

**GENERALISING FUNCTIONAL CATEGORIES IN
LFG**

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Abstract

This paper aims to present a lexicalist analysis of verb placement variation found in Germanic and Romance languages. Unlike derivational approaches to syntax, Lexical Functional Grammar accounts for different phrase structure positions of finite verbs by base-generating them in functional heads. The present study proposes a framework that allows us to formulate the conditions that license finite verbs to bear a functional category status. Crucial in the analysis is the encoding patterns of person features in lexical entries and their paradigmatic organisation of the lexicon. I will further show that the current proposal can be supported by dialectal variation and diachronic change of verb placement.

1 Introduction

In most Germanic languages, finite verbs are placed in the second position (V2) in main clauses. (1) exemplifies the V2 structure in Yiddish, Icelandic, Danish and Swedish, in which the subject appears in the clause initial position and the finite verb follows it.

- (1) a. Max shikt nit avek dem brif.
M. sends not away the letter
'Max doesn't mail the letter.' (Yiddish)
- b. Jón keypti ekki bókina.
J. bought not the.book
'John didn't buy the book.' (Icelandic)
- c. Peter drikker ofte kaffe.
P. drinks often coffee
'Peter often drinks coffee.' (Danish)
- d. Johan köpte inte boken.
J. bought not the.book
'John didn't buy the book.' (Swedish) (cf. Rohrbacher, 1999, 12)

The clause initial position can be filled by a non-subject constituent in V2 clauses. When a non-subject constituent is placed in the clause initial position, the finite verb precedes the subject as shown in (2).

- (2) a. Dos bukh shik ikh avek.
the book send I away
'I am mailing the book.' (Yiddish)

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- b. Dette spørsmålet skjønte Jens ikke.
 this question understood J. not
 ‘This question John didn’t understand.’ (Norwegian)
- c. Igår köpte Lena en ny bok.
 yesterday bought L. a new book
 ‘Yesterday Lena bought a new book.’ (Swedish)

(Rohrbacher, 1999, 12–3)

In embedded clauses, on the other hand, Germanic languages exhibit variation with regard to the location of a finite verb. The clause-initial position is filled by the subject in all the languages under discussion, but the relative order between a finite verb and an adverb varies. In Icelandic and Yiddish, a finite verb immediately follows the subject and precedes an adverb as in (3). In Scandinavian languages and Faroese, on the other hand, a finite verb follows an adverb as in (4).¹

- (3) a. ... að Jón borðar oft tómata.
 that J. eats often tomatoes
 ‘... that John often eats tomatoes.’ (Icelandic)
- b. *... að Jón oft borðar tómata. (Icelandic)
- c. ... az Jonas est oft pomidorn.
 that J. eats often tomatoes (Yiddish)
- d. *... az Jonas oft est pomidorn. (Yiddish)

- (4) a. ... at Johan ofte spiser tomater.
 that J. often eats tomatoes (Danish)
- b. *... at Johan spiser ofte tomater. (Danish)
- c. ... at Jón ofta etur tomatir.
 that J. often eats tomatoes (Faroese)
- d. *... at Jón etur ofta tomatir. (Faroese)

(Vikner, 1997, 189)

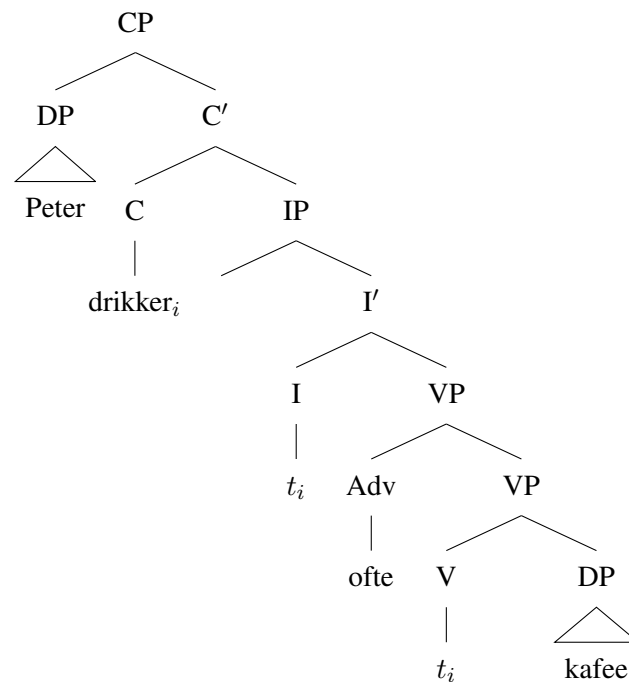
2 Capturing verb position variation

To capture the fact that a finite verb stays in the second position in main clauses and the clause initial position is occupied by various types of constituent, it is normally assumed in a derivational approach to syntax that the finite verb undergoes movement operations from V-to-I and I-to-C and lands in C position. Under this assumption, the clause-initial element is placed in Spec,CP preceding the finite verb as illustrated in (5) (cf. Holmberg and Platzack, 1995; Vikner, 1995).²

¹Faroese exhibits some exceptions. See section 5 for details.

²Travis (1991), Sells (2001) and Toivonen (2003) propose a different structure for subject initial V2 clauses, in which the finite verb is in I, not C, and the subject is in Spec,IP. Also, for ease of exposition, Spec,VP is omitted.

(5)



With regard to the embedded clause ordering, the relative order between a finite verb and an adverb in Icelandic and Yiddish is the same as that of French and Italian main clauses ((6) and (7)). The verb placement in languages like French and Italian is normally accounted for by postulating V-to-I movement in generative derivational analyses (cf. Emonds, 1978; Pollock, 1989), so by adopting the same assumption it has been proposed that finite verbs in Icelandic and Yiddish embedded clauses also undergo V-to-I movement. The reason that the verb does not move up to C in an embedded clause is attributed to the presence of a complementiser that occupies the C position, that is the complementiser blocks the verb from moving further up to C, as shown in (8).

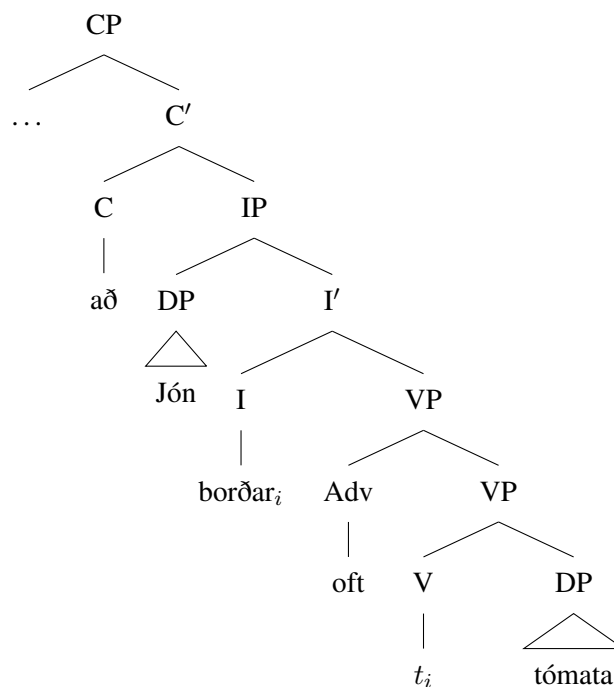
- (6) a. Jean embrasse souvent Marie.
J. kisses often M.
'John often kisses Mary.'
- b. *Jean souvent embrasse Marie.
J. often kisses M.
- c. Jean (ne) mange pas de chocolat.
J. (NEG) eats not of chocolate
'John doesn't eat chocolate.'
- d. *Jean (ne) pas mange de chocolat.
J. (NEG) not eats of chocolate (French)

(Pollock, 1989, 367)

- (7) a. Quel medico risolverà completamente i tuoi problemi.
 that doctor solve.FUT completely the your problems
 ‘That doctor will solve your problem completely.’
 b. Quel medico risolverà i tuoi problemi *completamente*.
 that doctor solve.FUT the your problem completely
 c. *Quel medico completamente risolverà i tuoi problemi.
 that doctor completely solve.FUT the your problem (Italian)

(Rohrbacher, 1999, 209)

(8)



In contrast, the relative order between the finite verbs and the adverbs in Scandinavian languages and Faroese in (4) suggests that those languages do not exhibit V-to-I movement. That is, unlike Icelandic and Yiddish, a finite verb follows an adverb in embedded clauses in those languages. Therefore, the question arises as to why those two types of Germanic languages place a finite verb in different positions in embedded clauses.

To resolve this puzzle, it has been pointed out that one of the notable differences between the two types of languages is the degree of richness of their verb agreement morphology. Table 1 illustrates the contrast between the verb inflectional paradigms in Yiddish, Icelandic and Danish. Yiddish and Icelandic clearly exhibit more morphological distinctions across different person number combinations, while Danish does not show any agreement morphology.

Some attempts have been made to relate rich agreement morphology and the presence of V-to-I movement. One of them can be stated as the so-called Rich

Yiddish <i>loyf-n</i> ‘run’		Icelandic <i>segj-a</i> ‘say’		Danish <i>høre</i> ‘heard’		
Sg	Pl	Sg	Pl	Sg	Pl	
1	loyf	loyf-n	segi	segj-um	hør-te	hør-te
2	loyf-st	loyf-t	segi-r	seg-ið	hør-te	hør-te
3	loyf-t	loyf-n	segi-r	segj-a	hør-te	hør-te

Table 1: Yiddish, Icelandic and Danish verb paradigms

Agreement Hypothesis as in (9).³

- (9) Rich Agreement Hypothesis:
 Rich agreement morphology induces V-to-I movement
 (Kosmeijer, 1986; Rohrbacher, 1999; Koenenman and Zeijlstra, 2010, 2012)

A more specific formulation is given by Rohrbacher (1999) as follows:

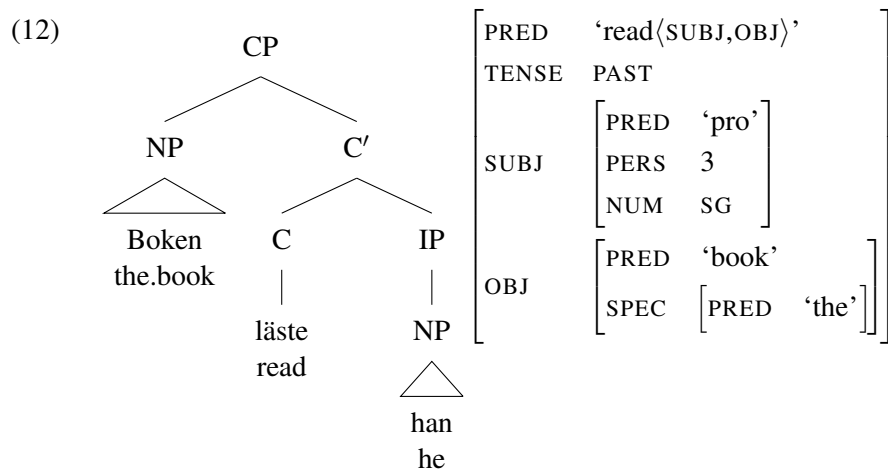
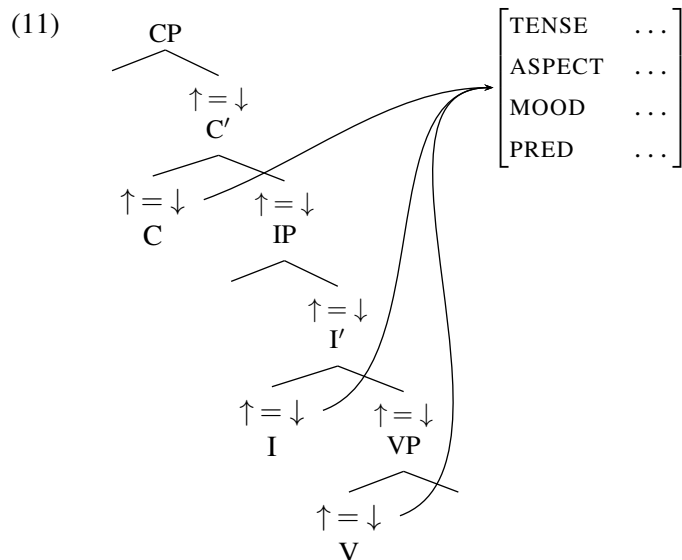
- (10) The Paradigm-Verb Raising Correlate:
 A language has V to I raising if and only if in at least one number of one
 tense of the regular verb paradigm(s), the person features [1ST] and [2ND]
 are both distinctively marked. (Rohrbacher, 1999, 116)

When a language satisfies the person feature distinctions stated in (10), that is the first person and second person forms are in distinct morphological shapes at least in one number, e.g., singular or plural, of one tense, e.g., past or present, I is qualified as what Rohrbacher calls a referential category. Under this assumption, lexically listed inflectional affixes are realised in referential I and a verb moves from V to I to form a fully inflected form there (Rohrbacher, 1999, 130).

Capturing variation in verb placement is also an issue for non-derivational frameworks. In Lexical Functional Grammar (LFG), c(onstituent)-structure is a purely surface representation of hierarchical relations and linear ordering of words and phrases, so all lexical items are base-generated and no derivational operation including movement is postulated. Hence, the category of finite verbs is often specified as I or C in their lexical entry, so that they can appear in a higher surface position in phrase structure. This approach has been attested in languages like Tagalog (Kroeger, 1993), Russian (King, 1995), Welsh (Sadler, 1997), Irish (Asudeh, 2012), Swedish (Sells, 2001; Toivonen, 2003), Icelandic (Sells, 2003, 2005), European Portuguese (Luís and Otaguro, 2004, 2005, 2011) and many others. Since functional heads are mapped onto the same level of f(unctional)-structure as their lexical head (Bresnan et al., 2016, 105-7), TENSE, ASPECT, MOOD and PRED features as well as agreement features specified in the verb’s lexical entry are contributed to the same f-structure regardless of whether the verb is located in V, I or

³Bobaljik (1997, 2002) and Bobaljik and Thráinsson (1998) reject the direct causal relation between agreement morphology and verb movement. Instead, they argue that the movement is induced by feature checking for the split-Infl head, Agr and T, and the rich agreement morphology is a result of morphological realisation of those multiple functional heads. I do not evaluate those two competing approaches in this paper due to space limitations.

C in c-structure, as schematised in (11). In the Swedish main clause V2 structure in (12), for instance, the finite verb is base-generated in C and the IP only consists of Spec, which is filled by the subject NP, *han* (cf. Toivonen, 2003, 12).



Despite the widespread use of functional categories in the LFG literature, there is not much discussion about the lexical properties of those categories. This paper, by focusing on the variation in verb placement in different languages, aims to uncover the correlation between morphological properties of finite verbs and their categorial status in syntax.

3 Defining richness

The verb agreement features are lexically specified in a verb's lexical entry in LFG. The third singular verb in the present tense in English, for example, can be encoded

as in (13), which states that the verb requires its subject to have attribute-value pairs, $\langle \text{PERS}, 3 \rangle$ and $\langle \text{NUM}, \text{SG} \rangle$ in f-structure.⁴

- (13) *writes* V (↑ PRED) = ‘write⟨SUBJ,OBJ⟩’
 (↑ TENSE) = PRES
 (↑ SUBJ PERS) =_c 3
 (↑ SUBJ NUM) =_c SG

In (13), the person feature is specified by using an atomic value, 3. To formulate more fine-grained feature encoding, I adopt a Boolean-valued feature system in this paper (cf. Dalrymple et al., 2009; Sadler, 2011).⁵ Under that system, the person features are defined as follows.⁶

- (14) 1st: (↑ PERS 1) =_c +
 (↑ PERS 2) =_c –
 2nd: (↑ PERS 1) =_c –
 (↑ PERS 2) =_c +
 3rd: (↑ PERS 1) =_c –
 (↑ PERS 2) =_c –

Further, I assume that lexical items are paradigmatically organised, so that inflectional forms of the same lexeme compete with each other and the most narrowly specified entry participates in syntax (Paninian Principle or Elsewhere condition) (Anderson 1969; see also Andrews 1982, 1990; Sadler and Spencer 2001; Otoguro 2006, 2014). The upshot of this assumption is that lexical items are not necessarily fully specified for inflectional features, namely syncretic forms have less specific person features than unique forms (see below).

By adopting the Boolean-valued person features and paradigmatic organisation of inflected forms, the lexical entries for Icelandic and Yiddish verbs in Table 1 are formulated as in (15) and (16) respectively.⁷

- (15) Icelandic *segja* ‘say’

⁴The agreement features can be specified either by constraining equations (=_c) or defining equations (=).

⁵For different feature encoding, ? use a set value for PERS that consists of S(peaker) and H(earer) as its members.

⁶If a language distinguishes the exclusive first person and the inclusive first person, the inclusive first person is encoded by assigning the positive value for both (↑ PERS 1) and (↑ PERS 2). I assume that languages lacking that distinction have the negative value for the second person feature.

⁷For ease of exposition, PRED is omitted in the entries throughout this paper.

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>a. <i>segi</i> (↑ SUBJ PERS 1) =_c +
 (↑ SUBJ PERS 2) =_c –
 (↑ SUBJ NUM) =_c SG
 (↑ TENSE) = PRES</p> <p>b. <i>segir</i> (↑ SUBJ PERS 1) =_c –
 (↑ SUBJ NUM) =_c SG
 (↑ TENSE) = PRES</p> <p>c. <i>segjum</i> (↑ SUBJ PERS 1) =_c +
 (↑ SUBJ PERS 2) =_c –
 (↑ SUBJ NUM) =_c PL
 (↑ TENSE) = PRES</p> | <p>d. <i>segið</i> (↑ SUBJ PERS 1) =_c –
 (↑ SUBJ PERS 2) =_c +
 (↑ SUBJ NUM) =_c PL
 (↑ TENSE) = PRES</p> <p>e. <i>segia</i> (↑ SUBJ PERS 1) =_c –
 (↑ SUBJ PERS 2) =_c –
 (↑ SUBJ NUM) =_c PL
 (↑ TENSE) = PRES</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

(16) Yiddish *loyn* ‘run’

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>a. <i>loyn</i> (↑ SUBJ PERS 1) =_c +
 (↑ SUBJ PERS 2) =_c –
 (↑ SUBJ NUM) =_c SG
 (↑ TENSE) = PRES</p> <p>b. <i>loynst</i> (↑ SUBJ PERS 1) =_c –
 (↑ SUBJ PERS 2) =_c +
 (↑ SUBJ NUM) =_c SG
 (↑ TENSE) = PRES</p> | <p>c. <i>loyn</i> (↑ SUBJ PERS 1) =_c –
 (↑ TENSE) = PRES</p> <p>d. <i>loyn</i> (↑ SUBJ PERS 2) =_c –
 (↑ SUBJ NUM) =_c PL
 (↑ TENSE) = PRES</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Since the second singular form and third singular form are syncretic in Icelandic, *sagir* only specifies the value of the first person as –, leaving the second person feature unspecified. All the other forms are fully specific for first and second person features. Following Rohrbacher’s insight stated in (10), I assume that the paradigmatic contrast in person in a language’s verb inflectional paradigm, i.e. ⟨1, +⟩, ⟨2, –⟩ and ⟨1, –⟩, ⟨2, +⟩, in at least one number of one tense is the condition for finite verbs to be qualified as I. Since the Icelandic verb paradigm (15) satisfies this condition, namely the first person and the second person forms are distinct in the plural in the present tense ((15c) and (15d)), finite verbs are all categorised as I. Similarly, the Yiddish verb paradigm (16) exhibits a full person contrast in the singular of the present tense as shown in (16a) and (16b), so their category is also specified as I.

If we apply the same feature system to finite verbs in Danish in Table 1, however, it has only one entry lacking any specification for person as in (17). As a result, they are categorised as V, not I.

- (17) *hørte* (↑ TENSE) = PRES

This approach uniformly captures whether a finite verb in a given language appears in V or I in syntax. Crucially, it is determined lexically and paradigmatically in the language’s lexicon.

4 Dialectal variation

It has been reported that the dialectal variation of person markings is found in Hallingmålet in Norway and Älvdalsmålet in Sweden as shown in Table 2.

Hallingmålet (Norway)		Älvdalsmålet (Sweden)	
<i>høyra</i> ‘hear’		<i>höra</i> ‘hear’	
Sg	Pl	Sg	Pl
1	høyre-e høyre-æ	hör-er	hör-um
2	høyre-e høyre-æ	hör-er	hör-ir
3	høyre-e høyre-æ	hör-er	hör-a

Table 2: Hallingmålet and Älvdalsmålet verb paradigms (Vikner, 1997, 193)

Although the singular forms are syncretic across different person features in both dialects, Älvdalsmålet has distinct forms for all three person features in the plural. The lexical entries for the verbs in those two dialects are given in (18) and (19). Only the latter exhibits a full person contrast, i.e. (19b) and (19c), which predicts that finite verbs in Älvdalsmålet are I, not V. The relative order between a finite verb and a negation in (21) supports this prediction. Note that (20) confirms that, unlike the Älvdalsmålet dialect, finite verbs in Hallingmålet are V, not I, as predicted from (18).

(18) Hallingmålet *høyra* ‘hear’

- a. *høyre* (↑ SUBJ NUM) =_c SG
(↑ TENSE) = PRES
- b. *høyra* (↑ SUBJ NUM) =_c PL
(↑ TENSE) = PRES

(19) Älvdalsmålet *höra* ‘hear’

- a. *hörer* (↑ SUBJ NUM) =_c SG
(↑ TENSE) = PRES
- b. *hörum* (↑ SUBJ PERS 1) =_c +
(↑ SUBJ PERS 2) =_c –
(↑ SUBJ NUM) =_c PL
(↑ TENSE) = PRES
- c. *hörir* (↑ SUBJ PERS 1) =_c –
(↑ SUBJ PERS 2) =_c +
(↑ SUBJ NUM) =_c PL
(↑ TENSE) = PRES
- d. *höra* (↑ SUBJ PERS 1) =_c –
(↑ SUBJ PERS 2) =_c –
(↑ SUBJ NUM) =_c PL
(↑ TENSE) = PRES

- (20) a. *... at me kjøpæ ikkje bokje.
that we buy not the.book
‘... that we don’t buy the book.’
- b. ... at me ikkje kjøpæ bokje.
that we not buy the.book (Hallingmålet)

- ‘... that we don’t buy the book.’
- (21) a. Ba fo ðyæ at ig wild int fy om.
but because that I wanted not follow him
‘Just because we didn’t want to follow him.’
- b. Ig i red an kumb inte.
I am afraid he comes not (Älvdalsmålet)
(Rohrbacher 1999, 118; Bobaljik 2002, 136–7)

Another intriguing variation is found between European Portuguese (EP) and Colloquial Brazilian Portuguese (BP). As Table 3 shows, BP exhibits poorer agreement morphology than EP. In Colloquial BP, the endings of second person singular and first person plural are lost, which makes them syncretic to the second person singular form. Further, while the second person plural and the third person plural are distinct in EP, the former becomes syncretic with the latter in Colloquial BP.

EP			Colloquial BP	
	Sg	Pl	Sg	Pl
1	falo	falamos	falo	fala
2	falas	falais	fala	falam
3	fala	falam	fala	falam

Table 3: Paradigms of European and Colloquial Brazilian Portuguese verb *falar* ‘speak’ (Roberts, 2007, 338)

The changes this simplification of inflectional patterns causes are large enough to create a category difference of finite verbs between those two dialects of Portuguese. The lexical entries in (22) and (23) illustrate that EP has unique entries for all person and number combinations, which means that it has a full person feature contrast, whereas Colloquial BP lacks an item with $\langle 1, - \rangle$, $\langle 2, + \rangle$ specification.

(22) EP *falar* ‘speak’

- | | | | |
|-----------------|-------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|
| a. <i>falo</i> | (↑ SUBJ PERS 1) = +
(↑ SUBJ PERS 2) = –
(↑ SUBJ NUM) = SG
(↑ TENSE) = PRES | d. <i>falamos</i> | (↑ SUBJ PERS 1) = +
(↑ SUBJ PERS 2) = –
(↑ SUBJ NUM) = PL
(↑ TENSE) = PRES |
| b. <i>falas</i> | (↑ SUBJ PERS 1) = –
(↑ SUBJ PERS 2) = +
(↑ SUBJ NUM) = SG
(↑ TENSE) = PRES | e. <i>falais</i> | (↑ SUBJ PERS 1) = –
(↑ SUBJ PERS 2) = +
(↑ SUBJ NUM) = PL
(↑ TENSE) = PRES |
| c. <i>fala</i> | (↑ SUBJ PERS 1) = –
(↑ SUBJ PERS 2) = –
(↑ SUBJ NUM) = SG
(↑ TENSE) = PRES | f. <i>falam</i> | (↑ SUBJ PERS 1) = –
(↑ SUBJ PERS 2) = –
(↑ SUBJ NUM) = PL
(↑ TENSE) = PRES |

(23) BP *falar* ‘speak’

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| <p>a. <i>falo</i> (↑ SUBJ PERS 1) = +
 (↑ SUBJ PERS 2) = –
 (↑ SUBJ NUM) = SG
 (↑ TENSE) = PRES</p> | <p>c. <i>falam</i> (↑ SUBJ PERS 1) = –
 (↑ SUBJ NUM) = PL
 (↑ TENSE) = PRES</p> |
| <p>b. <i>fala</i> (↑ TENSE) = PRES</p> | |

Those entries suggest that finite verbs in EP are I while those in Colloquial BP are V, and careful observation of the data reveals that the lexical verbs in Colloquial BP stay in V whereas those in EP are located in a higher functional head (Rohrbacher, 1999; Luís and Otaguro, 2012).

Firstly, the finite verb position in EP can be identified by positions of pronominal clitics. EP proclitics attach to a finite verb regardless of whether it is an auxiliary verb or a lexical verb as shown in (24). If the placement of proclitics is consistent in those examples, the auxiliary, *vais*, in (24a) and the lexical verb, *disseram*, in (24b) are both located in I and host the preceding proclitics, *nos* and *me* respectively.

- (24) a. Todas as crianças nos disseram a verdade.
 all.PL.F the children 1.PL.DAT said the truth
 ‘All the children told us the truth.’ (EP)
- b. Tu não me vais esquecer.
 2.SG not 1.SG.ACC goes forget
 ‘You will not forget me.’ (EP)

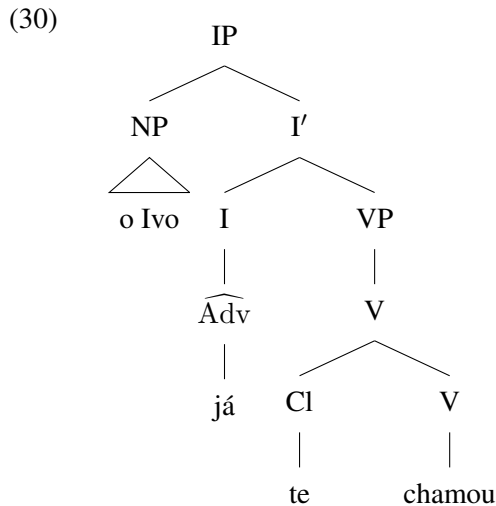
BP proclitics, on the other hand, only attach to a lexical (thematic) verb as shown in (25), so the proclitic appears between the finite auxiliary and the non-finite lexical verb. Under the assumption that the finite auxiliary, *vai*, is in I and the non-finite lexical verb, *esquecer*, is in V, (25) suggests that proclitics in BP are adjoined to V, not I.

- (25) Você vai me esquecer.
 2.SG goes 1.SG.ACC forget
 ‘You will forget me.’ (BP)

Secondly, to identify the phrase structure position of finite lexical verbs in BP, the location of certain types of adverbs can be used. EP allows a small set of adverbial words such as *ja* ‘already’, *ainda* ‘still’ and *não* ‘not’ to intervene between the clitic and the host as in (26). In (26a), *já* appears between the clitic, *a*, and the host verb, *tens*. (26b) involves the intervention of two adverbs, *ainda* and *não*, between the clitic, *lho*, and the host, *disse*.

- (26) a. ...embora eu saiba que a já tens em grande
 ...although I know that 3.SG.F.ACC already have in big
 dose.
 position

- b. Você já me perguntou?
 2.SG already 1.SG.ACC asked
 ‘Have you already asked me?’ (BP) (Luís and Otoguro, 2012)



5 Diachronic change

The present proposal also captures the correlation between diachronic change from a rich morphology to a poor morphology and its effect on verb placement. For instance, the verb inflection in Swedish is very defective like other mainland Scandinavian languages, and finite verbs are placed in V in embedded clauses. However, Old Swedish exhibits a richer inflectional pattern in plural as shown in Table 4. The verb’s lexical entries for the inflected forms in Modern Swedish and Old Swedish are given in (31) and (32) respectively. The entries for Old Swedish exhibit a full person contrast, i.e. (32b) and (32c), and predict that the language places a finite verb in I, and this prediction is borne out as shown in (33) where *sivngær* precedes the negation, *ægh*.

Modern Swedish		Old Swedish	
<i>bita</i> ‘bite’		<i>älska</i> ‘love’	
Sg	Pl	Sg	Pl
1	biter biter	älsk-ar	älsk-um
2	biter biter	älsk-ar	älsk-in
3	biter biter	älsk-ar	älsk-a

Table 4: Modern and Old Swedish verb paradigms (Koenen and Zeijlstra, 2010, 2012)

- (31) Modern Swedish *bita* ‘bite’
biter (↑ TENSE) = PRES

(32) Old Swedish *älska* ‘love’

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>a. <i>älskar</i> (↑ SUBJ NUM) =_c SG
(↑ TENSE) = PRES</p> | <p>c. <i>älskin</i> (↑ SUBJ PERS 1) =_c –
(↑ SUBJ PERS 2) =_c +
(↑ SUBJ NUM) =_c PL
(↑ TENSE) = PRES</p> |
| <p>b. <i>älskum</i> (↑ SUBJ PERS 1) =_c +
(↑ SUBJ PERS 2) =_c –
(↑ SUBJ NUM) =_c PL
(↑ TENSE) = PRES</p> | <p>d. <i>älska</i> (↑ SUBJ PERS 1) =_c –
(↑ SUBJ PERS 2) =_c –
(↑ SUBJ NUM) =_c PL
(↑ TENSE) = PRES</p> |

(33) ... æn han sivngær ægh thigianda messu.
if he sings not silent mass
‘...if he doesn’t sing silent mass.’

(Rohrbacher, 1999, 171)

Interestingly, it has been noted that the variety of Swedish spoken in Kronoby, Finland and the Tromsø dialect of Norwegian place finite verbs in I as shown in the ordering between the finite verbs and the negations in (34) and (35), despite their loss of rich inflectional morphology—their verb inflection is as defective as Standard Swedish and Norwegian. I argue that those examples support the lexical approach to the correlation between the verbs’ inflectional morphology and their phrase structure positions. As verb’s inflectional morphology becomes defective and the person feature contrast has been lost across the various verbs’ paradigms, finite verbs become no longer qualified as I. And gradually, the finite verb’s category has shifted from I to V. Hence, Kronoby Swedish and Tromsø Norwegian are in the transition stage where the loss of a person feature contrast in verbs’ inflectional morphology has been complete, but it has not changed the entire verb category from I to V in the lexicon yet.

(34) He va bra et an tsöfft int bootsen.
it was good that he bought not the.book
‘It was good that he didn’t buy the book.’ (Kronoby Swedish)

(35) ... før det at han Nilsen kom ikkje.
because that he N. came not
‘...because Nilsen didn’t come.’ (Tromsø Norwegian)

(Rohrbacher 1999:118; Bobaljik 2002:139)

In this respect, Faroese shows another interesting property. Its verb inflectional morphology is not fully syncretic, but it retains a unique form for first person singular as shown in Table 5. The lexical entries for those forms are given in (36). Since they do not show a full person feature contrast, we would expect that Faroese verbs

are located in V, not I. However, as (37) illustrates, the language exhibits an intra- or inter-speaker variation with regard to the verb placement: that is a finite verb, *hevði*, can either precede or follow a negation, *ikki*, which suggests that the finite verb can appear either in V or I (see Bobaljik (2002, 140-1) for details). Since Faroese inflectional morphology is not as poor as the mainland Scandinavian languages such as Swedish, Danish and Norwegian, we can assume that it has not completed a category shift from V to I in the lexicon. Therefore, the variation in verb placement among speakers can be observed.

Faroese		
<i>kasta</i> ‘throw’		
	Sg	Pl
1	<i>kasti</i>	<i>kasta</i>
2	<i>kastar</i>	<i>kasta</i>
3	<i>kastar</i>	<i>kasta</i>

Table 5: Faroese verb paradigm (Bobaljik, 2002, 141)

(36) Faroese *kasta* ‘throw’

- a. *kasti* (↑ SUBJ PERS 1) =_c + (↑ SUBJ PERS 2) =_c – (↑ SUBJ NUM) =_c SG (↑ TENSE) = PRES
- c. *kasta* (↑ SUBJ NUM) =_c PL (↑ TENSE) = PRES
- b. *kastar* (↑ SUBJ PERS 1) =_c – (↑ SUBJ NUM) =_c SG (↑ TENSE) = PRES

- (37) a. Tey nýttu fleiri orð, sum hon hevði ikki hoyrt fyrr.
they used several words which he had not heard before
- b. Tey nýttu fleiri orð, sum hon ikki hevði hoyrt fyrr.
they used several words which he not had heard before
‘They used several words which he had not heard before.’

(Bobaljik, 2002, 140)

A similar situation is found in Early Modern English (ENE). In Middle English (ME), a finite verb is thought to be located in I and precedes a negation as shown in (38). According to Kroch (1989) and Roberts (1993), the change of verb placement took place in the later 16th and the 17th centuries as illustrated in (39). The loss of rich agreement morphology in ENE, however, took place much earlier, around 1500, as shown in Table 6. Due to the loss of first person singular ending in ENE, the paradigm no longer exhibits a full person feature contrast, namely the first person singular form became identical to the infinitive form, *cast*. Thus, it took a certain amount of time after the loss of rich inflectional morphology to complete

the transition of the entire verb category from V to I in the lexicon.⁸

- (38) a. By thy thanks I set not a straw. (Koeneman and Zeijlstra, 2010)
 b. if I gave not this accompt to you. (Roberts, 2007, 57)
- (39) a. ...he that filches from me my good name robs me of that which not
 enriches him.
 b. Safe on this ground we not fear today to tempt your laughter by our
 rustic play. (Kroch, 1989, 235)

ME <i>cast</i>			ENE <i>cast</i>	
	Sg	Pl	Sg	Pl
1	caste	casten	cast	caste
2	castest	casten	castest	caste
3	casteth	casten	casteth	caste

Table 6: Verb paradigms in Middle English and Early Modern English (cf. Roberts, 1993, 257)

6 Conclusion

The present approach shows that lexical and morphological properties of finite verbs are determining factors for their phrase structure position in syntax. More specifically, the morphological distinction between the first person and the second person features is crucial as discussed in the literature. A Boolean person feature system and paradigmatic organisation of lexical items in the lexicon proposed in this paper allow us to capture such a correlation between the person feature contrast and the verb's categorial properties, i.e. contrast in person features, licenses the verb's categorial status as a functional head. This lexical approach to the interplay between inflectional morphology and verb placement receives further support from the data found in dialectal variation and diachronic change. The analysis illustrates that verb placement can be more naturally accounted for by postulating gradual change of properties in the lexical items, rather than the presence or absence of derivational operations in syntax.

The current proposal provides a framework that can be extended to different types of verb placement in functional categories. As mentioned earlier, Germanic V2 structure involves positing of a finite verb in C. Since CP is a higher projection, which often encodes a clausal level features like mood and modality, different feature encoding must be taken into consideration.

⁸Vikner (1997) shows that a similar time gap between the morphological change and the verb placement change is observed in Middle Danish.

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