. 131). The term "verb-noun" arises from the claim that words in this category behave like both nouns and verbs. For example, they can occur in the periphrastic construction as illustrated in (24) above and (26) below, but they can also be preceded by an article and followed by an adjective, as illustrated in (27):

(26) dw i'n canu
be.1S-PRES 1S-PRT sing-NONFIN
"I sing"/"I am singing"

(27) y canu Gorau (King, 1993, p. 13)
DET singing best
"the best singing"

However, Borsley (1993) argues that a distinction needs to be drawn between verb-nouns behaving as nouns and those behaving as verbs, and it is the latter that we are concerned with here. According to King (1993, p. 131), a verb-noun in Welsh "can either be a basic form of the verb (i.e. a word not obviously derived from another one), or it can be a form derived from another part of speech, usually a noun or adjective". Non-derived verb-nouns do not have any overt verbal marker: examples (of which there are relatively few) are *dal* "catch", *siarad* "speak". Derived verb-nouns, however, have a verbal suffix consisting of *-u*, *-o*, *-io*, *-i*, *-a* and *-au*: examples are *rhewi* "freeze" (from noun *rhew* "frost" or "ice"), *talu* "pay" (from noun *tâl* "pay"), *pleidleisio* "vote" (from noun *pleidlais* "vote"). In addition, there are some verb-nouns derived from English verbs: King (1993, p. 131) mentions *ffeindio* (from English *find*, for example). This verb-noun, along with others derived from English verbs, is listed in the Welsh dictionary and can be considered a borrowing which speakers would now consider to be part of Welsh. However, as we shall see, bilingual speakers use the same verbal suffix *-io* to integrate English verbs that are not found in the Welsh dictionary into their speech. As we have indicated, derived verb-nouns are traditionally analysed as being made up of a stem and a suffix, and we may see from Table 3 how this structure differs from that in English verbs. As we can see in Table 3, there is a lack of equivalence in English and Welsh in relation to the Welsh derivational suffix. English verbs used in monolingual conversations have no verbalising suffix, even when they are derived from nouns, as in the verbs *to input* or *to rubbish* (in colloquial speech). Thus there is no exact equivalent of the non-finite Welsh verb-noun. This appears not only in periphrastic constructions of the kind illustrated in (24) and (26) but also, for example, in non-finite complements of other verbs, as in (28).

Table 3. *The Welsh verb-noun and the English verb.*

	Welsh *cofio*	English *remember*
Stem	cof-	remember
Derivational suffix	-io	Ø
Verb-noun	cofio	?remember/ ?remembering

(28) dw i'n mynd i ganu[16]
be.1S.PRES 1S-PRT go to sing
"I'm going to sing"

Here we can see that the English equivalent of the verb-noun *canu* is *sing*, but when *canu* appears in construction with an auxiliary as in (26), the English equivalent could be *singing* if a progressive meaning is intended. Welsh has no present progressive participle, however.

Thus we can see merely on the basis of this simplified description that the category of verb in English is only partially congruent with that in Welsh from a paradigmatic point of view. We suggest that the addition of a Welsh verbaliser suffix (cf. Bolonyai 2005, p. 317) to English

[16] The form *ganu* is a mutated version of *canu* 'sing' which is triggered by the preceding preposition *i* "to".

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verbs is a way of compensating for this only partial congruence and of integrating English verbs into Welsh morphologically. The following are some utterances from the data which illustrate this integration process.[17]

(29) dw i'n **love**-io **soaps** (= (4))
be.1S.PRES 1S.PRT love-VBZ soaps
"I love soaps" [B12B8]

(30) mi wnes i **batter**-o fo
PRT do.1S.PAST 1S batter-VBZ him
"I battered him" [B115B8]

(31) wnaeth hi ddim yn cael ei
do.1S.PAST PRON.3S.F NEG PRT get POSSPRON.3S
shortlist-io am y job
shortlist-VBZ for DET job
"She didn't get shortlisted for the job" [MER525]

(29) is similar to examples (24) and (26) in that it illustrates the use of the periphrastic construction with the verb "be". The English verb *love* has had added to it the derivational verbalising suffix *-io*. (30) illustrates the use of another periphrastic construction which is particularly common in informal spoken Welsh: the preterite of *gwneud* "do" combined with a verb-noun to mark the simple past tense. In (30) the English verb *batter* is inserted with the suffix *-o* added. As mentioned above, *-o* is a possible verbaliser suffix for Welsh verbs as well as as *-io*, and appears to be added under certain phonological conditions.[18] In (31) the English verb *shortlist* has the *-io* verbaliser suffix added to it in a periphrastic construction with *cael* "get" which is equivalent to the English passive.

Stenson (1990) reports the similar use of a derivative suffix *-áil* on English verbs inserted in Irish, as in *enjoyáil* "enjoy" and *checkáil* "check" (Stenson, 1990, p. 173). Pfaff's (1979, pp. 299f.) findings on the insertion of English verbs in Spanish data also show the addition of what might be called a verbaliser suffix, as illustrated in her examples (21a) and (21b), reproduced here as (32) and (33).

(32) los hombres me **trustearon**
"The men trusted me"

(33) **taipiamos** cada día
"We type every day"

Bolonyai (2005, p. 317) introduces the term "verbaliser suffix" in relation to her Hungarian–English data. English verbs inserted in Hungarian utterances are found to have an obligatory additional suffix including [l] as illustrated in her example (1a), reproduced as (34).

(34) **cover**-ol-ja
cover-VBZ-PRES.3SG.DEF
"[It] covers [it]"

This [l] derivational suffix is used in monolingual Hungarian to create new verbs from Hungarian nouns, and its use is extended in the code-switching data to create new verbs from English verbs, as in Bolonyai's additional example (6c), reproduced as (35):

(35) és utána te **decide**-ol-hat-sz
and then you decide-VBZ-POT-PRES.2SG.INDEF
"and then you can decide"

It is interesting to compare (35) with (36) from the Welsh–English data.

(36) wnes i **decide**-io wedyn i
do-1SG-PAST 1S decide-VBZ after to
prynu sky
buy sky
"I decided later to buy Sky" [B18BRA]

In both (35) and (36) the English verb *decide* is inserted with a verbalising suffix attached. However, the constructions involving the verb are synthetic in the Hungarian example (35) and periphrastic in the Welsh example (36).

It can be argued that there is a greater degree of syntagmatic congruence between the periphrastic construction in Welsh and constructions involving verbs in English than is the case with the synthetic construction in Welsh. The VSO order of the Welsh synthetic construction is illustrated in (37). It clearly contrasts with the SVO order of the English equivalent.

(37) gaeth Fred wobr (King, 1993, p. 22)
got Fred prize
"Fred got a prize"

However, in periphrastic constructions like that in (38) the Welsh and English orders are more similar:

(38) mae Fred yn cael gwobr
is Fred PRT get prize
"Fred gets a prize"

In (38) the Welsh auxiliary *mae* still precedes the subject, but the main verb *cael* "get" follows the subject as in English. In the terms of current generative syntactic theory (see e.g. Roberts 2004), the verb in (37) is raised to its sentence-initial position, whereas in (38) it is the auxiliary which is raised, leaving the main verb in its original or basic position following the subject.[19]

[17] It should be noted that switches involving the insertion of English verbs accounted for only about one percent of the subsample of the data which was quantitatively analysed.

[18] The suffix *-o* seems more likely in northern dialects if the English verb stem ends in a consonant followed by [l] or [r] (*-o* is also more widespread in general in southern dialects: cf. King 1993, p. 132).

[19] Roberts (2004) assumes that the Welsh VSO order is derived from an underlying SVO or SOV order. Borsley and Roberts (1996,

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Syntagmatic congruence between the Welsh construction and its English equivalent is thus greater in (38) than (37), thus making it easier to insert an English verb in a periphrastic construction than in a synthetic construction. This argument is somewhat similar to Clyne's (2003, p. 177) suggestion that code-switching is facilitated where there is overlap in the syntax of the two languages.

10.2. Participle

Although we have argued that the lack of paradigmatic congruence between English and Welsh verbs leads to the addition of a verbaliser suffix when those verbs are inserted in Welsh, we do find some English non-finite verb forms in our data which are not morphologically adapted. These are illustrated in (39)–(41).

(39) mae o'n fath-â **catching**
be.3S.PRES PRON.3S.M-PRT sort-of catching (= (5))
"It's sort of catching" [T112A2]

(40) mae-'n eitha **exciting**
be.3S.PRES.PRT rather exciting
"It's rather exciting" [RC130303]

(41) mae o-'n **boring**
be.3S.PRES PRON.3S.M-PRT boring
"It's boring" [SJ3SAN]

The above examples all contain English present participles in construction with the Welsh verb "be". However, these participles can all be argued to have adjectival function and to occur because of the paradigmatic congruence of English and Welsh adjectives discussed in section 9 and the syntagmatic congruence between predicative adjectives from the two languages. Evidence for the adjectival rather than verbal status of the present participles in (39) and (40) is provided by the fact that they are preceded by adverbials. The occurrence of adverbials preceding adjectives in Welsh is shown in (42).

(42) mae o-'n reit da
be.3S.PRES PRON.3S.M-PRT quite good
"It's quite good"

Further evidence for the adjectival status of these participles is the fact that they do not occur with object arguments as they would if they were transitive verbs. Furthermore, English non-stative verb participles (which cannot be interpreted as adjectives) are not inserted in constructions with Welsh "be". Thus we do not find examples like (43).

(43) *dw i'n **singing**
be.1S.PRES 1S-PRT singing
"I am singing"

The apparent non-occurrence of English present participles as verbal complements to Welsh "be" can be contrasted with their occurrence as verbal complements of *estar* "be" in Spanish–English code-switching data. Examples (44) and (45) reproduce (19a) and (19b) from Pfaff (1979, p. 299) (glosses added).

(44) estaba **training** para pelear
be.3S.PAST training for to-fight
"He was training to fight"

(45) donde estás **teaching**?
where be.2S.PRES teaching
"Where are you teaching?"

However, Spanish differs from Welsh in that Spanish does have a present progressive construction as distinct from a simple present one, as illustrated in (46) and (47), which can be compared with the Welsh construction in (26).

(46) estoy cantando
be.1S.PRES sing.PRES.PART
"I am singing"

(47) canto
sing.1S.PRES
"I sing"

We may thus suggest that the insertion of English present participles as verbal complements in Spanish is facilitated by the paradigmatic and syntagmatic congruence between English and Spanish present participles, but inhibited in Welsh because both these types of congruence are lacking.

If we conceive of English present participles as having the feature [+present participle] in the English mental lexicon, their paradigmatic incongruence with a Welsh equivalent can be expressed in terms of the lack of an item with the feature [+present participle] in the Welsh mental lexicon. The absence of syntagmatic congruence could then be expressed in terms of checking theory (see e.g. Radford 1997, pp. 175–177). Applying checking theory to example (43) above, features of Welsh *bod* "be" have to be checked against features of its complement, the verb *sing*, and if there is a mismatch, the derivation will crash. An example of a mismatch would be if the complement verb has the feature [+present participle], which is not found in Welsh, hence will not be a complement feature of Welsh "be". Instead, as we have seen above, Welsh "be" appears to select a complement verb which has an identifiable verb-noun suffix, often *-io*. English present participles lack this and presumably do not have the requisite feature identifying them as verb-nouns. On the other hand, where Welsh "be" is the main verb, it can select an adjectival

pp. 19f.) point out that although the VSO order was assumed to be basic by Awbery (1976), more recent analyses agree in assuming it is derived. Note that it is congruence at the derived or surface level which appears to be important here: see also note 4.

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complement, and if English present participles are also listed in the lexicon as [+adjective], then there is no mismatch of features.

In a discussion of the role of function words in code-switching, Muysken (2000) suggests that the behaviour of present participles is a useful test for the relative merits of what he calls a "processing" vs. "equivalence" approach to the distinction between content and function words. (Muysken uses the term "equivalence" in a way similar to the way we are using the term "congruence" here.) A processing approach accounts for the different behaviour of function and content words in code-switching in terms of their being stored in different ways in the mental lexicon, and is exemplified by Myers-Scotton's Matrix Language theory. An equivalence approach, which he favours, accounts for the differing behaviour of the two types of word in terms of there being more cross-linguistic equivalence for content than for function words. He suggests that because past participles (and plurals) can be considered derivational elements (and thus like content words) they are less relevant to the choice between the two approaches than present participles. Present participles are "much less likely to be seen as derivational", he says, "playing an important role in the aspectual system" (Muysken, 2000, p. 177), and argues that the fact that they occur in code-switching suggests that equivalence considerations are paramount. The fact that English present participles can occur in periphrastic verbal constructions in Spanish, where there is a periphrastic progressive construction, but not in Welsh, where there is not, would seem to lend support to Muysken's position.

Our data also show the insertion of English past participles, as in (48)–(52). I argue that these should be interpreted as English passive participles with adjectival function as in the translations given.

(48) mae o-'n reit **camouflaged**
be.3S.PRES PRON.3S.M-PRT quite camouflaged
yn dydi
PRT NEG-be.3S.PRES
"He's quite camouflaged, isn't he?" [MEW50]

(49) mae o-'n **crowded**
be.3S.PRES PRON.3S.M-PRT crowded
"It's crowded" [B112A2]

(50) dw i-'n **convinced**
be.1S.PRES PRON.1S-PRT convinced
"I'm convinced" [BNB280303]

(51) o'n i-'n **disappointed**
be.1S.PAST PRON.1S-PRT disappointed
"I was disappointed" [RC280303]

(52) ro'n i-'n **shocked**
be.1S.PAST PRON.1S-PRT shocked
"I was shocked" [RC280203]

Evidence against their interpretation as part of verbal constructions is as follows. Since these passive participles are derived from English transitive verbs, we would expect them to occur with objects if they are verbs as does the Welsh verb *gweld* "see" in (53), which includes a Welsh aspectual particle *wedi*.

(53) dw i wedi gweld John
be.1S.PRES PRON.1S PRT see John
"I have seen John"

However, we do not find constructions like (54) in the data.

(54) *dw i wedi convinced John
be.1S.PRES PRON.1S PRT convinced John
"I have convinced John"

In this non-occurring example I have added an object *John* since *convince* is transitive; however, the lack of an object in (50) is evidence that it is not being used as a verbal construction. English past participles thus do not occur in the data as part of verbal constructions.

As in the case of English present participles, we can argue that this non-occurrence is because of a lack of both paradigmatic and syntagmatic congruence between English past participles and any equivalent category or construction in Welsh. We argued earlier that verbal constructions involving Welsh "be" and the English present participles do not occur because of a mismatch of features between the participles and the verbal complement selected by Welsh "be". In the case of English past participles, we can similarly postulate a mismatch between their feature [+past participle] and the necessary feature [+verb-noun] of verbal complements selected by Welsh "be". On the other hand, in constructions where Welsh "be" is the main verb, it can select an adjectival complement with the feature [+adjective], which would match a similar feature of English past as well as present participles stored holistically as adjectives.[20]

In this section on verbs we have argued that the insertion of English base forms with a verbalising suffix reflects the only partial congruence of English and Welsh verbs. The fact that they are inserted in periphrastic rather than synthetic Welsh constructions may be due to the relatively greater syntagmatic congruence of the Welsh periphrastic and the English verbal construction.

We have also argued that inserted English participles are to be treated as predicative adjectives rather than verbs. This can be accounted for by the fact that the insertion of predicative adjectives is favoured by both syntagmatic and paradigmatic congruence (see section 9) whereas this is not the case for English verbal participles.

[20] We assume that English past participles which can be used adjectivally would be listed separately with the feature [+adjective].

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Table 4. *The actual consequences of varying combinations of paradigmatic and syntagmatic congruence.*

	Paradigmatic congruence?	Syntagmatic congruence?	Effect on code-switching of grammatical category
Noun phrases	√	√	facilitated
Adjectives: predicative	√	√	facilitated
Adjectives: attributive	√	×	possible but restricted
Verbs: base forms	×	√	possible but restricted
Participles: adjectival	√	√	facilitated
Participles: verbal	×	×	blocked

11. Summary and conclusion

In this paper we have addressed the question "What is sufficient congruence?" in relation to some Welsh–English code-switching data. As a background to this discussion we have established an asymmetry between the two languages such that one acts as a matrix and the other a secondary or embedded language. Code-switching can then be viewed as involving the insertion of material from the embedded language into the morphosyntactic frame provided by the matrix language. In our analysis we have focused on mixed clauses where Welsh is the matrix language and have considered the extent to which the insertion of material from English is affected by considerations of congruence.

In section 7, we argued that where both paradigmatic and syntagmatic congruence obtain for a particular grammatical category, we expected code-switching to be facilitated. But where either paradigmatic or syntagmatic congruence did not obtain, we predicted that code-switching of these categories would be restricted, and would be blocked if neither obtained. These predictions were summarised in Table 1.

Table 4 is an expanded version of Table 1, and includes the addition of a column listing the English grammatical categories we have considered, together with a summary of the effect of paradigmatic and syntagmatic (in)congruence on code-switching of these categories, represented by their insertion into Welsh. Although congruence is not an absolute notion, a tick in the table represents our finding that a considerable degree of congruence was found, while a cross represents a lack of congruence. As can be seen in the table, a considerable degree of both paradigmatic and syntagmatic congruence was found for noun phrases, and we showed in section 8 that this was the most frequent category switched in the data. Table 4 also summarises our findings for attributive versus predicative adjectives, in relation to which we showed in section 9 that the latter category were switched more often than expected and the former category less often than expected. The base forms of English verbs showed considerable syntagmatic congruence with Welsh verbs in the periphrastic construction, but we argued that their limited paradigmatic congruence is reflected by their morphological modification with the addition of a suffix. Thus Table 4 shows that the switching of verbs is possible but restricted. Finally, Table 4 shows the results of comparing the congruence of adjectival and verbal participles. English adjectival participles showed both paradigmatic and syntagmatic congruence with Welsh predicative adjectives, which accounted for their switching being facilitated in comparison to verbal participles. The switching of English verbal participles was argued to be blocked because they have neither paradigmatic nor syntagmatic congruence with any equivalent category or construction in Welsh.

Thus we have been able to show that the greater the degree of (paradigmatic and syntagmatic) congruence between the categories of the two languages, the more likely it is that switching of these categories will take place.

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