On the licensing of finite T and finite *v*

1. Introduction

This paper is about the interplay between T, *v*/V, and DP that occurs in the derivation of a finite sentence of the SVO type, and it deals mainly with two widely-known mechanisms: on the one hand, V-to-T movement, and on the other hand, subject-verb agreement. As regards V-to-T movement, I defend the view that V-to-T could or should be analysed as a core syntax phenomenon, and that it has a morphological trigger,. As regards subject-verb agreement, I argue that there is advantage or no justification why φ–features, that is, person and/or number features, must be valued by T, and that they are to be valued exclusively by *v*.

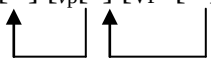
2. On V-to-T

The seminal issue of verb movement to T(ense), or more properly in its origin to I(nflection), began with generative works like Emonds (1978), Roberts (1985), or Kosmeijer (1986), and also very importantly Pollock (1989), which came to highlight the fact that there are languages where the finite verb occupies the position before such elements as negation or also certain adverbs like frequency adverbs in the phonetic string, whereas in others it is negation or the adverbs in question that precede the finite verb. More specifically, within the Indo-European familiy, Romance languages were analysed as V-moving languages generally speaking (see Spanish or French in (1a, b) and the labelled bracketing in (1c) showing the relevant movements) and Germanic languages, on the other hand, were analysed as ones where the finite verb stays put in situ within the VP, or more precisely in later minimalist accounts, on the little *v* head that takes VP as its complement (see English or Swedish in (2a, b) and the notation in (2c)).

(1) a. Juan va siempre al colegio
John goes always to-the school
'John always goes to school'

b. Jean mange pas du chocolat / Jean embrasse souvent Marie
John eats not chocolate John kisses often Mary
'John doesn´t eat chocolate' / 'John often kisses Mary'

c. [$_{TP}$[T] [$_{vp}$[*v*] [$_{VP}$ [V]...]]]



(2) a. John <u>always</u> <u>goes</u> to school / John <u>does</u> <u>not</u> <u>love</u> Mary

b. om hom <u>inte</u> <u>köpte</u> boken

whether she not bought book-the

'whether she didn´t buy the book'

c.[$_{TP}$[T] [$_{vp}$ [*v*] [$_{VP}$[V]...]]]

On the other hand, highly-influential works mostly within the diachronic literature came to defend the theory that it is *rich morphology* that causes the raising of the verb to the T head: see e.g. Roberts (1985, 1993), Platzack and Holmberg (1989), Rohrbacher (1994, 1999), Vikner (1997).

It is well known that Pollock (1989) postulated the so-called *split-I analysis*, which establishes that IP consists of an Agr(eement)P projection on the one hand, and a T(ense)P projection on the other. This means that agreement or φ–features, that is, person and/or number features as exhibited by a finite verb, can be structurally differentiated from other features such as tense or τ–features. Most interestingly, those works mentioned above that analyse the raising of the verb to Inflection put the focus initially on agreement morphology proper, that is, on richness in person and/or number features, and soon the type and/or number of *tenses* where such φ–morphology must show in order for V-to-T to apply is included in the corresponding equations. A widely-known example of this is Vikner (1997), who postulates the principle in (8) below.

(3) V-to-T movement applies if and only if person morphology is found in all tenses

Now, it so seems to be the case that all these generalisations fail to account for the language-type in (4).

(4) Languages with *rich φ–features in all tenses* but *no V-to-T*, as has been seriously suggested to be the case with German or also with Icelandic in the recent literature (Vikner 2001, 2005; Wiklund et al. 2007)

The rejection of the idea that rich morphology can be the cause of V-to-T, or that morphological segments in general can drive syntax, is reflected in minimalist syntactic

theory of the first decade or so, specifically in Chomsky (1995) and later in the *Agree* framework of Chomsky (2000, 2001), when it is postulated that T has a *V-feature* to license against the verb itself, and that such a feature can be *strong* or *weak* in an abstract sense, that is, without any morphological correlate. In case it is strong, there will be V-to-T movement, and if T´s V-feature is weak, no V-to-T will apply. It is of course well known that Chomsky (2001) also contains the theory that head movement should belong exclusively to the PF component.

I would like to argue that V-to-T can be accounted for in terms of a V-feature on T, or more specifically a *v*-feature, but one with a morphological correlate. I base this on the fact that there appears to be a kind of morphological richness in Romance languages that is absent not only from English, which has overall scarce morphology, but also from the Germanic languages in (4). I´m referring to the segment in the morphological build-up of verbs that is called thematic or stem vowel.

(5) root + stem vowel + τ–feature and/or φ–feature endings

stem

Asumming a morpheme division as in (5), *verb stem* can be defined as the morphological segment that results from the union of the so-called *verbal root* on the one hand and the *stem or thematic vowel* on the other.

The stem cannot be distinguished from the root for the verbal forms of a language like e.g. English or also for a large number of forms in other Germanic languages like German, Icelandic, or Norwegian, in the sense that these lack in any discrete morphological segment that can be identified as a thematic vowel. Such languages as German or Icelandic exhibit indeed much richer verbal morphology than a language like English, since in German or Icelandic agreement markers and tense markers (corresponding, respectively, to φ–features and τ–features) co-occur as distinct morphological segments for manifold verbal forms, whereas in English the segment corresponding to the endings in (5) is reduced to /s/ for the 3rd psn sg in the present, and otherwise /d/ for all persons in the past. Importantly, in addition to the relative richness in tense and/or agreement markers, there is in a language like e.g. German a minority of verbs that could be characterised as *stem-changing* verbs, due to vowel alternation in the segment to which τ–features and φ–features are added:

compare 2nd and 3rd psn sg on the one hand and remaining persons on the other hand for a verb like *fahren* 'to travel' or a verb like *sprechen* 'to speak' in the present in (6b) below, as opposed to the paradigm of *kaufen* 'to buy' in (6a), where no such variation occurs. Also, certain groups of verbs in Icelandic or Norwegian feature indeed a *stem vowel* that is overtly distinguishable: note the front stem diphthong in the paradigm for the present and past tense of an Icelandic verb like *beina* 'to direct, aim' in (7b) below, as opposed to the back stem vowel of *kasta* 'to know' in (7b).

(6) a. German - Indicative mood

kaufen 'to buy'

	Present	Past
1 psn sg	kaufe	kaufte
2 psn sg	kaufst	kauftest
3 psn sg	kauft	kaufte
1 psn pl	kaufen	kauften
2 psn pl	kauft	kauftet
3 psn pl	kaufen	kauften

b. German – Indicative mood

fahren 'to travel'/sprechen 'to speak'

	Present
1 psn sg	fahre / spreche
2 psn sg	fährst / sprichst
3 psn sg	fährt / spricht
1 psn pl	fahren / sprechen
2 psn pl	fahrt /sprecht
3 psn pl	fahren /sprechen

(7) a. Icelandic – Indicative mood

kasta ' to throw'

	Present	Past
1 psn sg	kasta	kastaði
2 psn sg	kastar	kastaðir
3 psn sg	kastar	kastaði
1 psn pl	kōstum	kōstuðum
2 psn pl	kastið	kōstuðuð
3 psn pl	kasta	kōstuðu

b. Icelandic – Indicative mood

beina 'to direct, aim'

	Present	Past
1 psn sg	beina	beindi
2 psn sg	beinir	beindir
3 psn sg	beinir	beindi
1 psn pl	beinum	beindum
2 psn pl	beinið	beinduð
3 psn pl	beina	beindu

In addition to the fact that the verbs in a language like (Modern) German cannot be said to be grouped in a systematic way into stem classes, the crucial aspect to highlight in relation to the German paradigms and the Icelandic paradigms in (6a) vs. (6b) and (7a) vs. (7b), respectively, is that the observed differences (that is, vowel mutation in 2nd and 3rd psn sg in (6b), or back vs. front stem vowel in (7)) do not have an effect upon the endings for the various person slots: all endings are identical, except for the allomorphic variation /ð/–/d/ in the past of (7a) vs. (7b). This way, learning what the pattern is for one verb in these languages appears to be enough to conjugate the vast majority of verbs.

By contrast with German or Icelandic, the verbal paradigms of such languages as Spanish, Portuguese, or Italian, that is, languages that are unambiguously characterised as V-moving languages, are ones where a change in the stem vowel results in uniform alterations of tense and/or agreement endings throughout the whole paradigm. Now, such

morphological complication, which is shown in (8a) below for the three classes of (regular) verbs in Spanish, namely the *–ar* class, the *–er* class and the *–ir* class, and in (8b) for the *–are*, *–ere*, and *–ire* class in Italian, and which can similarly be found in Portuguese is significantly absent from the verbal paradigms of German or Icelandic, and of course from those of English: it is this kind of morphological alteration that I would like to defend is the cause of the V-to-T phenomenon. For reasons of space, only three tenses are illustrated.

(8) a. Spanish – Indicative mood

cantar 'to sing' (*-ar* class)

	Present	Past	Imperfect
1 psn sg	canto	canté	cantaba
2 psn sg	cantas	cantaste	cantabas
3 psn sg	canta	cantó	cantaba
1 psn pl	cantamos	cantamos	cantábamos
2 psn pl	cantáis	cantasteis	cantabais
3 psn pl	cantan	cantaron	cantaban

temer 'to fear' (*-er* class)

	Present	Past	Imperfect
1 psn sg	temo	temí	temía
2 psn sg	temes	temiste	temías
3 psn sg	teme	temió	temía
1 psn pl	tememos	temimos	temíamos
2 psn pl	teméis	temisteis	temíais
3 psn pl	temen	temieron	temían

partir 'to break, cut' (*-ir* class)

	Present	Past	Imperfect
1 psn sg	parto	partí	partía
2 psn sg	partes	partiste	partías
3 psn sg	parte	partió	partía
1 psn pl	partimos	partimos	partíamos
2 psn pl	partís	partisteis	partíais
3 psn pl	parten	partieron	partían

b. Italian – Indicative mood

amare 'to love' (*-are* class)

	Present	Past	Imperfect
1 psn sg	amo	amai	amavo
2 psn sg	ami	amasti	amavi
3 psn sg	ama	amó	amava
1 psn pl	amiamo	amammo	amavamo
2 psn pl	amate	amaste	amavate
3 psn pl	amano	amarono	amavano

temere 'to fear' (*-ere* class)

	Present	Past	Imperfect
1 psn sg	temo	temei/temetti	temevo

2 psn sg	temi	temesti	temevi
3 psn sg	teme	temé/temette	temeva
1 psn pl	temiamo	tememmo	temevamo
2 psn pl	temete	temeste	temevate
3 psn pl	temono	temerono/ temettero	temevano

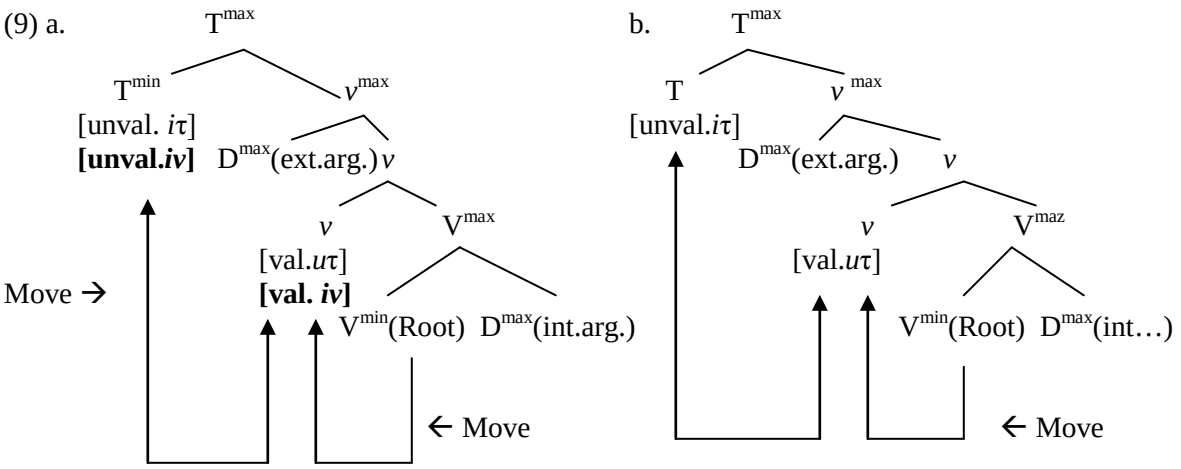
capire ‘to understand’ (-*ire* class)

	Present	Past	Imperfect
1 psn sg	capisco	capii	capivo
2 psn sg	capisci	capisti	capivi
3 psn sg	capisce	capi	capiva
1 psn pl	capiamo	capimmo	capivamo
2 psn pl	capite	capiste	capivate
3 psn pl	capiscono	capirono	capivano

We can see that the endings for all persons in the present and/or past tenses are the same in (6) and (7), irrespective of whether it is one verb class or another, a situation that is not to be found in (8). In Spanish (8a), not only does the stem vowel change e.g. from /a/ to /e/ in the present tense for verbs in /ar/ or /er/ respectively, as could be expected. In addition, the stem vowel in the simple past for the /er/ class is /i/ while the corresponding stem vowel for the /ar/ class varies for each person (*canté*, *cantaste*, *cantó*, *cantamos*, etc.); or also the imperfect for the /ar/ class features a bilabial plosive (*canta<u>b</u>a*,…), which is not the case at all for the /er/ or the /ir/ class; or also, the /ir/ class coincides with the /er/ class in the vocalism for all persons in the simple past and imperfect but not so in the present –note the form *part<u>i</u>mos* ‘we cut’ vs. *tem<u>e</u>mos* ‘we fear’, or *part<u>í</u>s* ‘you cut’ vs. *tem<u>éi</u>s* ‘you fear’.

Whereas in German or Icelandic knowing the pattern for one verb entails knowing the pattern for most verbs, in a language like Spanish or in one like Italian it is necessary to know the pattern for *each verb class* featuring a *distinct stem vowel*. The hypothesis that I would like to propose is for the computation of features of verbal forms to be more complex or to take longer in Spanish, Italian, or Portuguese than in German, Icelandic, Norwegian or English. More specifically, I would like to identify this kind of productive stem or thematic vowel that is found in Romance as a V-feature similar to the one postulated in Chomsky (1995) and also in Chomsky (2000, 2001), though I will refer to it as *v*-feature. The big difference between the two is, I am just suggesting, that the *v*-feature defended here has a morphological correlate.

The diagram in (9a) would correspond to a language where V-to-T applies and (9b) would correspond to a language with no V-to-T: the difference lies in the licensing of the v-feature in one as against the other.



Now, the order of computation would be as follows: V (a lexical root) is merged externally from the Lexicon/Numeration, with a (possible) DP object, and then little *v* is merged on top of VP with a (possible) DP agent, and T is merged on top of *v*P. T probes for *v*/V in order to value its *v*-feature and then it probes again *v*/V in order to value its τ–features. T also probes for the first DP it c-commands in order to value its D-feature (see below). So, T probes *v* in order to value features that T itself bears as interpretable features – once again, the *v*-feature and τ–features. As noted above, the proposal is for the computation of T´s v-feature to make the derivation of a finite verb more complex in Spanish or Italian, and in general in Romance, than in Germanic. As is well known, the possibility for a feature to be interpretable on an element but unvalued is defended by Pesetsky & Torrego (2001, 2004), who reject Chomsky´s biconditional.

While being an unvalued feature on T, the *v*-feature is interpretable on this very head, and also on *v*, a claim that I would like to relate to *aspectual values* being associated originally or historically with the various stem verb classes, though this is an aspect that I must work on further.

Biberauer & Roberts´ (2008/2010) argue that the trigger of V-to-T is the rich number of synthetic tenses (in V-moving languages as opposed to V-in situ languages). By contrast, the present approach is based on the inner build-up of verbal forms making up the

paradigms of a language. They argue that morphology plays a role in narrow syntax only in V-to-T languages. Further, their analysis appear to depend on a certain explanation of diachronic facts on which there is no consensus at all.

2. On subject agreement or the φ–features on *v*

I will now pass on to the analysis of subject agreement, that is, the analysis of the φ–features (person and/or number features) that appear on the finite verb and that match with those of the DP subject. The task is then now for the tree-diagrams in ( ) to be completed with the addition of the cited φ–features.

The central claim that I would like to make is that for T to value φ–features, as is the general assumption in syntactic theory, does not contribute to an explanatory account of how a finite verb is derived. In effect, the general theory is that T probes DP and values its φ–features, and then when T probes *v*, *v* values its φ–features (Chomsky 2000, 2001; Pesetsky & Torrego 2001, 2004). Now, I would like to note the following problems or redundancies with such an analysis:

(10) a. First of all, on an account where morphology is/can be part of narrow syntax, for languages with rich φ–features but no V-to-T (e.g. German) would cast serious doubts that T actually has φ–features.

b.The natural bearer of φ–features is DP, and such φ–features happen to be shown on the verb itself, just like τ–features, which emanate from T, are shown on the verb. So, there is no reason why it should not be *v* and only *v* the head that values φ–features in the *Agree* relation with DP. Of course, there is a difference between φ–features and e.g. τ–features which consists in that φ–features will eventually figure on two lexical items, namely on the subject and on the verb, and this circumstance is precisely what makes the null-subject parameter possible at all, that is, languages like Spanish or Italian, which allow for the subject not to be (overtly) present.

c. If the circumstance that T has φ–features to value is based on the typical movement operation which takes DP, which is the element having interpretable and valued φ–features, into the Spec of T, then it must be said that there exist manifold types of structures cross-linguistically where an element that does not exibit φ–features, or exactly the same φ–features as the finite verb, does indeed occupy the cited Spec,T position: let us consider so-called long-distance agreement structures such as existential structures introduced by

expletive *there* in English, or also locative inversion structures, or quirky subject constructions,…. In relation to existential structures, Chomky (2001) postulates that *there* is defective in valuing only person features, an account that can be considered to be based on speculation.

( ) a. [There] <u>are</u> <u>problems</u> with the computer

b. [On the porch] <u>stands</u> <u>John</u>

c. [Me] <u>faltan</u> <u>las fuerzas</u> (Spanish)

A way of accounting for the merge of the expletive, or the locative, or otherwise the dative in ( ) is through resort to the D-feature of T, which would be an interpretable but unvalued feature on T itself. The semantic rationale supporting T´s D-feature would be for T to establish a connection between a subject of predication and a predication. In case Spec,T is occupied by a canonical subject, T would connect together an individual and a state or an action, whereas in cases like ( ), T would connect together a locative and a situation.

( ) John stands on the porch /John threw a baseball
individual state individual action

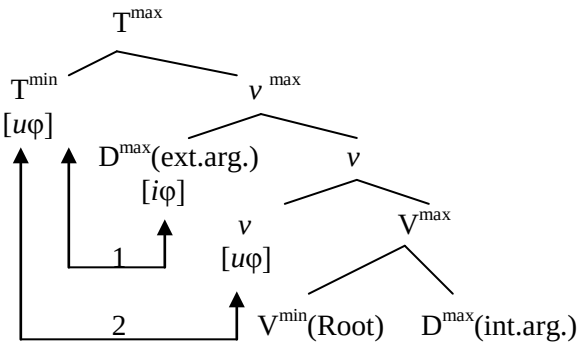
( ) On the porch stands John / Me faltan las fuerzas
locative situation locative situation

Incidentally, in the framework of Chomsky (2000, 2001), the account of T´s valuing –features has, as is well known, the effect that DP values its own Case-feature against T, an analysis that is criticised by Pesetsky & Torrego (2001, 2004).

d. Further, the issue of auxiliaries… in a language like English can leads us into thinking that T values –features, but it seems to me that we should be confusing… with…

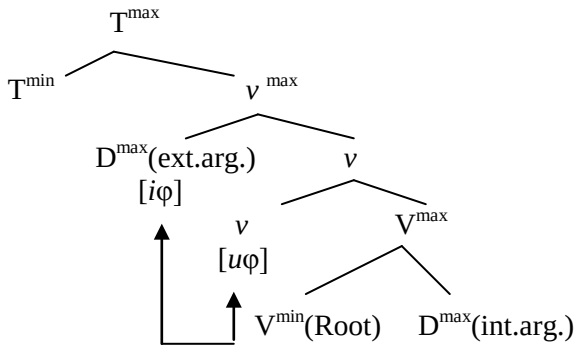
In (11) is shown the analysis of –features in standard accounts, and in (12) is shown the present proposal:

(11)



Valuation of φ–features
in standard accounts

(12)



Valuation of φ–features
in the present account

Summary of the discussion

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