

On pseudo-non-finite clauses in Welsh

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Introduction

- ▶ Welsh finite and non-finite clauses have a similar distribution to their counterparts in English.
- ▶ But it doesn't look like this because Welsh has certain finite clauses which look rather like non-finite clauses (Tallerman, 1998; Borsley et al., 2007).

Data

Finite verbs in Welsh I

- ▶ Standard Welsh verbs have three synthetic subparadigms: future, past, and conditional.
- ▶ *Bod* 'be' has two additional subparadigms: present and imperfect.

	<i>Cerdded</i> 'walk'	<i>Bod</i> 'be'
Future	<i>cerddith</i>	<i>bydd</i>
Past	<i>cerddodd</i>	<i>buodd</i>
Conditional	<i>cerddai</i>	<i>byddai</i>
Present	—	<i>mae</i>
Imperfect	—	<i>roedd</i>

Finite verbs in Welsh II

- ▶ The precise form a finite verb depends on whether the clause it is in (a) an affirmative or negative clause, and (b) a main or subordinate clause:

(1) *Mi/Fe gerddith Emrys i 'r dre.*
PRT walk.FUT.3SG Emrys to the town
'Emrys will walk to the town.'

(2) *Gerddith/Cherddith Emrys ddim i 'r dre.*
NEG.walk.FUT.3SG Emrys NEG to the town
'Emrys will not walk to the town.'

Finite verbs in Welsh III

- (3) *Dywedodd Megan [cerddith Emrys i 'r dre].*
say.PAST.3SG Megan walk.FUT.3SG Emrys to the town
'Megan said Emrys will walk to the town.'
- (4) *Dywedodd Megan [na cherddith Emrys ddim i 'r dre].*
say.PAST.3SG Megan NEG walk.FUT.3SG Emrys NEG to the town
'Megan said Emrys will not walk to the town.'

Finite verbs in Welsh IV

- (5) *Mae Emrys yn yr ardd.*
be.PRES.3SG Emrys in the garden
'Emrys is in the garden.'
- (6) *Dydy Emrys ddim yn yr ardd.*
NEG.be.PRES.3SG Emrys NEG in the garden
'Emrys is not in the garden.'

Bod-clauses I

- ▶ The present and imperfect forms of *bod* are fine in main clauses and in relative clauses and other unbounded dependency clauses, e.g. *wh*-interrogatives, but present forms and for some speakers imperfect forms too are ungrammatical in complement clauses:

- (7) *Mae Elen yn darllen y llyfr.*
be.PRES.3SG Elen PROG read.INF the book
'Elen is reading the book.'
- (8) *Roedd Elen yn darllen y llyfr.*
be.IMPF.3SG Elen PROG read.INF the book
'Elen was reading the book.'

Bod-clauses II

- (9) *y llyfr [mae / roedd Elen yn ei ddarllen]*
the book be.PRES.3SG be.IMPF.3SG Elen prog 3SGM read.INF
'the book that Elen is/was reading'
- (10) *Pa lyfr [mae / roedd Elen yn ei ddarllen]?*
which book be.PRES.3SG be.IMPF.3SG Elen PROG 3SGM read.INF
'Which book is/was Elen reading?'

Bod-clauses III

- (11) * *Mae Aled yn credu [mae Elen yn
be.PRES.3SG Aled prog believe.INF be.PRES.3SG Elen prog
darllen y llyfr].*
read.INF the book
'Aled believes that Elen is reading the book.'
- (12) % *Mae Aled yn credu [roedd Elen yn
be.PRES.3SG Aled prog believe.INF be.IMPF.3SG Elen prog
darllen y llyfr].*
read.INF the book
'Aled believes that Elen was reading the book.'

Bod-clauses IV

- ▶ Instead of present forms of *bod*, and for some speakers imperfect forms as well, what looks like the non-finite form *bod* appears:

(13) *Mae Aled yn credu [bod Elen yn darllen y llyfr].*
be.PRES.3SG Aled prog believe.INF *be.INF* Elen prog read.INF the
book
'Aled believes that Elen is/was reading the book.'

Bod-clauses V

- ▶ Present and imperfect forms of *bod* may appear in complement clauses affected by an unbounded dependency such as the following (Willis, 2000, 2011; Borsley, 2013):

(14) *Beth mae Aled yn credu [mae Elen yn*
what be.PRES.3SG Aled prog believe.INF be.PRES.3SG Elen PROG
ei ddarllen]?
3SGM read.INF
'What does Aled believe that Elen is reading?'

(15) *Beth mae Aled yn credu [roedd Elen yn*
what be.PRES.3SG Aled PROG believe.INF be.IMPF.3SG Elen prog
ei ddarllen]?
3SGM read.INF
'What does Aled believe that Elen was reading?'

Bod-clauses VI

- ▶ If the subject of a *bod*-clause is pronominal, *bod* shows agreement in the form of a preceding clitic:

(16) *Mae Aled yn credu [ei bod hi 'n darllen*
be.PRES.3SG Aled PROG believe.INF 3SGF be.INF she PROG read.INF
y llyfr].
the book
'Aled believes that she is/was reading the book.'

Bod-clauses VII

- ▶ Ordinary non-finite verbs also show agreement in the form of a clitic with a following pronoun, but the pronoun can only be an object because they never have a following subject.

- (17) a. *Dylai Aled weld Elen.*
ought Aled see.INF Elen
'Aled ought to see Elen.'
- b. *Dylai Aled ei gweld hi.*
ought Aled 3SGF see.INF she
'Aled ought to see her.'

Finite *i*-clauses I

- ▶ Past tense forms of Welsh verbs appear in main clauses and in negative complement clauses but in Literary Welsh not in positive complement clauses:

(18) *Aeth* *Mair adre*.
go.PAST.3SG Mair home
'Mair went home.'

(19) *Meddylodd* *Aled* [*aeth* *Mair ddim adre*].
think.PAST.3SG Aled go.PAST.3SG Mair NEG home
'Aled thought that Mair had not gone home.'

Finite *i*-clauses II

(20) % Meddylodd Aled [*aeth* Mair *adre*'].
think.PAST.3SG Aled *go*.PAST.3SG Mair home
'Aled thought that Mair had gone home.'

- ▶ Instead of a positive complement clause with a past tense verb, what looks rather like an English *for-to* clause appears:

(21) *Meddylodd Aled [i Mair fynd adre]*.
think.PAST.3SG Aled *to* Mair *go*.INF home
'Aled thought that Mair had gone home.'

Finite *i*-clauses III

- ▶ There is evidence that these clauses are finite, but elsewhere *i*-clauses are clearly non-finite:

(22) *Disgwyliodd Aled [i Elen ddarllen y llyfr].*
expect.PAST.3SG Aled to Elen read.INF the book
'Aled expected Elen to read the book.'

Finite *i*-clauses IV

- ▶ Non-finite *i*-clauses are negated by the negative verb *peidio* (which only has non-finite and imperative forms and is mutated here):

(23) *Disgwyliodd Aled [i Elen beidio â darllen y llyfr].*
expect.PAST.3SG Aled to Elen NEG with read.INF the book
'Aled expected Elen not to read the book.'

- ▶ This is not possible in a finite *i*-clause:

(24) **Meddyliodd Aled [i Mair beidio â mynd adre].*
think.PAST.3SG Aled to Mair NEG with go.INF home
'Aled thought that Mair had gone home.'

Evidence that *bod*-clauses and finite *i*-clauses are really finite. I

- ▶ *Bod*-clauses and finite *i*-clauses express finite meanings and appear instead of certain finite clauses which are unexpectedly ungrammatical. They fill a gap in a finite paradigm.

Evidence that *bod*-clauses and finite *i*-clauses are really finite. II

- ▶ They can also coordinate with ordinary finite clauses:

- (25) *Dyweddodd Aled [fod Mair wedi mynd yn barod] a [byddai Gwen yn mynd yn fuan].*
say.PAST.3SG Aled be.INF Mair PERF go.INF PRED ready and
be.COND.3SG Gwen prog go.INF PRED soon
'Aled said that Mair had gone already and that Gwen would be going soon.'
- (26) *Meddylodd Aled [i Alys fynd adre'] a [byddai Mair yn mynd hefyd].*
think.PAST.3SG Aled to Alys go.INF home and be.COND.3SG Mair
prog go.INF too
'Aled thought that Alys had gone home and that Mair would be going too.'

Evidence that *bod*-clauses and finite *i*-clauses are really finite. III

- ▶ *Bod*-clauses and finite *i*-clauses do not allow a reflexive subject with an antecedent in the main clause:

- (27) * *Dywedodd Aled [(ei) fod ei hun wedi gadael].*
say.PAST.3SG Aled 3SGM be.INF 3SGM REFL PERF leave.INF
*‘Aled said that himself had left.’
- (28) * *Dywedodd Aled [iddo 'i hun fynd].*
say.PAST.3SG Aled to.3SGM 3SGM REFL go.INF
*‘Aled said that himself had gone.’

Evidence that *bod*-clauses and finite *i*-clauses are really finite. IV

- ▶ In this, they are like finite clauses and unlike uncontroversial non-finite clauses:

(29) * *Dywedodd Aled [eith ei hun].*
say.PAST.3SG Aled go.FUT.3SG 3SGM REFL
*‘Aled said that himself will go.’

(30) *Dymunai Aled [iddo 'i hun ddarllen y llyfr].*
wish.COND.3SG Aled to.3SGM 3SGM REFL read.INF the book
‘Aled would want himself to read the book.’

Evidence that *bod*-clauses and finite *i*-clauses are really finite. V

- ▶ *Bod*-clauses also resemble finite clauses in their internal structure.
- ▶ They show verb-subject order like finite clauses and unlike non-finite clauses.
- ▶ They also show negation with post-subject *ddim*:

(31) *Mae Aled yn dweud [bod Mair ddim yn barod].*
be.PRES.3SG Aled PROG say.INF be Mair NEG PRED ready
'Aled says that Mair isn't ready.'

- ▶ They allow expletive *yna* 'there', which appears in finite clauses but not in non-finite clauses:

Evidence that *bod*-clauses and finite *i*-clauses are really finite. VI

- (32) *Mae Gwyn yn meddwl [bod yna ddafad yn yr ardd].*
be.PRES.3SG Gwyn PROG think.INF be.INF there sheep in the garden
'Gwyn thinks that there is a sheep in the garden.'
- (33) *Mae yna ddafad yn yr ardd.*
be.PRES.3SG there sheep in the garden
'There is a sheep in the garden.'
- (34) * *Disgwylodd Gwyn [i yna fod dafad yn yr ardd].*
expect.PAST.3SG Gwyn to there be.INF sheep in the garden
'Gwyn expected there to be a sheep in the garden.'

Evidence that *bod*-clauses and finite *i*-clauses are really finite. VII

- ▶ Finite *i*-clauses seem to have essentially the same internal structure as non-finite *i*-clauses, differing from non-finite *i*-clauses only in that they cannot be negated.

Analysis

Taking stock

- ▶ Finite *bod* clauses:
 1. Used in present (and for some speakers imperfect) complement clauses with no unbounded dependency instead of a finite form.
 2. The syntax is that of a finite clause.
 3. The head verb has the phonological shape of an infinitive.
 4. Agreement is as with nonfinite verbs (preverbal clitic).
- ▶ Nonfinite *i* clauses:
 1. Used as the complement of verbs such as *expect*.
 2. Similar to English *for...to* clauses.
 3. Complementizer *i* inflects just like the preposition *i*.
- ▶ Finite *i* clauses:
 1. Used in literary Welsh in past positive complement clauses instead of a synthetic form.
 2. Fill a gap in a finite paradigm.
 3. Internal syntax is indistinguishable from that of nonfinite *i* clauses.

Analytic toolkit

1. Two sets of features at the morphology-syntax interface
 - ▶ Cf. Sadler and Spencer (2001); Stump (2006)
 - ▶ Implemented in HPSG as HEAD vs. INFL (Bonami, 2015)
 - ▶ INFL groups those features that are relevant to inflection proper.
 - ▶ In the canonical situation, HEAD and INFL have the same value.
2. A principle of **morphosyntactic blocking** (Andrews, 1990; Koenig, 1999; Stump, 2006)
 - ▶ As in Stump (2006), seen as an instance of Pāṇini's Principle.
 - ▶ As in Crysmann and Bonami (2016), implemented as an operation on a set of descriptions.
 - ▶ Dedicated set of conditional syntax-morphology interface statements.
 - ▶ Strengthen the antecedent of each statements with the negation of the antecedents of all more specific statements.
3. The members of an inflectional paradigm need not all belong to the same part of speech (Spencer, 2013).
 - ▶ Technically, words with different HEAD types may have the same LID value.
 - ▶ In particular, a complementizer may fill a cell in the paradigm of a lexeme that is otherwise verbal.

Finite *bod* clauses I

- ▶ In the canonical situation, a word's INFL value matches its HEAD value.

$$(35) \quad [] \rightarrow \begin{bmatrix} \text{HEAD} & \boxed{1} \\ \text{INFL} & \boxed{1} \end{bmatrix}$$

- ▶ In the special situation where one is dealing with a present tense complement clause headed by *bod*, the INFL value is unusual.

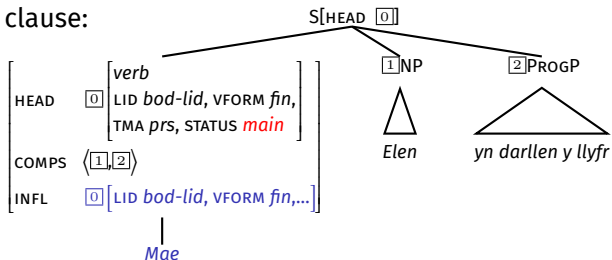
$$(36) \quad \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{LID} & \textit{bod-lid} \\ \text{VFORM} & \textit{fin} \\ \text{STATUS} & \textit{subord} \\ \text{TMA} & \textit{pres} \end{bmatrix} \\ \text{SLASH} & \{ \} \end{bmatrix} \rightarrow \begin{bmatrix} \text{INFL} & \begin{bmatrix} \text{LID} & \textit{bod-lid} \\ \text{VFORM} & \textit{inf} \end{bmatrix} \end{bmatrix}$$

- ▶ Note restriction to contexts without an unbounded dependency.

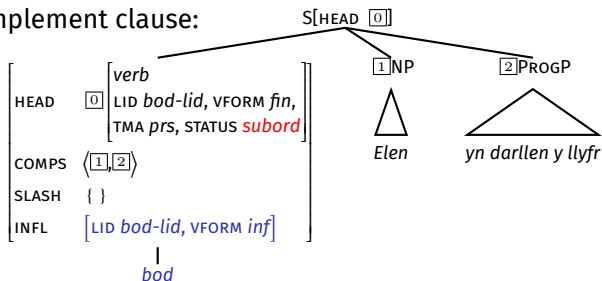
Finite *bod* clauses II

- ▶ This licenses trees such as the following two.

- ▶ Main clause:



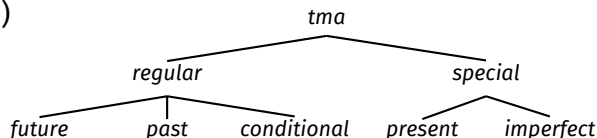
- ▶ Complement clause:



Implicit assumptions

- ▶ The first argument of a Welsh finite verb is a complement rather than a subject (Borsley, 1989).
- ▶ Hierarchy of TMA values:

(37)



- ▶ Ordinary verbs have only synthetic *regular* forms.
- ▶ Speakers who use finite *bod* in the imperfect have a different version of (36).
- ▶ The feature STATUS is a generalization of ROOT with three values: *udc* (top clause of an unbounded dependency), *main*, and *subord*.
- ▶ Independent inflectional component maps INFL values to phonological form (see e.g. Bonami and Stump inpress; Crysmann and Bonami 2016).

Pāṇinian strengthening

- ▶ Strengthen the antecedent of each interface statement with the negation of the antecedents of all more specific statements.
 - ▶ If (35) and (36) are the only two interface statements, then:

$$[] \rightarrow \begin{bmatrix} \text{HEAD} & \boxed{1} \\ \text{INFL} & \boxed{1} \end{bmatrix}$$

⇓

$$\begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{LID} & \textit{bod-lid} \\ \text{VFORM} & \textit{fin} \\ \text{STATUS} & \textit{subord} \\ \text{TMA} & \textit{pres} \end{bmatrix} \\ \text{SLASH} & \{ \} \end{bmatrix} \rightarrow \begin{bmatrix} \text{HEAD} & \boxed{1} \\ \text{INFL} & \boxed{1} \end{bmatrix}$$

$$\begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{LID} & \textit{bod-lid} \\ \text{VFORM} & \textit{fin} \\ \text{STATUS} & \textit{subord} \\ \text{TMA} & \textit{pres} \end{bmatrix} \\ \text{SLASH} & \{ \} \end{bmatrix} \rightarrow \begin{bmatrix} \text{INFL} & \begin{bmatrix} \text{LID} & \textit{bod-lid} \\ \text{VFORM} & \textit{inf} \end{bmatrix} \end{bmatrix}$$

⇓

$$\begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{LID} & \textit{bod-lid} \\ \text{VFORM} & \textit{fin} \\ \text{STATUS} & \textit{subord} \\ \text{TMA} & \textit{pres} \end{bmatrix} \\ \text{SLASH} & \{ \} \end{bmatrix} \rightarrow \begin{bmatrix} \text{INFL} & \begin{bmatrix} \text{LID} & \textit{bod-lid} \\ \text{VFORM} & \textit{inf} \end{bmatrix} \end{bmatrix}$$

- ▶ This is a version of Crismann and Bonami's (2016) implementation of Pāṇini's principle.

Agreeing clitics I

- ▶ A preverbal clitic realises agreement with a following pronoun (Borsley, 2009).
- ▶ We take these to be postlexical clitics (Sadler, 1997)
- ▶ Proposed analysis:
 - ▶ AGR information transmitted to INFL.
 - ▶ Agreeing clitic selected through SPR.

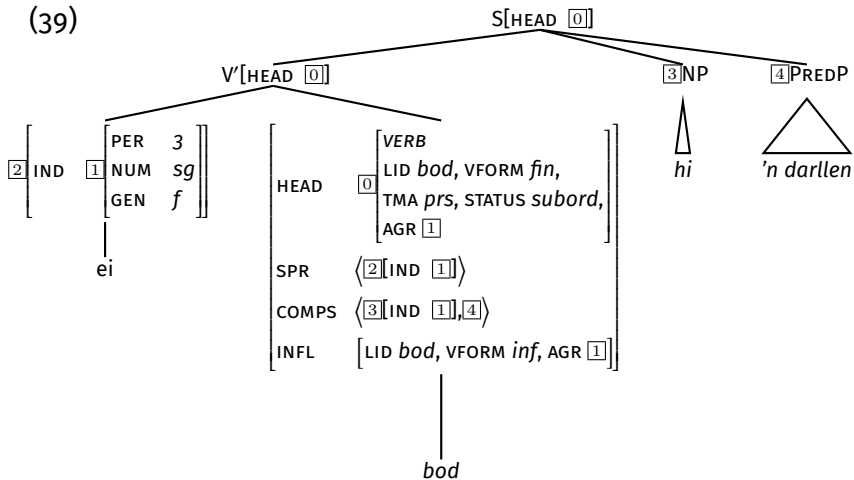
(38) a.
$$\left[\text{INFL} \begin{array}{l} \textit{verb} \\ \text{VFORM} \textit{ inf} \\ \text{AGR} \textit{ index} \end{array} \right] \rightarrow \left[\begin{array}{l} \text{INFL} \begin{array}{l} \text{AGR} \boxed{1} \end{array} \\ \text{SPR} \langle \textit{agr-clitic} \rangle \\ \text{IND} \boxed{1} \end{array} \right]$$

b.
$$\left[\text{INFL} \begin{array}{l} \textit{verb} \\ \text{VFORM} \textit{ fin} \vee \text{AGR} \textit{ none} \end{array} \right] \rightarrow \left[\text{SPR} \langle \rangle \right]$$

Agreeing clitics II

- Licenses analyses such as the following:

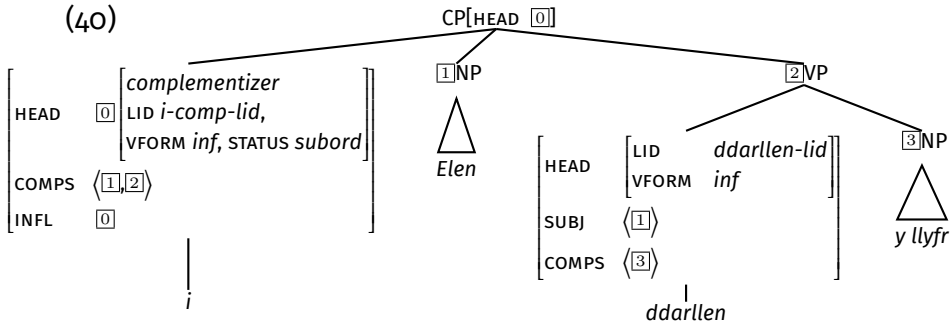
(39)



Nonfinite *i*-clauses

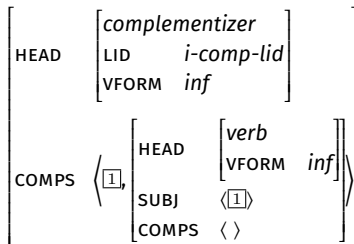
- ▶ We assume a ternary structure (Borsley, 1999, 2009).

(40)



- ▶ This is licensed by a standard lexical entry for complementizer *i*.

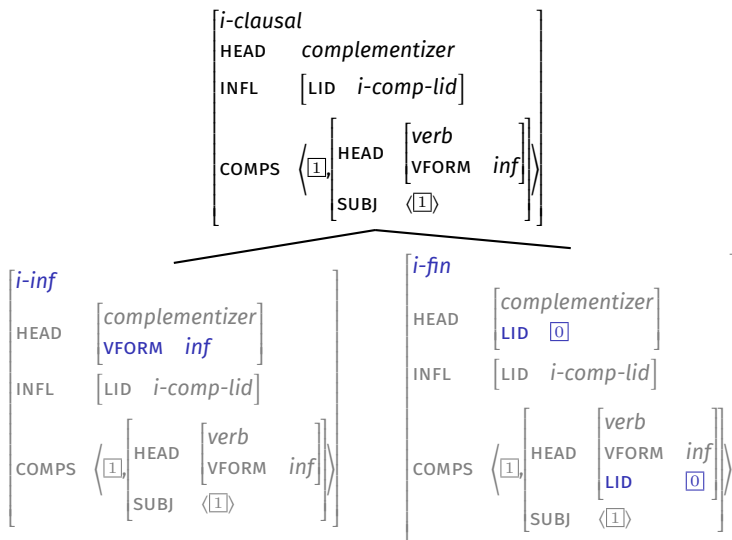
(41)



Finite *i*-clauses I

- ▶ We now want an account of finite *i*-clauses ensuring that:
 1. Their internal morphology and syntax is essentially the same as that of a nonfinite *i* clause.
 2. They fill a gap in a finite paradigm.
- ▶ Two aspects of the analysis:
 1. Split the lexical entry of complementizer *i* between what is common to the finite and nonfinite cases and what is different.
 2. Use a noncanonical interface statement to capture the paradigmatic role of finite *i*.

Finite *i*-clauses II



Finite *i*-clauses III

- ▶ Since finite *i* has distinct HEAD|LID and INFL|LID values, it must be licensed by a specific syntax-morphology interface statement.

$$(42) \left[\text{HEAD} \begin{array}{l} \text{VFORM } \textit{fin} \\ \text{STATUS } \textit{subord} \\ \text{TMA } \textit{past} \\ \text{POL } \textit{pos} \end{array} \right] \rightarrow \left[\begin{array}{l} \text{HEAD} \begin{array}{l} \textit{complementizer} \\ \text{AGR } \boxed{1} \end{array} \\ \text{INFL} \begin{array}{l} \text{LID } \textit{i-comp-lid} \\ \text{AGR } \boxed{1} \end{array} \end{array} \right]$$

- ▶ Licenses finite *i* only in past positive complement clauses.
- ▶ Pāṇinian strengthening now strengthens (35) to (43):

$$(43) \left(\neg \left[\text{HEAD} \begin{array}{l} \text{LID } \textit{bod-lid} \\ \text{VFORM } \textit{fin} \\ \text{STATUS } \textit{subord} \\ \text{TMA } \textit{pres} \end{array} \right] \wedge \neg \left[\text{HEAD} \begin{array}{l} \text{VFORM } \textit{fin} \\ \text{STATUS } \textit{subord} \\ \text{TMA } \textit{past} \\ \text{POL } \textit{pos} \end{array} \right] \right) \rightarrow \left[\begin{array}{l} \text{HEAD } \boxed{1} \\ \text{INFL } \boxed{1} \end{array} \right]$$

- ⇒ Synthetic forms are not licensed in past positive complement clauses.

Finite *i*-clauses IV

(40) Nonfinite *i*-clause

HEAD	[0]	complementizer LID <i>i-comp-lid</i> , VFORM <i>inf</i> , STATUS <i>subord</i>
COMPS		<[1,2]>
INFL	[0]	LID <i>i-comp-lid</i> ,...

|
i

CP[HEAD 0]

[1]NP



Elen

[2]VP

HEAD		LID <i>ddarllen-lid</i>
VFORM		<i>inf</i>
SUBJ		<[1]>
COMPS		<[3]>

|
ddarllen



y llyfr

(44) Finite *i*-clause

HEAD	[0]	complementizer LID [3] <i>mynd-lid</i> , VFORM <i>fin</i> , TMA <i>past</i> , STATUS <i>subord</i> , POL <i>pos</i> , AGR [4]
COMPS		<[1,2]>
INFL		LID <i>i-comp-lid</i> , AGR [4]

|
i

CP[HEAD 0]

[1]NP



Mayr

[2]VP

HEAD		LID [3]
VFORM		<i>inf</i>
SUBJ		<[1]>

|
find

Adv
|
adre'

Discussion

- ▶ The present analysis captures commonalities and differences between two kinds of noncanonical morphosyntax:
 - ▶ Finite *bod*-clauses use nonfinite morphology in a finite context.
 - ▶ Finite *i*-clauses use nonfinite morphology and nonfinite clausal syntax in a finite context.
- ▶ In both cases, the noncanonical character of the interface is captured by a discrepancy between syntactic (HEAD) and morphological (INFL) features.
- ▶ Finite *i*-clauses in addition are an instance of inflectional periphrasis: the conventionalized use of a syntactic construction to fill an inflectional paradigm (Ackerman and Webelhuth, 1998; Ackerman and Stump, 2004; Spencer, 2006; Brown et al., 2012).
- ▶ The present account differs from those of Bonami and Webelhuth (2013); Bonami and Samvelian (2015); Bonami (2015) by
 - ▶ implementing Pāṇinian competition in HPSG,
 - ▶ assuming a standard morphological component,
 - ▶ otherwise using straightforward HPSG syntax.

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