Direct and Dependent Valuation in Ndebele Light-verb Constructions

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1. Introduction

This paper examines two types of light-verb (LV) constructions in Ndebele (Bantu, Zimbabwe), which differ in the form of the main, lexical verb. In one type, the main verb is a participle (1)[1]; in another, the main verb has a subjunctive form (2). Throughout the paper, PART(iciple)-selecting LVs are italicized, while SUBJ(unctive)-selecting LVs are in bold.

(1) PART-selecting LV

U-*hlezi* e-bala.
1-constantly 1-read.**PART**
'He constantly reads'

(2) SUBJ-selecting LV

U-**mane** a-bale.
1-just 1-read.**SUBJ**
'He just reads'

I argue that the choice of main verb morphology is predictable from the syntax of light-verb constructions; in particular, by whether the light verb has a valued or an unvalued Infl-feature. Participial morphology occurs when the LV has a valued Infl and can therefore value the main verb's Infl-feature directly (3). Subjunctive morphology arises when the LV has an *unvalued* Infl-feature and so cannot itself assign an Infl-value to the main verb (4).

(3) Main verb in the **participial form**:

$[_{LV}$ Infl:val $[_{V_{main}}$ Infl:___ $]]$

direct valuation

(4) Main verb in the **subjunctive form**:

$[_{LV}$ Infl:___ $[_{V_{main}}$ Infl:___ $]]$

lack of direct valuation

Thus, verbal form (participial vs subjunctive) is claimed to be a configurational phenomenon: it is not determined by specific morphosyntactic features (e.g. [Mood:SBJV]), but by the syntactic context in which the main verb appears. Unlike participles, subjunctive morphology is a reflex of the inflectional deficiency of its immediate syntactic context.

In the next section, I propose an analysis of the two types of LV constructions and argue that PART-selecting LVs are functional verbs (and have a valued Infl), while SUBJ-selecting LVs are lexical verbs (and have an unvalued Infl). Section 3 is devoted to deriving participial and subjunctive morphology from the proposed difference between LVs. In section 4, I extend the view of subjunctive morphology as triggered by inflectional deficiency of its syntactic context to other instances of subjunctive morphology in Ndebele and other languages.

2. The syntax of light-verb constructions

Light verbs in Ndebele (and many related Bantu languages) are used to express meanings typical of adverbs in Indo-European languages. They are known in the literature as *adverbial auxiliaries* or *deficient verbs* (Khumalo, 1981; Slattery, 1981). Some Ndebele examples are listed in (5) and (6).

[1] Abbreviations: 1 = class 1 subject agreement, 1sg = 1st person singular subject agreement, FS = final suffix, FUT = future tense, IMPF = imperfective aspect, NEG = negation, PART = participle, PST = past tense, PRES = present tense, SUBJ = subjunctive

(5) a. *lokhe* 'still' (+PARTICIPLE)
   b. *hlezi* 'constantly' (+PARTICIPLE)
   c. *se* 'already' (+PARTICIPLE)

(6) a. **mane** 'just/simply' (+SBJNTCTV)
   b. **qala** 'first' (+SBJNTCTV)
   c. **phose** 'almost' (+SBJNTCTV)

The choice between subjunctive and participial complements has been treated in the literature as a selectional property of individual light verbs (Slattery, 1981). I argue, however, that the selected morphology is not unpredictable, and that it has systematic syntactic correlates. I propose that the two types of LV constructions involve different structures, shown in (7) and (8). PART-selecting LVs are functional verbs – they spell out functional heads in the main verb's extended projection (7). SUBJ-selecting LVs, on the other hand, are lexical verbs, and have the syntax in (8).

(7) PART-selecting LVs are functional verbs

(8) SUBJ-selecting LVs are lexical verbs
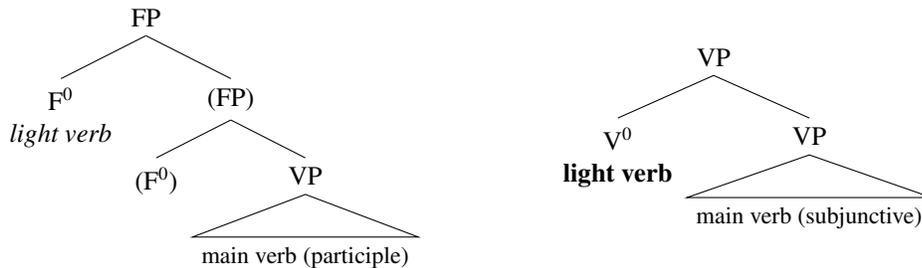
The proposed difference between PART-selecting and SUBJ-selecting LVs resembles the difference between functional and lexical restructuring, argued for by Wurmbrand (2004). Functional restructuring verbs spell out functional heads in the clausal spine and thus correspond to PART-selecting LVs (7). Lexical restructuring verbs, like SUBJ-selecting LVs, are lexical verbs: they are of category V and have their own complete extended projection.

The size of the LV's complement is determined in different ways in functional and lexical LV-constructions. The complement of a lexical LV is determined by its selectional properties. I propose that Ndebele lexical LVs select for fairly small constituent, roughly a VP.[2] In the case of functional LVs, the size of their complement is determined by clause structure: it contains whatever structure is below the functional head it appears in (Cinque, 1999; Wurmbrand, 2004; Grano, 2012). For instance, if the light verb appears in Asp, as shown in (9), its complement is a VP (assuming the clause structure given in (9)). If it appears in Perf, its complement is AspP. Ndebele functional LVs can occupy both positions. Following Cinque's functional hierarchy hypothesis, I propose that *hlezi* 'constantly' and *lokhe* 'still' are associated with an imperfective Asp head, while the LV *se* 'already' is associated with the Perf head, which introduces perfect aspect.[3]

(9) [TP [PerfP *se* 'already' [AspP *hlezi* 'constantly'/*lokhe* 'still' [VP ...]]]]

I further assume that heads in the extended verbal projection bear inflectional features (Adger, 2003; Wurmbrand, 2011). Lexical verbs have an unvalued Infl-feature, [Infl:___], while functional heads such as T or Asp have a valued Infl. Agreement between Infl-features results in downward valuation (Adger, 2003; Bjorkman, 2011; Merchant, 2011; Wurmbrand, 2011). As an example, consider the derivation of a simple past tense in (10), where the main verb's Infl agrees with the valued Infl-feature on T (Infl:PST).

[2] Upon closer inspection, we would see that the complement of a lexical LV contains also a vP and a VoiceP (though no higher functional structure). Due to space limitations, I cannot discuss evidence for this claim. It is, however, not crucial in the present discussion, and I assume the VP size for simplicity.

[3] The proposed positions are hypothesized on the basis of the LV's meaning, following how functional verbs and adverbs are placed in Cinque's (1998, 1999) functional hierarchy. In Cinque's hierarchy, the meaning of 'already' is located in T(Anterior), which is a head corresponding to the perfect aspect. Adverbs such as 'still' and 'constantly' are associated with different types of imperfective aspectual heads but I collapse them here as Asp$_{IMPF}$.

(10) U-a-bal-a.
      1-PST-read-FS.PST
      'He read'

(11) Infl-agreement with T
      $[_{TP}\ T_{[Infl:PST]}\quad [_{VP}\ V_{[Infl:\ \underline{pst}\ ]}\ ]]$

Note that, in addition to a prefix, tense is reflected in the form of the Final Suffix. I take this covariation to be a reflex of the agreement relation in (11).

Thus, the verb and functional heads in its extended projection can be differentiated by the type of Infl-feature: the lexical verb has an unvalued Infl, while inflectional heads have a valued Infl. I propose that the morphosyntactic difference between SUBJ-selecting and PART-selecting LVs is exaclty that. SUBJ-selecting LVs, being lexical verbs, have an unvalued Infl (12-a), while the Infl-feature of a functional LV is valued, and the value is specific to the head it appears in, as specified in (12-b).

(12) a. SUBJ-selecting LVs → lexical → [Infl:___]
      b. PART-selecting LVs → functional → [Infl:val]:
          (i)   *se* 'already': [Infl:PERF]
          (ii)   *lokhe* 'still': [Infl:IMPF]
          (iii) *hlezi* 'constantly': [Infl:IMPF]

In the remainder of this section, I provide empirical support for the proposed distinction between PART-selecting and SUBJ-selecting LVs. Evidence comes from ordering restrictions, negation marking and ability to inflect for tense.

(i) Ordering restrictions. One of the diagnostics used by Wurmbrand (2004) to differentiate lexical and functional verbs is based on ordering restrictions. Assuming that the functional hierarchy is fixed and functional verbs are associated with specific functional heads, their order must be fixed. No such prediction can be made for lexical-verb clusters. The analysis proposed here, represented in (13), allows us to make several predictions about light-verb ordering.

(13) a. PART-selecting LV realize functional heads:
          $[_{TP}\ [_{PerfP}\ se\ $'already'$\ [_{AspP}\ hlezi\ $'constantly'/$lokhe\ $'still'$\ [_{VP}\ ...\ ]]]]$

      b. SUBJ-selecting LV are lexical verbs:
          $[_{TP}\ ([_{PerfP}])\ ([_{AspP}])\ [_{VP}\ \textbf{light verb}\ [_{VP}...\ ]]]]$

First, we predict that, if functional LVs can cooccur, they may only come in the order specified by the hierarchy in (13-a), namely *se < lokhe/hlezi*. As shown below, this prediction is borne out. The predicted order is grammatical (14), while the reverse is not (15).[4]

(14) *se + lokhe/hlezi*
      a. U-se   e-lokhe   e-pheka
          1-already 1-still.PART 1-cook.PART
          'He is still cooking (now)'
      b. U-se   e-hlezi   e-pheka
          1-already 1-constantly.PART 1-cook.PART
          'He constantly cooks now'

(15) **lokhe/hlezi + se*
      a. *U-lokhe e-se   e-pheka
          1-still   1-already.PART 1-cook.PART
      b. *U-hlezi   e-se   e-pheka
          1-constantly 1s-already.PART 1-cook.PART

Second, we predict that a PART-selecting LV can take a SUBJ-selecting LV as a complement because the latter is a lexical verb. As we see in (16), this prediction is also correct.

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[4] The relative ordering of the two Asp-associated auxiliaries appears to be unrestricted: *lokhe* and *hlezi* can cooccur in either order. This fact should perhaps be treated as evidence that the functional structure of the Ndebele clause is more articulated than (13), and *lokhe* and *hlezi* correspond to two aspectual heads with an imperfective-like meaning.

(16) ✓PART-selecting LV > SBJV-selecting LV

    a. U-*hlezi* e-**mane**   a-bale
        1-always 1-just.PART 1-read.SUBJ
        'He always just reads'

    b. U-*lokhe* e-**qala**   a-bale
        1-still   1-first.PART 1-read.SUBJ
        'He still reads first'

The structure of (16-a) is shown in (17). The LV *hlezi* is located in Asp, a functional head in the extended projection of a lexical verb. In this case, the lexical verb is the SUBJ-selecting LV ***mane***, which in turn takes a VP complement of its own – the main verb *bala* 'read'.

(17) [$_{TP}$ [$_{AspP}$ *ngihlezi* [$_{VP}$ **ngimane** [$_{VP}$ ngibale]]]]

Finally, we correctly predict the ungrammaticality of the reverse order, i.e. SUBJ-selecting LV over PART-selecting LV. This is because the complement of a SUBJ-selecting LV is a VP, and thus is too small to host functional LVs (18).

(18) *SBJV-selecting LV > PART-selecting LV

    a. *U-**mane** a-*hlezi*   e-bala
        1-just   1-constantly.SUBJ 1-read.PART
        ('He just constantly reads')

    b. *U-**qala** a-*lokhe*   e-bala
        1-first 1-still.SUBJ 1-read.PART
        ('He still reads first')

(ii) Position of Negation. SUBJ-selecting LVs behave like lexical verbs in that they can host a negation prefix (19)-(20). PART-selecting LVs, on the other hand, cannot be morphologically negated (22). In this respect, they resemble auxiliary verbs in compound tenses (21), which require negation to be expressed on the main lexical verb.

(19) LEXICAL V

    A-ka-bali.
    neg-1-read
    He doesn't read

(20) SUBJ-selecting LV

    A-ka- qali abale.
    neg-1-first read.SUBJ
    He doesn't first read

(21) AUXILIARY

    a. *A-ka-be   e-bala.
        neg-1-AUX 1-read
        ('He wasn't reading')

    b. U-be e-nga-bali.
        1-AUX 1-**neg**-read
        'He wasn't reading'

(22) PART-selecting LV

    a. *A-ka- lokhe e-bala.
        neg-1-still   1-read
        ('He is still not reading')

    b. U- lokhe e-nga-bali.
        1-still   1-**neg**-read
        'He is still not reading'

I proposed in earlier work that NegP in Ndebele is low (23). It is projected right above the argument structure domain and below all inflectional heads (Pietraszko, to appear).

(23) [$_T$ *auxiliary* [$_{Perf}$ LV$_{func}$ [$_{Asp}$ LV$_{func}$ [$_{Neg}$ **NEG** [$_V$ LV$_{lex}$ [$_V$ main verb]]]]]]

The generalization about morphological negation is the following: verbs generated below negation can host negation morphology. This includes lexical verbs in simple tenses (19), SUBJ-selecting LVs (20) and the participles in (21) and (22). Verbs projected above NegP cannot be morphologically negated. This class includes auxiliary verbs in compound tense (by assumption in T) and PART-selecting LVs (by hypothesis in Perf and Asp). A detailed analysis of negation marking is beyond the scope of this paper (see Pietraszko (to appear)), but the important conclusion can be reached: SUBJ-selecting LVs behave like lexical verbs with respect to negation marking, while PART-selecting LVs behave like auxiliaries,

supporting the proposed lexical–functional distinction between LVs.

    (iii) Ability to inflect for tense. The final asymmetry between the two types of LVs has to do with tense marking. SBJV-selecting LVs, like lexical verbs, can be prefixed with tense markers (24). The forms in (25), where a PART-selecting LV appears with a tense prefix, are constructed and systematically judged as non-existent.

(24)   a. u-a-**mane**
           1-PST-just
      b. u-za-**mane**
           1-FUT-just

              c. u-a-**qala**
                    1-PST-first
              d. u-za-**qala**
                    1-FUT-first

              e. u-a-**phose**
                    1-PST-almost
              f. u-za-**phose**
                    1-FUT-almost

(25)   a. *u-a-*lokhe*
           1-PST-just
      b. *u-za-*lokhe*
           1-FUT-just

              c. *u-a-*hlezi*
                    1-PST-first
              d. *u-za-*hlezi*
                    1-FUT-first

              e. *u-a-*se*
                    1-PST-almost
              f. *u-za-*se*
                    1-FUT-almost

    This asymmetry can also be understood in terms of the proposed functional–lexical distinction. Since lexical LVs have an unvalued Infl-feature, they can combine with T by Infl agreement (the way any lexical verb does, as discussed in (10) above) (26). Given that functional LVs have a valued Infl (and no unvalued Infl-feature), no agreement takes place between the LV and T (27).
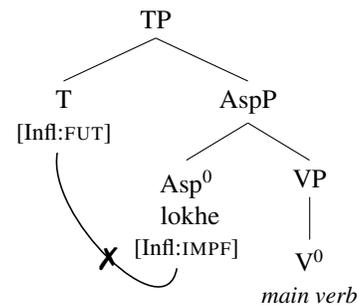
(26)   Lexical LV:

        U-za-**qala** a-bale.
        1-FUT-first 1-read.SUBJ
        'He will first read'
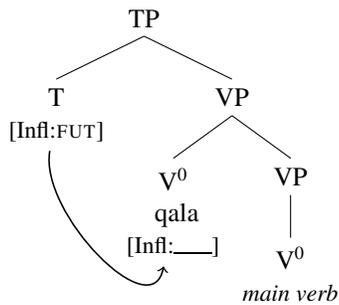
(27)   Functional LV:

        *U-**za**- lokhe e-bala.
        1-FUT-still 1-read.PART
        'He will still be reading'

    The structure in (27) is not ineffable – tense can be expressed by means of periphrasis, i.e. supported by the default auxiliary verb *be* (28).

(28)   U-za-be   *e-lokhe* e-bala.   (cf. (27))
       1s-FUT-AUX 1s-still 1s-read
       'He will still be reading'.

The tense feature in (27) behaves like a stranded inflection in derivational analyses of verbal periphrasis (e.g. Cowper (2010); Bjorkman (2011); Arregi & Klecha (2015); Pietraszko (2016)), where an inflectional feature which fails to combine with a verb in the syntax, triggers auxiliary support.

    To conclude, we have seen systematic syntactic asymmetries between PART-selecting and SUBJ-selecting LVs, which strongly suggests that the choice between participial and subjunctive morphology has systematic, not idiosyncratic grounds. Building on this conclusion, the next section develops an account of how the main verb morphology is derived from the functional–lexical distinction within LVs.

## 3. Deriving main verb morphology: Direct and dependent valuation

    Assuming the functional–lexical distinction argued for in the previous section, the two LV-types differ in the type of Infl-feature, which in turn has consequences for Infl-agreement with the main

verb. Functional LVs behave like any inflectional head with an Infl-value: they serve as a goal for Infl-agreement with the main verb (29). Thus, functional LV-construstions involve a normal case of Infl-agreement, where an Infl-value is transmitted directly from the goal. Lexical LVs, on the other hand, have an unvalued Infl. I assume that an agree relation can be established between two unvalued features (Pesetsky & Torrego, 2007), even though Infl-valuation cannot take place at this point. I propose that, in such an agree relation, the higher unvalued feature assigns a dependency feature, DEP, to the lower head which it failed to value (30). I call this relation *dependent valuation* (31).

(29) Functional LV: *direct valuation*
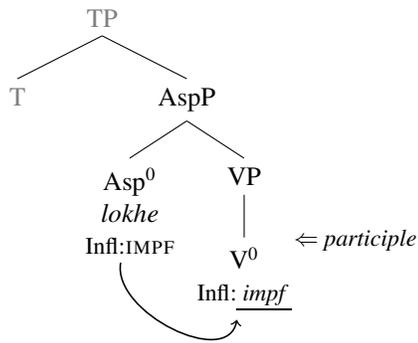
(30) Lexical LV: *dependent valuation*
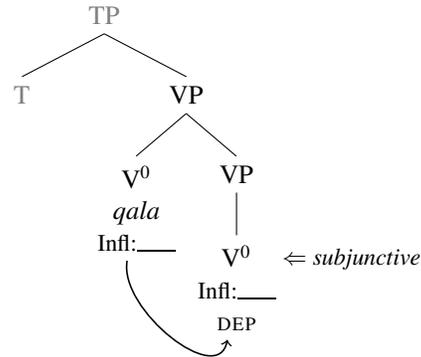
(31) ***Dependent valuation***
   a. Structural description: $\alpha_{[F:\underline{\quad}]}$ c-commands $\beta_{[F:\underline{\quad}]}$
   b. Structural change: $\beta_{[F:\underline{\quad}\ DEP]}$

As a result of dependent valuation, the Infl-feature of the main verb becomes linked to the Infl-feature of the LV, and its Infl-value will be determined by whatever value the higher feature receives later in the derivation. In (30), the Infl-value on both verbs will be determined by the Infl-value on T.

Evidence for the dependent valuation analysis of lexical LV constructions comes from tense agreement. Given the inflectional deficiency of lexical LVs (no Infl-value), the analysis predicts that the main verb will covary with the Infl-feature of the head *above* the lexical LV, such as T in (30). As we see in (32), this is borne out. While present and future tense require a present subjunctive form of the main verb, past tense triggers past subjunctive morphology.

(32) [$_T$ Infl:PRES/PST/FUT   [$_{LV}$ Infl:$\underline{\quad}$ [$_{V_{main}}$ Infl:$\underline{\quad}$,DEP]]

   a. U-∅-qala   a-bale.
       1-PRES-first 1-read.**PRES.SUBJ**
       'He first reads'
                            Present T: present subjunctive

   b. U-za-qala   a-bale.
       1-FUT-first 1-read.**PRES.SUBJ**
       'He will first read'
                            Future T: present subjunctive

   c. U-∅- qale   wa-bala.
       1-PST-first 1-read.**PST.SUBJ**
       'He first read'
                            Past T: past subjunctive

After dependent valuation by the LV and direct valuation by T in (32), the two verbs end up with the same Infl-value, but the main verb additionally contains the dependency feature DEP. I propose that the subjunctive form is morphology sensitive to DEP. Since Ndebele has only two subjunctive forms: past and present/unmarked subjunctive, the lexicon makes the distinctions in (33), where past subjunctive is more specific, while present subjunctive is the elsewhere subjunctive form.

(33) a. [PST, DEP] ↔ *past subjunctive*   b. [DEP] ↔ *(unmarked) subjunctive*

I treat participial morphology as the default non-finite verbal form: one which appears on any verbal element which is neither the highest verb in the clause nor bears a DEP feature.[5]

In the proposed analysis, subjunctive morphology is defined contextually: it arises in an inflectionally deficient context; in particular, when the most local Infl-feature does not have a value. This view is fundamenatally different from many existing approaches, in which subjunctive mood morphology is treated as corresponding to a morphosyntactic mood feature, such as [Mood:SBJV], typically associated with a Mood head in the clausal periphery (Giorgi, 2009; Giannakidou, 2009; Damonte, 2010; Lakakou & Quer, 2016, a.o.). In the approach proposed here, no such feature or head is involved in licensing subjunctive mood morphology – a desired result given the absence of evidence for a subjunctive clause periphery in complements of lexical light verbs.

4. Extension to subjunctive CPs

In addition to light-verb constructions, subjunctive morphology in Ndebele appears on verbs in subjunctive clauses, introduced by a complementizer (34).

(34) Ngi-funa ukuthi ngi-bale.
      1sg-want COMP 1sg-read.SUBJ
      'I want to read.'

I argue that subjunctive morphology in subjunctive CPs arises via dependent valuation, as well. A familiar property of subjunctive clauses is the absence of independent temporal specification (Picallo, 1984; Giorgi & Pianesi, 1997; Landau, 2004; Giannakidou, 2009, a.o.). I propose that this deficiency of the subjunctive T is syntactically encoded as an unvalued (rather than a valued) Infl-feature on T. Thus, in subjunctive CPs, the inflectionally deficient T is responsible for assigning the DEP-feature to the main verb via dependent valuation (35).

(35) Subjunctive clauses: [Matrix-CP V [SUBJ-CP [T Infl:___   *dependent valuation*   [V Infl:___ , DEP]]]]

A remaining question concerns the valuation of the subjunctive T itself. A potential source of an Infl-value is the matrix verb. However, there is no tense agreement between the matrix and the embedded verb in Ndebele subjunctive clauses (36), suggesting that crossclausal Infl-valuation is impossible in this language. I assume that the Infl-feature in (35) does not receive a value in the syntax and is spelled out as the unmarked subjunctive form.

(36) Ng-afuna   ukuthi abale./*wabala.
      1sg-want.**PST** COMP 1-read.**SUBJ**/*1-read.**PST.SUBJ**
      'I wanted him to read.'

I would like to suggest potential evidence for such a cross clausal Infl-dependency in other languages. In many Romance languages, the embedded verb in a subjunctive clause does covary with matrix tense, as illustrated with Italian in (37).

(37) a. Gianni crede   che Maria sia   incinta.   *Italian* (Giorgi, 2009:7)
          Gianni believe.**PRES** that Maria be.**PRES.SUBJ** pregnant.
          'Gianni believes that Maria is pregnant'

      b. Gianni credeva   che Maria fosse   incinta.
          Gianni believe.**PST** that Maria be.**PST.SUBJ** pregnant.
          'Gianni believed that Maria was pregnant'

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[5] It should be noted that the term "non-finite" cannot be understood here as the lack of tense or agreement on the verb. Participles in Ndebele can have both types of inflection. Nonetheless, the highest verb in Ndebele (and many related languages) is formally distinguishable from participles, typically by subject agreement allomorphy. Due to space limitations, I cannot give a detailed account of participial, non-participial and subjunctive morphology.

Since the pattern in (37) is part of a broader phenomenon, known as *Sequence of Tense*, a full application of the dependent valuation proposal to clausal subjunctives requires further crosslinguistic research.

5. Conclusion

I argued that main-verb morphology in Ndebele LV-constructions follows from the LV's nature as functional or lexical, and its consequence for the type of valuation involved. The view of subjunctive morphology as a reflex of dependent valuation has implications for the distribution of subjunctive verb forms. Under the present account, subjunctive morphology is not a consequence of the verb's relation (licensing/agreement) with a Mood head, but is assigned contextually: it arises in inflectionally deficient syntactic contexts, such as subjunctive clauses and complements of LVs in Ndebele. From a crosslinguistic perspective, subjunctive forms have a broad distribution, appearing in a variety of intensional/irrealis environments (e.g. with modals, conditionals or imperatives). What unifies these contexts is the lack of (independent) temporal specification, whose proposed morphosyntactic correlate is an unvalued Infl-feature on T – a trigger of dependent valuation. The dependent valuation approach can capture the variety of contexts in which subjunctive forms appear from the same common property of those contexts – their inflectional deficiency.

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