PF interface approach to P-stranding generalizations in Welsh

Ryuichiro Hirata

National Institute of Technology, Niihama College

ABSTRACT. This article discusses preposition stranding (hereafter P-stranding) and related phenomena in Welsh. P-stranding is not allowed in prescriptive grammar, however, it is observed colloquially nowadays (Borsley et al. 2007). I will examine the relation between the availability of P-stranding and its generalizations proposed in Abels (2003). This work aims to give an account on Welsh data at PF interface where syntax and phonology interact.[*]

1. P-stranding generalizations

This paper deals with P-stranding and its related phenomena. In (1), the prepositions and their complement *wh*-words are dislocated, whereas the prepositions and their complements stick together at the beginning of the sentences in (2). The phenomenon in (1) is called P-stranding and (2) is called pied-piping.

(1) a. **What** did you talk **about**?

    b. **Who** did you have lunch **with**?

(2) a. **About what** did you talk?

    b. **With who** did you have lunch?

As van Riemsdijk (1978) points out, P-stranding is a rather rare phenomenon across languages. Even in a language allows P-stranding like English, it is restricted in various ways. Abels (2003) shows the following generalizations on P-stranding.

(3) a. All languages that allow P-stranding under passives, i.e. pseudo-passives, also allow
      P-stranding under *wh*-constructions.

    b. Languages that do not allow P-stranding do not allow clitic pronouns as the
      complement of P.

c. All languages that allow P-stranding also have verbal particles.

d. A language allows P-stranding under sluicing iff it allows P-stranding under question formation.

The purpose of this paper is to provide an account on P-stranding generalizations in Welsh at PF interface where syntax and phonology interact. In Section 2, I first show Welsh data of P-stranding. In Section 3, I explain Welsh P-stranding data based on the notion PF feature checking proposed in Ackema and Neeleman (2004). In Section 4, I discuss the Abels' four P-stranding generalizations in Welsh. Section 5 concludes the discussion.

2. Welsh data

Before moving on to P-stranding in Welsh, we will first look at Welsh prepositions. Most Welsh prepositions inflect for the person, number, and also gender (in third-person singular), if they take personal pronouns as a complement. This is shown in (4).

(4)   singular   plural

first person   −a i   −on ni

second person   −at ti   −och chi

third person   −o fe/fo (masculine)   −yn nhw

                         −i hi (feminine)   (King 1993)

A preposition shows agreement with a following pronominal complement as in (5a) and (5b).[1] If the complement is a full lexical DP, a preposition appears in a bare form as in (5c).

(5) a. amdano   fe/fo   b. amdanyn nhw   c. am   y {plentyn / plant}

      about.3_{MS} he   about.3_P they   about the child / children

      'about him'   'about them'   'about the child/children'

Now, we look at P-stranding in Welsh. Welsh traditionally disallows P-stranding, and it is considered ungrammatical prescriptively (King 2003). However, the use of P-stranding is found colloquially as in (6b).

---

[1] There are few prepositions that do not have inflectional morphology, such as *â* 'with', *efo* 'with' (used in the North), *gyda* 'with' (mainly used in the South), and *mewn* 'in'.

(6) a. **Am   beth** y siaradest   ti?   Lit. W
       about what C talk.PAST.2S you   'About what did you talk?'

  b. **Beth**   wnest   ti   siarad **am**?   Col. W
       what do.PAST.2S you talk.INF about   'What did you talk about?'

We turn to relative clauses.   Welsh traditionally requires a resumptive strategy in prepositional relatives as in (7a).   Willis (2000) suggests rich agreement on a preposition licenses a null pronoun *pro*.   The use of uninflected stranded preposition is observed in Colloquial Welsh as in (7b).   This is the case of P-stranding.

(7) a. y   dyn   y siaradais   i **amdano**   fo / *pro*   Lit. W
       the man C talk.PAST.1S I about.3MS him   'the man that I talked about'

  b. y   dyn   wnes   i siarad   **am**   Col. W
       the man do.PAST.1S I talk.INF about   'the man that I talked about'

From the above observations, the following generalizations can be drawn.

(8) Generalizations on prepositional A'-dependencies in Welsh:
   a. Literary Welsh: a head P is followed by its pronominal complement
     (i.e., resumptive pronouns in relatives, *wh*-elements in interrogatives)
   b. Colloquial Welsh: a head P is followed by a trace left by movement.

3. PF feature checking account on Welsh

To give an account on the Welsh data in Section 2, I first introduce the notion of PF feature checking.   Ackema and Neeleman (2004) propose that feature checking can take place at the PF interface where syntax and phonology interact, alongside the commonly assumed syntactic feature checking.   Their main hypothesis is that PF feature checking takes place in the mapping from syntax to an initial prosodic phrasing.   The initial prosodic phrase is determined by alignment conditions that associate boundaries of syntactic constituents with boundaries of phonological phrases (see Selkirk 1986, among others).

Selkirk (1986) shows language variation on the alignment condition.   In head-initial languages, the right edges of syntactic phrase correspond to the right edges of prosodic phrase as in (9).   In head-final languages, on the other hand, the left edges of a syntactic phrase correspond to the right edges of a prosodic phrase as in (10) (see Selkirk and Tateishi

1991).   The syntactic phrases (XPs) are indicated by brackets and prosodic boundaries are indicated by braces:

(9) a. [[A friend [of Mary's]] [showed [some pictures] [to John]]]

   b. {A friend of Mary's} {showed some pictures} {to John}

(10) a. [[Mary-no] tomodachi-ga] [[John-ni] [syashin-wo] miseta]

       Mary-GEN friend-NOM   John-DAT   picture-ACC show.PAST

   b. {Mary-no tomodachi-ga} {John-ni} {syashin-wo miseta}

PF feature checking identifies the features to be checked with identical features in the same domain.   It is implemented via feature identification between a head and an adjacent phrase that contains identical features as in the following format.   A and B are categories, and F_1, F_2, and F_3 are features:

(11) $\{[A (F_1) (F_2) (F_3)\ldots] [B (F_1) (F_2) (F_3)\ldots]\} \rightarrow$

   $\{[A (F_{1i}) (F_{2j}) (F_{3k})\ldots] [B (F_{1i}) (F_{2j}) (F_{3k})\ldots]\}$ (Ackema & Neeleman 2004)

Crucially, as Welsh is a head-initial language (Borsley et al. 2007), Welsh follows the right alignment rule as in (9) above.

(12) a. [Mi wnaeth   [ffrind Mary] [ddangos [lluniau] [i John]]]

     PRT do.PAST.3S friend Mary   show   pictures   to John

   b. {Mi wnaeth ffrind Mary} {ddangos lluniau} {i John}

Therefore, Welsh needs the following syntactic structure to be PF feature checked.

(13) [AP A BP]

I now consider the generalizations on Welsh in (8).   We first look at the prepositional relatives.   McCloskey (2002) observed that resumptive pronouns are simply ordinary pronouns.   Based on this observation, Willis (2011) assumes that the null operator which bears *wh*-feature *Op* is merged from the lexicon into the specifier of P.   I assume that an EPP feature on a C head triggers the operation Move (Chomsky 2001), and the null operator moves to Spec-CP through Spec-vP following successive cyclicity.

Let us look at concrete examples.   The examples (7) are repeated below.

(7) a. y   dyn   y siaradais   i **amdano**   fo / *pro*   Lit. W

    the man C talk.$_{PAST}$.1$_S$ I about.3$_{MS}$ him   'the man that I talked about'

  b. y   dyn   wnes   i siarad   **am**   Col. W

    the man do.$_{PAST}$.1$_S$ I talk.$_{INF}$ about   'the man that I talked about'

The examples in (7) have the following syntactic structures.

(14) a. y dyn [$_{CP}$ *Op*$_i$ C$_{[EPP]}$ y siaradais [$_{vP}$ t_i [$_{PP}$ t_i P$_{[AGR]}$ amdano fo/*pro*]]]   Lit. W

    b. y dyn [$_{CP}$ *Op*$_i$ C$_{[EPP]}$ ø wnes [$_{vP}$ t_i i siarad [$_{PP}$ P$_{[\ ]}$ am t_i]]]   Col. W

In (14a), the resumptive pronoun *fo* or a null pronoun *pro* is introduced to satisfy the argument structure of the preposition.   A *wh*-operator *Op* is Merged in Spec-PP, then it reaches to Spec-CP via Spec-vP to satisfy EPP-feature.   In (14b), the operator moves to the Spec-CP position from the complement of P.   I will rather argue that the operation Move or Merge is regulated by the availability of PF feature checking.   I assume that the crucial difference between the two varieties is that a P head in Literary Welsh possesses AGR(eement)-features on person, number and gender, but Colloquial Welsh does not. This difference can be seen from the contrast on the availability of inflectional morphology on a preposition.

    Once syntax decides terminal nodes, the syntactic structure is linearized based on the initial prosodic phrasing.   Given Welsh is a head-initial language, it obeys the right alignment rule.   The above syntactic structures in (14) have the following prosodic structures.

(15) a. {y dyn} {y siaradais i} {amdano (fo)}   Lit. W

    b. {y dyn} {wnes i} {siarad am *t*}   Col. W

In both cases in (15), the complements immediately follow P heads in the same prosodic domain, therefore they are possible candidates to be PF checked within this local domain.[2]

---

[2] Literary Welsh prefers a synthetic verbal construction which inflects a lexical verb, as *siaradais* in (7a).   In contrast, Colloquial Welsh prefers a periphrastic verbal construction which is expressed by an inflection of auxiliary verb (*wnes* in (7b)) and a non-finite lexical verb (*siarad* in (7b)).   This makes different prosodic boundaries between the two varieties.   In (15a), the preposition and the

In Literary Welsh, a P head bears AGR-features.   The feature identification applies between a P head and a resumptive pronoun in its complement position as in (16).   The features [Per], [Num] and [Gen] stand for person, number and gender, respectively:

(16) {… [P (Per) (Num) (Gen)] [DP (Per) (Num) (Gen)] ….} →

     {… [P (Per$_i$) (Num$_j$) (Gen$_k$)] [DP (Per$_i$) (Num$_j$) (Gen$_k$)] …}

In Colloquial Welsh, PF feature checking does not hold due to the lack of AGR-features on P, so a complement of P can be extracted.   This makes P-stranding possible.

We now turn to the case of *wh*-questions where a whole PP is pied-piped in Literary Welsh but P-stranding is available in Colloquial Welsh.   The example (6) is repeated below.

(6) a. **Am**   **beth** y siaradest   ti?   Lit. W
     about what C talk.$_{PAST}$.2$_S$ you   'About what did you talk?'
   b. **Beth**   wnest   ti   siarad **am**?   Col. W
     what do.$_{PAST}$.2$_S$ you talk.$_{INF}$ about   'What did you talk about?'

Their syntactic structure and prosodic structure are shown below in (17) and (18) respectively.

(17) a. [$_{CP}$ [$_{PP}$ P$_{[AGR]}$ Am beth]$_i$ C$_{[EPP]}$ y siaradaist ti [$_{vP}$ t_i [$_{PP}$ t_i]]]?   Lit. W
   b. {Am beth} {y siaradais i t}   Col. W
(18) a. [$_{CP}$ Be'$_i$ C$_{[EPP]}$ ø wnest [$_{vP}$ t_i ti siarad [$_{PP}$ P$_{[\ ]}$ am t_i]]]?   Lit. W
   b. {Be'} {wnest ti} {siarad am t}   Col. W

Despite of the appearance in a bare form, I assume that a P head in Literary Welsh possesses AGR-features on person, number and gender.   Welsh Ps show agreement only with a pronominal complement as we saw in (5).   In Literary Welsh, the two elements in the checking relation move together to Spec-CP to check the EPP-feature.   This is simply a

---

resumptive pronoun are in the same domain.   On the other hand, the non-finite verb and the preposition are in the same domain Colloquial Welsh which allows P-stranding.   This reminds me the idea of a reanalysis approach which was first proposed in Hornstein and Weinberg (1981). They argue that V and its adjacent P form a complex V and this reanalysis process makes P-stranding possible.   Hisao Tokizaki and Yoshihito Dobashi (p.c.) gave me a hint.

phrasal movement of PP.   In Colloquial Welsh, no PF feature checking relation is established, so the *wh*-operator is extracted to the Spec-CP position.

The PF checking analysis that I have developed here can straightforwardly account of the different behavior on prepositional *wh*-constructions based on the lexical information.   If a P head possesses AGR-features, its complement that is PF feature checked by that P cannot be extracted.   If a P head possesses no AGR-features, P-stranding is possible.

4. P-stranding generalizations in Welsh

This section considers the Abels' four generalizations that we saw in (3) one by one.

(3) a. All languages that allow P-stranding under passives, i.e. pseudo-passives, also allow P-stranding under *wh*-constructions.

    b. Languages that do not allow P-stranding do not allow clitic pronouns as the complement of P.

    c. All languages that allow P-stranding also have verbal particles.

    d. A language allows P-stranding under sluicing iff it allows P-stranding under question formation.

4.1 P-stranding under passive?

Before moving on to prepositional passives, let us look at Welsh passives first.   Welsh has two ways to express the passive voice.   One is periphrastic passive which requires the auxiliary verb *cael* 'to get, have' and the other is impersonal passive.   The periphrastic passive (hereafter *cael* passive) is common both in Literary and Colloquial Welsh.   However, the use of impersonal passive is largely confined to the literary language (Borsley et al. 2004: 282).

The *Cael* passive consists of a patient DP in subject position, the auxiliary *cael*, and a non-finite verb preceded by a clitic which agrees with the subject.[3]   In (19a), *cael* inflects with the subject, and the non-finite verb *taro* 'hit' follows the clitic.   In (19b), the auxiliary verb *bod* 'be' inflects with the subject, and the non-finite verb follows the clitic.   Impersonal passives are expressed by inflecting a lexical verb.   In (19c), the past impersonal ending *-wyd* is attached to the lexical verb *gweld* 'see'.

---

[3] These clitic pronouns trigger mutation which is an alternation of word-initial consonants shared in all Celtic languages. For instance, the third person masculine singular pronoun in (19a) triggers soft mutation, and the feminine counterpart in (19b) triggers aspirate mutation. See Borsley et al. (2004) and King (2003) for details.

(19) a. Cafodd   Emrys ei   daro (gan Rhodri).

       get.PAST.3S Emrys 3MS   hit.INF by Rhodri

       'Emrys was hit (by Rhodri).'

   b. Mae   Megan wedi cael   ei   tharo.

       be.PAST.3S Megan PERF get.INF 3FS   hit.INF

       'Megan has been hit.'

   c. Gwelwyd   Mair gan John.

       see.IMPS.PAST Mair by John

       'Mair was seen by John.'

We turn to prepositional passives.   (20a) and (20b) are examples of the *cael* passives, and (20c) is an example of impersonal passives.   There is huge variation between speakers on the acceptability of pseudo-passives.   The numbers shown right of each sentence indicate a mean score of acceptability which is examined in Hirata (2012).   12 participants are asked judge in a five-point rating scale.   Scale 5 is for sentences that sound completely natural and something they would say.   Scale 1 is sentences that sounds completely unnatural and no one would say them.

(20) a. Cafodd   **y carped** 'ma ei   sathru **ar** / **arno**.   2.5 / 2.7

       get.PAST.3S t**he carpet** this 3MS step   **on** / **on.3MS**

       'The carpet was stepped on.'

   b. Mae   **'r llyfr**   'na wedi cael ei siard   **am** / **amdano**.   1.9 / 1.8

       be.PRES.3S **the book** that PERF get 3MS speak **about** / **about.3MS**

       'That book has been talked about.'

   c. Eisteddwyd **ar   y gadair** 'ma gan John.   3.3

       sit.IMPS.PAST. **on the chair**   this by John

       'This chair was sat on by John.'

The above data show that the acceptability of pseudo-passives in Welsh is marginal.   The only option above 3 is the impersonal passive, however, it is confined in Literary Welsh.

     We now consider the first generalization.

(3) a. All languages that allow P-stranding under passives, i.e. pseudo-passives, also allow

    P-stranding under *wh*-constructions.

As we saw in Section 2, P-stranding under *wh*-constructions is allowed in Colloquial Welsh, however, P-stranding under passives with both inflected and non-inflected prepositions are marginal.   Therefore, the first generalization (3a) is born out in Welsh.   The most acceptable option is the impersonal passive.   However, this is not the case of P-stranding because a P and a patient argument are always adjacent.

I now investigate the marginal status of pseudo-passives.   Let us first consider the case with inflected prepositions.   As we saw in Section 3, I assume that PF feature checking takes place between P and its complement.   At the same time, *cael* passive requires movement of the patient argument into subject position.   I claim that these two conflicting requirements lead to the marginality of pseudo-passives in Welsh.

We turn to pseudo-passives with non-inflected prepositions.   In this case, PF feature checking does not take place between P and its complement, so the complement DP should be able to move into subject position.   However, the pseudo-passives with a non-inflected preposition (i.e. P-stranding under passives) is also marginal.   It is generally assumed that the passive morpheme absorbs the accusative Case (Chomsky 1981; Baker, Johnson and Roberts 1989, among others). Consider the following examples of active sentence and its passive counterpart.

(21) a. John wrote the book.

    b. The book was written by John.

Under the standard analysis, the passive participle –en absorbs the accusative Case of DP *the book* in object in (21a), consequently, that patient DP which lacks Case needs to move to Spec-IP position to receive the nominative Case.   In Welsh *cael* passive, the verb occurs in the non-finite form which is not morphologically passive.   There seems to no Case suppression.   Therefore, the patient argument in complement of P does not need to move to subject position to receive the nominative Case.   I claim that this lack of Case suppression does not readily accept P-stranding under passive.

4.2 Clitic pronouns as the complement of P?

Let us look at the second generalization on clitics as repeated below.

(3) b. Languages that do not allow P-stranding do not allow clitic pronouns as the
    complement of P.

P-stranding is not allowed in Literary Welsh.   Therefore, if a complement of P is a clitic, Literary Welsh is a counterexample of this generalization.

As shown in (5), Welsh takes a pronoun in the complement of P.   The weak form of pronouns is used with inflected prepositions, and they may be omitted, as illustrated below.

(22) a. amdana {i / *pro*}   b. amadano {fo / *pro*}

about.1$_S$ I   about.3$_{MS}$ he

On the other hand, the strong pronoun is required with non-inflectable prepositions, as in (23).[4]

(23) a. efo   fi / *i   b. efo   fo

with I   with he

Although the terms 'clitic pronouns' and 'weak pronouns' are often used interchangeably, Cardinaletti and Starke (1999) point out that clitics are uniformly best analysed as heads (X°), while weak pronouns are uniformly best analysed as maximal projections (XP).   Without additional assumptions, the complement of P must have a phrasal status.

(24) a. am   [$_{DP}$ y dyn]   b. amdana [$_{DP}$ i]

about   the man   about.1$_S$ I

Moreover, Cardinaletti and Starke claim that a null *pro* is really a weak pronoun.   Their claim directly corresponds to the fact that a weak pronoun in the complement position can be omitted, as we saw in (22) above.   Based on Cardinaletti and Starke's definition, the element in the complement of P in Welsh is weak pronoun, but not clitic pronoun. Therefore, Literary Welsh which disallows P-stranding is not a counterexample of the second generalization.

4.3 Verbal particles?

The third generalization is on verbal particles.

---

[4] 'Strong pronouns' (also called 'independent pronouns') may occupy a focus position and may be used alone.   In contrast, 'weak pronoun' (also known as 'dependent pronouns') is usually associated with an agreement morpheme.   See Borsley et al. (2007) for details.

(3) c. All languages that allow P-stranding also have verbal particles.

Colloquial Welsh allows P-stranding, so it is predicted that Welsh has verbal particles at least colloquially.

    This prediction is born out.   Welsh possesses verb particle constructions, as illustrated in (25).

(25) Mae   Harold wedi **mynd i ffwrdd** i Lundain ers wythnos.
    be.PRES.3S Harold PERF **go   off**   to London for week
    'Harold went off to London a week ago.'   (Rottet 2005)

Rottet (2005) points out that there is English influence on Welsh phrasal verbs.   Colloquial Welsh makes use of a large number of idiomatic verb particle combinations whose meanings cannot readily predicted from their components, as illustrated below.

(26) a. Mae   Mair yn   mynd i   **wneud fyny am** golli dy het di.
        be.PRES.3S Mair PROG go   to **do/make up for** lose 2S hat you
        'Mair is going to make up for losing your hat.'   (Jones 1979)
    b. … a   gall   perthynas **dorri fyny**.
        and can.PRES.3S relationship **break up**
    '… and a relationship can break up.'   (Rottet 2005)

It seems that Welsh can easily accommodate more English verbal particle expressions using the native syntactic pattern.

4.4 Sluicing?
    The final generalization is on sluicing observed by Merchant.

(3) d. A language allows P-stranding under sluicing iff it allows P-stranding under question
        formation.

Sluicing is one of ellipsis phenomena.   Sentences in which an interrogative clause is reduced to containing only a *wh*-phrase.   Merchant shows that P-stranding languages under question formation as in English allow omission of a preposition under sluicing, as illustrated below.

(27) Peter was talking with someone, but I don't know **(with) who**.

In languages that do not allow P-stranding under *wh*-question, the preposition under sluicing is obligatory present.   (28) is an example from German.

(28) Anna hat   mit jemandem gesprochen,

    Anna has with someone   spoke

    aber ich weiß   nicht, ***(mit) wem**.

    but   I   know not   **with who**   (Merchant 2001)

    Merchant (2001) analyzes that sluicing involves the usual operation of *wh*-movement followed by deletion of IP.   In English, both derivations presented in (29) are possible.   The pied-piping option is taken in (29a), and the whole PP moves into Spec-CP before the deletion of IP takes place.   The P-stranding option is also available as in (29b).

(29) Peter was talking with someone, but I don't know

    a. [$_{CP}$ [with who]$_i$ [$_{IP}$ ~~he was talking <with who>$_i$~~]].

    b. [$_{CP}$ [who]$_i$ [$_{IP}$ ~~he was talking with <who>$_i$~~]].

In a language such as German, on the other hand, the pied-piping option is the only possibility, as shown in (30) below, since the pied-piping option is only the possibility under regular *wh*-questions.

(30) Anna hat mit   jemandem gesprochen, aber ich weiß nicht

    Anna has with someone   spoke   but   I   know not

    a. [$_{CP}$ [mit wem]$_i$ [$_{IP}$ ~~sie <mit wem>$_i$ gesprochen hat~~]].

        with who   she with who   spoken   has

    b. * [$_{CP}$ [wem]$_i$ [$_{IP}$ ~~sie mit <wem>$_i$ gesprochen hat~~]].

         who   she with who   spoken   has   (Merchant 2002)

    Let us check whether Welsh allows P-stranding under sluicing.   As the mean score of acceptability of (31b) is above 4, Welsh seems to allow the omission of preposition.

(31) a. Roedd   Megan yn   siarad efo   rhywun,

     be.PAST.3S Megan PROG speak with someone

     ond dw   i ddim yn   gwybod **efo   pwy**.   4.8

     but be. PRES.1S I not   PROG know   **with who**

     'Megan was talking with someone, but I don't know with who.'

  b. Roedd Megan yn siarad efo rhywun, ond dw i ddim yn gwybod **pwy**.   4.3

                                               who

     'Megan was talking with someone, but I don't know who.'

Colloquial Welsh allows P-stranding, so it is predicted that P-stranding under sluicing may be possible colloquially.   Peredur Davies (p.c.) mentions that the test sentences without preposition do not sound particularly colloquial.   If this is the case, Literary Welsh may be a counterexample of this generalization.   However, I leave it here for my future research.

5. Conclusion

    Making use of the idea of PF feature checking, this paper discussed the different syntactic behaviors regarding P-stranding between Literary and Colloquial Welsh.   I claimed that the crucial difference between the two varieties is that a P head in Literary Welsh possesses AGR-features, but Colloquial Welsh does not.   I argued that the operation Move or Merge of a *wh*-operator is regulated by the availability of PF feature checking.   I also examined the four P-stranding generalizations in Welsh.   These discussions suggest that we need to consider morph-phonological factors to account for phenomena that is traditionally analyzed syntactically.

References

Abels, K. (2003) *Successive Cyclicity, Anti-locality, and Adposition Stranding.* PhD dissertation, University of Conneticut.

Ackema, P. and A. Neeleman (2004) *Beyond Morphology: Interface Conditions on Word Formation.* Oxford: Oxford University Press.

Baker, M., K. Johnson and I. Roberts (1989) Passive arguments raised. *Linguistic Inquiry* 20, 219–251.

Borsley, R. D., M. Tallerman, and D. Willis (2007) *The Syntax of Welsh.* Cambridge: Cambridge University Press.

Cardinaletti, A. and M. Starke (1999) The Typology of Structural Deficiency. In *Clitics in the Languages of Europe,* 145-234. Berlin and New York: Mouton de Gruyter.

Chomsky, N. (1981) *Lectures on government and binding.* Dordrecht: Foris.

Chomsky, N. (2001) Derivation by Phase. In *Ken Hale: A Life in Language*, 1-52. Cambridge, MA: MIT Press.

Hirata, R. (2012) *Preposition stranding in Welsh?* PhD dissertation, Bangor University.

Hornstein, N. and A. Weinberg (1981) Case Theory and Preposition Stranding. *Linguistic Inquiry* 12, 55-92.

Jones, M. (1979) The present condition of the Welsh language. In *The Welsh Language Today*, 112-130. Llandysul: Gomer Press.

King, G. (2003) *Modern Welsh: a comprehensive grammar*, 2nd edition. London: Routledge.

McCloskey, J. (2002) Resumption, successive cyclicity, and the locality of operations. In *Derivation and explanation in the Minimalist Program*, 184-226. Oxford: Blackwell,.

Merchant, J. (2001) *The Syntax of Silence: Sluicing, Islands, and the Theory of Ellipsis*. Oxford: Oxford University Press.

Merchant, J. (2002) Swiping in Germanic. In *Studies in Comparative Germanic Syntax*, 295-321. John Benjamins: Amsterdam

Riemsdijk, H. van (1978) *A Case Study in Syntactic Markedness: The Binding and Nature of Prepositional Phrases*. Dordrecht: Foris.

Rottet, J. K. (2005) Phrasal verbs and English influence in Welsh. *Word* 56:1, 39-70.

Selkirk, E. (1986) On derived domains in sentence phonology. In *Phonology Yearbook 3*, 371-405. Cambridge: Cambridge University Press.

Selkirk, E. and K. Tateishi (1991) Syntax and downstep in Japanese. In *Interdisciplinary Approaches to Language: Essays in Honor of S.-Y. Kuroda*, 519-544. Dordrecht: Kluwer.

Willis, D. (2000) On the distribution of resumptive pronouns and wh-trace in Welsh. *Journal of Linguistics* 36: 531-73.

Willis, D. (2011) The limits of resumption in Welsh wh-dependencies. In *Resumptive Pronouns at the Interface*, 189-221. Amsterdam: John Benjamins