Finiteness across domains

Neda Todorović and Susi Wurmbrand
University of Connecticut

1. Introduction

The notion of finiteness has traditionally been related to tense. However considering semantic tense properties, neither a [+FINITE] \(\approx [+\text{TENSE}]\), nor a [–FINITE] \(\approx [–\text{TENSE}]\) correlation can be maintained since finite clauses can be tenseless (as in sequence of tense contexts), and non-finite clauses can be tensed (see Stowell 1982, Pesetsky 1992, Bošković 1997, Wurmbrand 2001, 2014b, among others). In cartographic approaches (Rizzi 1997), finiteness is typically encoded in the C-domain, and restricts (morphological) options for T. In this paper, we propose, based on the distribution of different types of complementation contexts in English and Bosnian/Croatian/Serbian (BCS), that finiteness is neither associated with tense nor necessarily with a CP. Instead we propose that (non-)finiteness is a morphological feature which can appear either in the C-, T- or v-domains.

The tense properties split embedded complement clauses into three broad groups as in (1): tenseless (typically restructuring), irrealis future, and propositional clauses. In Wurmbrand (2001, 2014a, b, 2015a, b), it is argued that the minimal structures these types of embedded clauses can have are different: the former can be just vPs, future contexts require a TP/ModP, and propositional clauses project full CPs. If English allows such size restructuring (see Wurmbrand 2015a for evidence) and the embedded complement in (1a) can be a TP/CP-less vP, then the infinitival marker cannot solely be a T or C element – instead, the realization of a [–FINITE] feature would have to be associated with a vP-head in (1a).

\[(1)\]
\[\begin{align*}
\text{a. } & \text{Leo tried/began/managed } [vP \text{ to eat } (*\text{tomorrow})]. \quad \text{tenseless: vP} \\
\text{b. } & \text{Leo decided/planned } [TP \text{ to eat (tomorrow)}]. \quad \text{irrealis, future: TP} \\
\text{c. } & \text{Leo claimed } [CP \text{ to be eating } (*\text{tomorrow})]. \quad \text{propositional, simultaneous: CP}
\end{align*}\]

The distribution of complement clauses in BCS leads to a similar conclusion, however, for the feature [+FINITE]. As shown in (2), all three types of embedded clauses can be expressed via (morphologically) finite clauses.

\[(2)\]
\[\begin{align*}
\text{a. } & \text{Jovan je pokušao da čita } \text{knjigu.} \\
& \text{Jovan AUX tried DA read.3.SG.PRES.IMPFV book} \\
& \text{‘Jovan tried to read the book.’}
\text{b. } & \text{Jovan je odlučio da čita } \text{knjigu.} \\
& \text{Jovan AUX decided DA read.3.SG.PRES.IMPFV book} \\
& \text{‘Jovan decided to read the book.’}
\text{c. } & \text{Jovan je tvrdio da čita } \text{knjigu.} \\
& \text{Jovan AUX claimed DA read.3.SG.PRES.IMPFV book} \\
& \text{‘Jovan claimed to be reading the book.’}
\end{align*}\]

If finiteness were (solely) a matter of the CP domain, BCS embedded clauses should be non-transparent and behave like the ‘strongest’ boundaries, finite CPs. However, this is not
the case. As shown in Progovac (1993a, b, 1994, 1996), Stjepanović (2004) (P/S), tenseless and future complements (their S-complements) show certain restructuring (i.e., size reduction) effects, whereas propositional complements (their I-complements) are non-transparent full clausal complements (see Table 1; for the properties marked P/S see the works cited).

Table 1: Properties of clausal complements in BCS

<table>
<thead>
<tr>
<th>Tense</th>
<th>Claim</th>
<th>decide</th>
<th>Try</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>propositional, [+TENSE]</td>
<td>future</td>
<td>Tenseless</td>
</tr>
<tr>
<td>Clitic climbing [P/S]</td>
<td>No</td>
<td>Yes, marginally</td>
<td>Yes</td>
</tr>
<tr>
<td>NPI/NC licensing by matrix NEG [P/S]</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>wh ordering [P/S]</td>
<td>Matrix » embedded</td>
<td>Free</td>
<td>Free</td>
</tr>
<tr>
<td>da V.PRES</td>
<td>*perfective</td>
<td>✓ perfective</td>
<td>✓ perfective</td>
</tr>
<tr>
<td>Infinitive possible</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Long passive (with INF)</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Adverb positions</td>
<td>{da} ADV {*da}</td>
<td>{da} ADV {da}</td>
<td>{?-*da} ADV {da}</td>
</tr>
<tr>
<td>Size</td>
<td>CP</td>
<td>TP/ModP</td>
<td>vP</td>
</tr>
</tbody>
</table>

In this paper we argue that BCS does not only distinguish between transparent and non-transparent complement clauses, but also makes the three-way distinction as indicated in the table. This then means, however, that reduced clauses – TPs and vPs – can nevertheless be marked as finite, which is possible if, as we suggest, (non-)finiteness is not a property of a particular domain but can be marked in any clausal domain.

2. Aspect – A window into the composition of the tense domain

The first indicator of different compositions of clausal complements in BCS and English is the distribution of perfective/non-progressive aspect. In particular, in present tense contexts, episodic interpretations are not available with perfective/non-progressive verbs, as shown in (3) for both languages.

(3) a. Mary *sleeps/✓is sleeping right now. *non-progressive (E)
    b. Milan prevodi / *prevede pesmu. *perfective
       Milan translate.3.SG.PRES.IMPFV / *translate.3.SG.PRES.PFV poems (BCS)
       ‘Milan is translating a poem.’/*‘Milan has translated a poem (just now).’

In embedded contexts, future and tenseless complements allow perfective/non-progressive aspect even under episodic interpretations in English (4a,b) and in BCS (4c,d).

(4) a. John decided to eat a frog tomorrow. future
c b. John tried to eat a frog yesterday. tenseless
c. Odlučila sam da sutra prevodim / prevedem pesmu. decided AUX.1SG DA tomorrow translate.1.SG.PRES.IMPFV / …PFV poem
   ‘I decided to be translating a poem tomorrow.’ (imperfective)
   ‘I decided to translate the (entire) poem tomorrow.’ (perfective)
d. Pokušala sam juče da prevodim / prevedem pesmu. tried AUX.1SG yesterday DA translate.1.SG.PRES.IMPFV / …PFV poem
   ‘I tried to be translating a poem yesterday.’ (imperfective)
   ‘I tried to translate the (entire) poem yesterday.’ (perfective)
However, as shown in (5a-c), non-progressive is not possible in propositional complements, whether finite or non-finite in English, and perfective is excluded in BCS (5d).

(5)  

a. John believes/claims that Mary *sleeps/✓ is sleeping right now.

b. John believes Mary to *sleep/✓ be sleeping right now.

c. John claims to *eat/✓ be eating right now.

believe.1.SG.PRES DA Jovan translates.3.SG.PRES.IMPFV / *…PERF poem  
‘I believe that John is translating a poem (right now).’ (imperfective)  
Intended perfective interpretation: ‘I believe that John has translated a poem (just now).’

To account for the aspectual distribution in simple and embedded clauses, Todorović (2015b), Wurmbrand (2014b), argue that the restrictions are the result of incompatibilities of perfective aspect\(^1\) and the temporal domain above aspect. In particular, a perfective event, as per (6a), needs to include the event time within the reference time. This predicts that whenever the reference time for the perfective is too short an interval, the requirements of the perfective cannot be satisfied, rendering the perfective infelicitous in such environments, and only allowing imperfective/progressive as in (6b).

(6)  

a. PERFECTIVE: \(\lambda P. \lambda t. \lambda w. \exists e [\text{time}(e) \subseteq t \land P(w)(e)]\)  
   Informally: event time must be included in the reference time

b. IMPERFECTIVE: \(\lambda P. \lambda t. \lambda w. \exists e [t \subseteq \text{time}(e) \land P(w)(e)]\)
   Informally: reference time must be included in the event time

Given that the availability of aspect depends on the reference time interval introduced by the clausal temporal components, the (un)availability of the perfective in clausal complements in turn can provide insight into the composition of the temporal-modal domain above it.

Since the reference time intervals introduced by past, future, and perfect are indefinitely long (unless further restricted), the event time interval can be included in the reference time interval and perfective events are allowed in such contexts. We propose that this is also what happens in the embedded future contexts in (4a,c): a silent future element WOLL (see Abusch 1985, 1988) is projected, which extends the reference time, thereby allowing perfective.

On the other hand, the reference time intervals introduced by semantic present tense, as in (3), is a very short interval. Since the event time cannot be included in this short interval, perfective is impossible. In the works mentioned, we propose that propositional complements in (5) also introduce a very short reference interval – the attitude holder’s (AH) ‘now’, i.e., the time which the speaker believes to be his/her ‘now’. In complements with a simultaneous interpretation (which is the only interpretation in propositional infinitives in English, unless perfect have is added), there is a present (finite) or zero (non-finite) tense, which is ordered with respect to the AH now, making this short interval also the reference time for the perfective. Since the reference time is too short to include the event time, perfective is correctly predicted to be impossible in these complements in both languages.

\(^1\) According to a common view, progressive can be treated as imperfective aspect, and non-progressive as perfective, at least for the purpose of this paper.
Lastly, although tenseless complements also trigger a simultaneous interpretation in (4b,d), embedded perfective is possible, in contrast to propositional infinitives. In Wurmbrand (2014b) this fact is taken as evidence for a difference in structure: propositional complements involve an AH ‘now’ and zero tense, whereas tenseless complements are tense and TP-less altogether (see the works cited for further details and motivation). Thus, the availability of perfective leads to the syntactic and semantic classification in (7).

(7) a. believe, claim [CP AH NOW [TP PRES/∅ [vP ... ]]]] A(titude)H(older) NOW  
b. decide, expect [TP WOLL [vP ... ]]  
c. try, begin [vP ... ]

3. Propositional complements

In order to integrate finiteness into the structure of clausal complements in English and BCS, we start with a discussion of the temporal properties of propositional complements in the two languages. In English, embedded finite propositional complements can typically occur with any temporal orientation, as in (8a). Infinitives, on the other hand, show temporal restrictions imposed by the matrix verb: specifically, propositional verbs cannot combine with future infinitives, as in (8b,c).

(8) a. John believes/claims that Mary slept well/will sleep well/is sleeping right now.  
b. *John believes Mary to sleep well tomorrow.  
c. *Leo claims to sleep/be sleeping in the garage tomorrow.

Unlike English, BCS observes no such restrictions – propositional da complements allow overt future, as in (9a). Note that this is not simply a general property of da complements, since tenseless da complements (9b) cannot involve a future interpretation.

   Jovan believes/claims DA will next year build.INF.PFV house  
   ‘Jovan believes/claims that he will build a house next year.’  
   Jovan tries.3.SG.IMPFV DA will next year build.INF.PFV house  
   *Jovan tries to build a house next year.’

When it comes to non-finite complementation, BCS still allows infinitives (with frequency and preferences varying in different regional varieties). Crucially, infinitives are impossible in propositional contexts, as in (10a), whereas they can occur in future and tenseless contexts, as in (10b,c). The distribution is summarized in Table 2.

(10) a. Tvrdim {da čitam / *čitati} ovu knjigu.  
   claim.1SG {DA read.1SG / *read.INF.IMPFV} this book  
   ‘I claim to be reading this book.’ [Vrzić 1996: 305, (22a,b)]  
b. Odlučila sam {da čitam / čitati} ovu knjigu.  
   decide.SG.FEM AUX.1SG {DA read.1SG / read.INF.IMPFV} this book  
   ‘I decided to read this book.’  
c. Pokušala sam {da čitam / čitati} ovu knjigu.  
   tried.SG.FEM AUX.1SG {DA read.1SG / read.INF.IMPFV} this book
’I tried to read this book.’

Table 2: Temporal properties of propositional complements

<table>
<thead>
<tr>
<th></th>
<th>Finite</th>
<th>Non-finite</th>
</tr>
</thead>
<tbody>
<tr>
<td>claim, believe (E)</td>
<td>no temporal restriction</td>
<td>simultaneous; zero tense</td>
</tr>
<tr>
<td>tvrditi, verovati (BCS)</td>
<td>no temporal restriction</td>
<td>*</td>
</tr>
</tbody>
</table>

The structure we propose for propositional complements is given (11). In both finite, (11a), and non-finite complements, (11b), a CP hosting the context variable and speaker coordinates is projected. In English, C can be specified for [+FINITE] or [–FINITE], where [–FINITE] selects a zero tense. In BCS, on the other hand, where infinitives have been disappearing, as a language-specific property, C can only be [+FINITE] (see section 6 for some remarks on the typology of finiteness). This restriction in BCS and the complementation structures in (7) then capture the lack of infinitives with propositional but not future and tenseless complements: only propositional complements require a CP, which must be finite in BCS. In turn, the possibility of infinitives in future and tenseless complements serves as an indicator of the possible lack of a CP.

(11) a. Finite CP: E, BCS

b. Non-Finite CP: E, *BCS

4. Future complements

We continue the discussion with complements of verbs like decide, which require an embedded future interpretation, as shown in (12) for English and (13) for BCS. In both cases, the embedded event must occur in the future with respect to the matrix event.2

(12) a. Leo decided to sleep in the garage tomorrow.

b. *Leo decided to have slept in the garage.


Such mandatory future-orientation, we propose, stems from a selectional property of certain matrix verbs, which is implemented structurally via a covert modal WOLL quantifying over possible future world-time pairs. The distribution of such a covert modal is not free,

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2 In some contexts ‘decide’ may also allow a perfect interpretation as in He decided (to pretend) to have slept in the garage. However, in this example, the meaning of ‘decide’ has been coerced to that of ‘pretend’.
however, but requires special licensing. Specifically, we claim that WOLL needs to be licensed (e.g., valued) by either tense or an irrealis element, as in (14).

\[
\begin{array}{c}
\text{XP} \\
\text{X} \\
\text{F: IRR/PRES/PAST} \\
\text{ModP} \\
\text{Mod} \\
\text{WOLL, F: \\
\text{Spell-out}} \\
\text{PRES, WOLL} & \Rightarrow \text{will (E), } \text{će (BCS)} \\
\text{PAST, WOLL} & \Rightarrow \text{would (E), } \text{će (BCS)} \\
\text{IRR, WOLL} & \Rightarrow \emptyset \text{ (E, BCS)}
\end{array}
\]

Before providing further evidence for such licensing, let us return to examples such as (12) and (13). We assume that verbs which select a future complement have an irrealis feature which must match with an irrealis/future complement. Assuming selection is a local process, the matrix verb has to combine directly with the projection hosting the future element as in (15a), thus, typically future complements lack the CP. While CP-less future infinitives as in (15b) have been proposed in several works (see for instance Bošković 1997), CP-less da complements may appear peculiar, since da is usually treated as a complementizer. Yet, as shown in (15c), this is exactly what we propose for (13a). Future complements, even when finite, do not involve semantic present tense since, as shown in section 2, future and propositional complements differ regarding the availability of perfective aspect and we attribute this difference to the absence/presence of semantic present tense. In BCS, complements of decide, can, however, involve a [+FINITE] feature on T (in addition to WOLL), and, as shown in (15c), the spell-out of this feature is da. Lastly, a verb selected by a [+FINITE] T, in the absence of semantic tense, is realized as morphological present tense, the default finite form. We thus treat the overt present tense we see in future infinitives as a semantically vacuous morphological form (see also Progovac 1993a, b, 1994, 1996, Stjepanović 2004).

\[
\begin{array}{ll}
\text{(15) a. } & \text{decide [IRR]} \\
& \text{[TP/ModP [IRR]} \\
& \text{WOLL ]} \\
\text{b. } & \text{decide [IRR]} \\
& \text{[TP/ModP WOLL [IRR, –FINITE] \Rightarrow \emptyset V.INF]} \quad \text{E, BCS} \\
\text{c. } & \text{decide [IRR]} \\
& \text{[TP/ModP WOLL [IRR, +FINITE] \Rightarrow da V.PRES]} \quad \text{BCS, *E}
\end{array}
\]

Evidence for the option of a CP-less structure of future infinitives comes from transparency effects which are observed for finite future but not propositional complements. This is illustrated in (16) with clitic climbing [CC] (for a full list of transparency properties and evidence that future complements can lack a CP, see Progovac 1993a, b, 1994, 1996, Stjepanović 2004, Todorović and Wurmbrand 2015). While CC is considered marked by many BCS speakers, a clear contrast is nevertheless observed between (16a) and (16b): future complements allow CC whereas propositional complements never do. In Wurmbrand (2014a, 2015b), it is argued that CC is blocked across CPs. The difference between (16a) and (16b) then follows, if, as we suggest, future complements can lack a CP, whereas propositional complements always project a CP. Lastly, when a future complement does include a CP, as in (16c) where T is occupied by an overt future modal (which is the realization of semantic pre-
sent tense plus WOLL) and hence *da* must be in C, CC becomes impossible.³


Ona she [ga AUX] decided / planned DA visit.3.SG.PRES
‘She decided/planned to visit him.’

[Stjepanović 2004: 197, fn. 14, (ia)]


Milan [ga AUX] states DA [v] see.3.SG.PRES
‘Milan says that he can see him.’

[Progovac 1993a: 119, (12-13), among others]


Peter [ga AUX] decided DA [v] see
‘Peter decided to see him.’

In addition to future selecting verbs (verbs that semantically require an irrealis complement), we argue that there are additional licensors of WOLL, such as irrealis C, which occurs in exlamatives/wishes, as in (17a), and in questions, as in (17b-d). All these environments are future-oriented and crucially have modal flavor (see also Todorović 2015a).

(17) a. *Da ti se sve želje ostvare!*

Da you.DAT SE all wishes come.true.3.PL.PRES
‘May all your wishes come true!’

[Vrzić 1996: 292: (2a)]

b. *Da Vesna pročita ovu knjigu?*

Da Vesna read.3.SG.PRES this book
‘Should Vesna read this book?’

[Vrzić 1996: 292: (2b)]

c. *Da li da Vesna pročita ovu knjigu?*

Q DA Vesna read.3.SG.PRES this book
‘Should Vesna read this book?’

[Vrzić 1996: 292: (2c)]

d. *Koju knjigu da Vesna pročita?*

which book DA Vesna read.3.SG.PRES
‘Which book should Vesna read?’ [translation corrected]

[Vrzić 1996: 292: (2c)]

Declaratives without exclamative/imperative force, on the other hand, do not license WOLL; instead, an overt modal is required, as illustrated in (18).

(18) a. *Da Vesna pročita ovu knjigu.*

Da Vesna read.3.SG.PRES this book
‘Vesna should read this book.’

[Vrzić 1996: 292: (2d)]

b. *Vesna treba pročitati ovu knjigu.*

Vesna should read.INF this book
‘Vesna should read this book.’

[Vrzić 1996: 292: (2e)]

The distribution of covert modality (which we assume is triggered by WOLL) can be derived from the assumption that WOLL must be identified structurally by an irrealis element. Interrogative, exclamative, and imperative C have been analyzed as modal or irrealis elements (see e.g., Palmer 2001: 172-173), and thus the difference between (17) and (18), schematized in (19), follows.

³ A question arising is how future is selected in cases like (16c). We tentatively assume that in these cases, future is transmitted via an irrealis C (Pesetsky 1992).
In our account, the feature combination of T/Mod in (17) is [+FINITE, WOLL], which again is only possible in irrealis contexts. As in decide complements, the visible present tense in (17) is not a semantic tense. Unlike BCS, English does not allow such configurations. As shown in (20a), finite questions cannot involve a modal interpretation (an overt modal would be necessary). We assume that this is due to a lexical gap – [+FINITE, WOLL] does not have a spell-out in English. Note, however, that covert modality is found in non-finite contexts: non-finite questions (20b), and infinitival relatives (20c), express exactly such a modal interpretation, which shows that, like in BCS, T can be specified as a covert WOLL, i.e., WOLL that is not licensed by tense but by an irrealis element.

(20) a. Which book is John reading/does John read? *WOLL
    b. John wonders which book to read. ✓ WOLL
    Can mean: ... which book he should read
    c. ... a book (for John) to read. ✓ WOLL
    Can mean: a book John should/could read (Hackl and Nissenbaum 2012)

5. Da in different domains

In this section, we provide further motivation for the low positions of da in T/Mod or v. Sočanac (2011) notes that future complements and tenseless complements differ regarding whether adverbs (see below for a refinement) or topics can occur between da and the verb.

(21) a. Hoćeš / *Možeš da brže dodeš?
    want.2.SG / *can.2.SG DA quicker come.2.SG
    ‘Do you want to/ can you come quicker?’ [Based on Sočanac 2011: 64, (25a), (26a)]
    want.1.SG / *must.2.SG DA Ivan.TOP.invite.2.SG
    ‘I want you to/You must invite Ivan.’ [Sočanac 2011: 64, (25b), (26b)]

Assuming a topic/focus position at the edge of the vP-domain (Stjepanović 1998, 1999, 2003), this distribution follows if da can either occur in T/Mod or in v as in (22).

(22) a. Future complement
    b. Tenseless complement

Topics or focalized adverbs can appear after da in future complements (e.g., complements of hteti in (21)) since da is in Mod, but not after da in tenseless complements (e.g., complements of moći and morati in (21)), which typically lack a TP/ModP (see below for vacuous
T/Mod projection) – thus da is in v in these cases as in (22b).

We treat da as a finiteness ‘visualizer’. The modal WOLL (without accompanying tense) and v are not morphologically realized. If these heads are inserted with a [+FINITE] feature, da can be seen as the morphological spell-out of this feature (subject to certain restrictions, see below). We hypothesize that da spells out [+FINITE] on a clausal head (C, T, v), if no other feature of that head overtly expresses finiteness. For instance, if there is a semantic tense feature in T, the verb realizes that feature (either via lowering or V-movement) and [+FINITE] is made visible via the (true) tense feature and would not be spelled out in addition as da. It is important again that the morphological present tense we see in future and tenseless infinitives in (22) is not the result of a semantic present tense feature, but the default spell-out of a verb selected by a [+FINITE] T or v. In other words, da/+FINITE] T and v in (22) select a morphological present tense form, which is semantically vacuous.

Let us look in more detail at the distribution of (low) adverbs in the three types of complements. As shown in (23) for one variety of BCS, tenseless complements prefer the order adverb » da, future complements allow either order, and propositional complements only allow the order da » adverb.

(23) a. Počeli su {?*da}⁴ brže {✓ da} stižu. Tenseless
started.PL-MASC are {?*DA} quicker {✓ DA} arrive.3.PL.PRES.IMPFV
‘They started to arrive quicker.’

b. Odlučili su {✓ da} brže {✓ da} hodaju. Future
decided.PL-MASC are {✓ DA} quicker {✓ DA} walk.PRES.3.PL.PFV
‘They decided to walk quicker.’

c. Kazali su {✓ da} brže {*da} stižu. Propositional
said.PL-MASC AUX {✓ DA} quicker {*DA} arrive.3.PL.PRES.IMPFV
‘They said they are coming quicker.’

The structure for tenseless complements deriving the low position of da was given in (22b). In future contexts, the embedded clause projects both v and T/Mod, and if da can be either in T/Mod or in v, as we suggest, the two options in (23b) are correctly derived. One question arising at this point is whether it is possible to have two da’s within one clause. We show below that this is indeed the case in propositional complements, but it is not possible in future complements – in (23b) only one da can be realized. We preliminarily suggest that there is a selectional restriction of da – every da has to occur with a (separate) finite verb afterwards.

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⁴ The contrast is clearer in i-focus constructions such as i. The da – ADV order improves if the ADV is defocused, e.g., by focusing the verb, ii.(thanks to B. Arsenijević for pointing this and the examples below out to us):

i. Mogli su {✓ i brže} da {*i brže} stignu.
could.3.PL AUX {FOC quicker} DA {FOC quicker} arrive.3.PL.PRES.PFV
‘They could have arrived even faster.’

B. Arsenijević, p.c.

ii. Mogli su da brže STIGNU,
could.3.pl aux da quicker arrive.3.pl.pres.pfv
mesto što su iskoristili tu jednu kartu da brže odu u park.
‘They could have arrived faster instead of using that one ticket to go to the park faster.’

We tentatively assume that in ii, the adverb is adjoined to VP (instead of vP), but the distribution of i-focus constructions in different embedding contexts requires further research.
As shown in (24a), if T/Mod is [+FINITE] and realized as da, the lower v/V head needs to spell out as a finite verb. The same is the case for da in v in (24b), which again requires V to be finite. What is excluded, however, is spelling out an additional da in T/Mod in (24b), since that da would not ‘select’ a finite verb, but just another da, which we assume is impossible. The higher [+FINITE] feature is thus not spelled out as da in (24b), possibly because the feature is deleted at spell-out. We leave a further formalization of this selectional restriction of da open, since it requires a more in-depth commitment to how selection is implemented.

(24) a. Future complement #1  
   b. Future complement #2

The selectional restriction of da predicts that two da’s are possible, as long as each da is followed by a finite verb. This is exactly what we find in (25). Since in this case, the tense domain carries both a (true) tense feature and WOLL, the T/Mod head is spelled out as će ‘will’. If C and v also include a [+FINITE] feature, both heads are spelled out as da, since each of them is followed by a finite verb.

   says DA will.3.SG DA come.3.SG.PRES  
   ‘He says he will come.’  
   [Sočanac 2011: 55, (8)]

b.  

Finally, propositional complements as in (23c) (without a finite auxiliary in T) only allow the higher da. The structure is given in (26). Since T has a semantic tense feature, this feature is realized on V and no da is spelled out in T. There are several ways in which the relation between T and V can be established (lowering, head movement, feature valuation, morphological merger), and it is not essential for this paper which relation is adopted. The only concept we need is that there is a dependency between T and V and that this dependency cannot reach across spell-out domains. Thus for T to ‘see’ V, since vP is a phase and VP a spell-out domain, V has to move at least to v, as illustrated in (26). With V being in v, there is no need to spell-out v as da, since the now complex v head is already marked for finiteness through the verb. Lastly, C, which can only have the feature [+FINITE] in BCS, is spelled out as da since it selects a finite T+V (possibly V undergoes further movement to T) as required.
6. Towards a typology of finiteness

In section 3, we have seen that propositional complements must be finite in BCS. English represents the opposite case: all types of complements can be non-finite, however, tenseless complements typically resist to being finite.

(27) a. ??Leo tried that he would win.
b. Leo decided that he would leave.
c. Leo claimed that he left/will leave.

Table 3: Distribution of finiteness

<table>
<thead>
<tr>
<th></th>
<th>Finite</th>
<th>Non-finite</th>
<th>Unexpected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>English</td>
<td>BCS</td>
<td>English</td>
</tr>
<tr>
<td><strong>Try</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>decide</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Claim</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

The ‘degree’ of finiteness can differ across languages, however, there is a clear generalization: when \( v \) is finite (as diagnosed, e.g., by the availability of finite \( \text{try} \)-complements), \( T \) and \( C \) can be finite as well, but not vice versa. Similarly, if a language allows non-finite propositional complements, it also allows non-finite future and tenseless complements. This is indicated in the finiteness scale in (28), with BCS (as discussed so far) and English restricting the finiteness values at different ends of the scale. In what follows, we illustrate another variety of BCS which combines the special settings of English and BCS#1 as noted in (28c).

(28) \([+\text{FINITE}] \leftarrow C | T | v \rightarrow [+\text{FINITE}]\)

a. \([\text{CP} [+\text{FINITE}] ] [\text{TP} [+\text{FINITE}] ] [vP [+\text{FINITE}]] || | BCS#1
b. \([\text{CP} [+\text{FINITE}] ] [\text{TP} [+\text{FINITE}] ] [vP [+\text{FINITE}]] || | English
c. \([\text{CP} [+\text{FINITE}] ] [\text{TP} [+\text{FINITE}] ] [vP [+\text{FINITE}]] || | BCS#2

In some varieties (roughly Bosnian), speakers use infinitives more frequently and may prefer infinitives over \( da \) complements in tenseless and future complements. In our approach, this is implemented by the lack (or dispreference) of a \([+\text{FINITE}] \text{vP domain} \) (due to extensive bilingualism within BCS and resulting possible dialectal code switching, judgments are not categorical but gradient). Interestingly, in these varieties, the low position of \( da \) with respect to adverbs is more marked and dispreferred (unless the adverb is focused in which case we assume that it moves to a higher position).

(29) a. Odlučili su brže hodati. decided.PL.MASC AUX quicker walk.INF
‘They decided to walk quicker.’

b. Odlučili su {✓ da} brže {✓ v/?da} hodaju.
decided.PL.MASC AUX {✓ DA} quicker {✓ v/?DA} walk.PRES.3.PL.PFV

‘They decided to come quicker.’

Furthermore, in tenseless complements, too, if a da complement is used, which is dispreferred overall, the unmarked order is da » adverb as shown in (30). Since finite v is not available/dispreferred in BCS#2, the only/best way to derive a da complement in tenseless contexts, is to project a vacuous TP, which has the effect that finite future and tenseless complements behave alike regarding adverb placement, but the latter are themselves marked.

(30) a. Počeli su {✓ da} brže {✓ v/?da} stižu. BCS#2
started.PL.MASC AUX {✓ DA} quicker {✓ v/?DA} arrive.3.PL.PRES.IMPFV

‘They started to arrive quicker.’

b. started [TP ØT, [+FINITE] ➟ da [vP ADV … V.PRES ]] [A. Talić, p.c.]

Finally, note that the structures in (24) find a parallel in English in the distribution of the infinitival marker. Assuming that negation marks the left edge of the vP, (31) shows that the infinitival marker can occur either to the left of negation in T or C, or the right of negation in v (since negation occurs before have, a constituent negation structure is unlikely for (31a)).

(31) a. Leo claimed to not have eaten all the cookies.
b. Leo claimed not to have eaten all the cookies.

This is expected if the morphological feature relevant in English is [–FINITE], whereas it is [+FINITE] in BCS, and if these features are distributed as in (28). Thus, languages can be divided into predominantly marking finiteness or non-finiteness.

7. References


