

## Delayed Valuation\*

*A reanalysis of “upwards” complementizer agreement and the mechanics of Case*

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### 1. Introduction

#### 1.1. Approaching goal features

Minimalist theory posits a class of morpho-syntactic features that are unvalued and uninterpretable (uFs). uFs are analyzed as *probes* which must acquire values from matching features of a suitably local expression. The search space of a probe  $\alpha$  is generally taken to be its c-command domain, comprised of the contents of  $\alpha$ 's sister  $\beta$ . This approach to valuation was initially motivated by empirical phenomena like (1) (see Chomsky 2000).

- (1) a. There *is* [a man] in the room.
- b. There *are* [two men] in the room.

Epstein (1998) argues that the central role of c-command in syntactic relations has a derivational basis, and his proposals yield a simple, organic account of the downward directionality of probing: at the point of Merge,  $\alpha$  has no place to look other than  $\beta$ . It follows automatically that  $\beta$  is where  $\alpha$  must seek the valuation that it needs. Thus (2):<sup>1</sup>

- (2) MERGE ( $T_{u\Phi}$  [<sub>VP</sub> DP<sub>3S</sub>...]) necessarily  $\rightarrow$  [ $T_{u\Phi,3S}$  [<sub>VP</sub> DP<sub>3S</sub>...]].

Its explanatory power and elegant design make this idea highly appealing. Many locality properties of the Agree relation are derivable under two additional assumptions similarly rooted in the derivation. The first of these is cyclic Spell-Out, which by purging

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\* This paper could not have existed without the illuminating research of Michael Diercks on complementizer agreement in Lubukusu (see Diercks (2010) and (to appear b)). I thank Lillian Waswa, Aggrey Wasike, and especially Justine Sikuku for Lubukusu data in this paper that are not taken from Diercks (to appear b). Thanks also to Mark Baker, Jonathan Bobaljik, Zelko Bošković, Sam Epstein, Martha McGinnis, Ken Safir, and Susi Wurmbrand for discussions in relation to this material. A special thanks to Dan Seely for comments on an early draft that helped clarify my thinking about valuation relations.

<sup>1</sup> I abstract away from the proposal that T inherits its probe features from C as in Chomsky (2007, 2008); Richards (2007). See Epstein, Kitahara, & Seely (2010), Carstens (2010, 2011), Haegeman & van Koppen (2010), Carstens & Diercks (2011), Diercks (2011b), and Kandybowicz (2011) for arguments against this.

accumulated content at regular intervals accounts for well-established depth limits on valuation relations (see the Phase Impenetrability Constraint of Chomsky (2000, 2001); henceforth PIC). The second factor is the assumption (alluded to above) that valuation occurs whenever possible. The default, Minimalist approach is that the probe  $\alpha$  cannot delay, arbitrarily ignoring relevant material with which it was Merged and instead awaiting the arrival of content added at a later point, higher in the tree.

Well-known syntactic processes attributable to unvalued features show downwards (c-command) sensitivity (among them (1a,b), and see discussion of West Germanic complementizer agreement in §1.2 and §3). So in addition to the virtue of simplicity the derivational approach to valuation is amply motivated by empirical patterns. But questions arise in connection with the features identifying “active” *goals* in Agree relations, such as a DP’s *uCase*. As uninterpretable features that need to acquire values, they meet the definition of probes. If probing cannot be delayed, the very existence of goal features is puzzling. Why is it licit for goal features to lack valuation until a probe finds them? Why do they not probe their own c-command domains and, if a match is absent there, cause the derivation that contains them to fail?<sup>2</sup>

In this paper I argue that there is no separate species of goal features. Rather I propose that every *uF* probes its sister upon Merge as described above. If a *uF*  $\gamma$  fails to be valued before phasal Transfer, the result is a PF crash due to unclarity as to how  $\gamma$  should be pronounced (see Epstein, Kitahara & Seely (2010) and Carstens (2010) on this conception of *uF*-induced crashes). But prior to the fatal point of Transfer, *DELAYED VALUATION* is

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<sup>2</sup> Bošković (2007, 2011); Epstein & Seely (2006) argue that goals must move and probe; see discussion below.

possible under limited circumstances. Thus the defining property of goal features is that their valuation does not happen right away (see 3). An additional step or two is involved.

(3) **Goal features:** uFs that find no match at the point of first Merge.

(4) **DELAYED VALUATION:** Valuation that is not obtained within a uF's original c-command domain.

Understanding this much about goal features yields some new insights into atypical valuations relations including apparent upwards agreement phenomena (see Baker (2008), Diercks (2010), (2011), (to appear b) and downwards Case-checking (Bobaljik & Wurmbrand (2005); Wurmbrand (2004/2006)). And exploration of such instances of DELAYED VALUATION gives us important information regarding how it comes about.

## 1.2 Preview of complementizer agreement and DELAYED VALUATION

The empirical core of this paper is a difference between West Germanic and Lubukusu complementizer agreement (CA). uPhi on a West Germanic complementizer is valued by the embedded subject, under closest-command at first Merge (Carstens (2003); Hageman & van Koppen (2011)). I argue that this is because the West Germanic agreeing complementizer is Merged low in the left periphery; in the cartography of Rizzi (1997), it is Fin(ite)<sup>0</sup> – the bottom head in the articulated CP domain (see (5)). In contrast, the agreeing Lubukusu complementizer is a higher C, which I analyze as Rizzi's Force<sup>0</sup>, merged after the embedded clause has been transferred to Spell Out (see (6); transferred material here and subsequently is shaded). For this reason, a successful derivation including Lubukusu's agreeing C relies on DELAYED VALUATION.<sup>3</sup>

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<sup>3</sup> Through a timing paradox and an oversight my analysis of Lubukusu vs. West Germanic CA made a first unattributed appearance in a draft of Diercks, Putnam, & van Koppen (2011). See their paper in progress for an interesting proposal that Lubukusu C has unvalued interpretable features explaining some semantic restrictions on CA reported in Diercks (to appear b). I will provide a different perspective in §3.7. See their

- (5) a. Kvinden **dan** die boeken te diere zyn [West Flemish; Haegeman 1992]  
 I-find that-PL the books too expensive are  
 'I find those books too expensive.'

b.  $\text{Fin}_{u\Phi} [\text{TP SU T} [\text{vP SU v} [\text{VP ...}]]]$  *West Germanic Complementizer Agreement*  
*At Merge, uPhi of Fin successfully probes the embedded subject*

- (6) a. N-enya n-di Barack Obama a-khil-e [Lubukusu; Diercks to appear b]  
 1SSA-want 1s-that 1Barack.Obama 1S-win-SB]  
 'I want Barack Obama to succeed.'

b.  $[\text{ForceP Force}_{u\Phi} \dots [\text{FinP Fin} [\text{TP SU ...}]]]$  *Lubukusu Complementizer Agreement:*  
*uPhi of Force cannot probe the transferred SU.*

Close inspection of Lubukusu CA argues that its DELAYED VALUATION involves raising ForceP to an outer Spec of the higher vP (see 7), and thus motivates the conclusion in (8).

- (7)  $[\text{vP ForceP}_{u\Phi} [\text{vP SU} [\text{v' v} [\text{VP... V ForceP}]]]]$  *Lubukusu Complementizer Agreement:*  
*ForceP raises and its uPhi probes SU*

- (8) **Mechanics of Delayed Valuation:** uF with no match in its c-command domain can be valued ex-situ, by raising to closest c-command a matching feature.

Support for (7) comes from the fact that CA with the subject is possible even when ForceP originates within the VP complement to a phasal Applicative head (cf. McGinnis 2001), as the theme argument in a double object construction. Thus if movement of ForceP does not take place, the agreeing complementizer is transferred well before the subject is merged.

The proposals in (7) and (8) converge with the analysis of English nominative valuation in Bošković (2007, 2011) and Epstein & Seely (2006) (though my approach will differ from them both in some significant respects). And (8) converges also with the analysis of Case-driven movement of nominatives in German restructuring constructions involving 2 lexical verbs as described and analyzed in Bobaljik & Wurmbrand (2005). But Bobaljik &

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paper also for much more detailed comparison of downwards versus upwards probing approaches to CA than I provide here. In glosses, CA= complementizer agreement; SA=subject agreement; PST = past. Cardinal numbers (1-3) denote person features when they are accompanied by a number specification (s= singular and pl= plural); thus 2sSA=second person singular subject agreement. Arabic numbers 1-17 are noun classes, hence 2SA=subject agreement for noun class 2. Other abbreviations should be transparent.

Wurmbrand (op cit) also present important evidence that the uCase of a VP-internal DP can be valued nominative in situ, if the domain is small enough (a simple clause or a restructuring complement to a modal or raising verb). Putting together the evidence of Lubukusu CA with Bobaljik & Wurmbrand's proposals for German, I will argue that (8) should be broadened as follows.<sup>4</sup>

(8') **Mechanics of Delayed Valuation:** uF with no match in its c-command domain can be valued:

- (i) Ex situ, by raising to c-command a matching feature in a higher phase, *OR*
- (ii) In situ, by a matching feature within the same phase.

The approach I will adopt to motivating movement is sketched in (9).

(9) Why there is movement: the edge feature of a head H removes uF from within the complement of H.

(9) is intended as an implementation of Bošković's (2007, 2011) proposal that features of the moving item drive movement.<sup>5</sup> And (8') is only a slight modification of Bobaljik & Wurmbrand's (2005) proposal for what they call *agreement domains*, extended to both Case and the novel facts of Lubukusu CA. In §5 I will present a speculative proposal that (8i) is unnecessarily restrictive: DELAYED VALUATION may be less about establishing a specific directionality than about matching features being made local, though the operation of (9) obscures this fact in many cases. There is some reason to think that when an edge feature is not available c-commanding a potential source of valuation  $\beta$ , moving of uF  $\alpha$  to be closest c-commandee of  $\beta$  may suffice; hence the revised (8'R).

(8'R) **Directionality-Free Mechanics of Delayed Valuation**  
uF with no match in its c-command domain can be valued:

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<sup>4</sup> Henceforth I will assume that being *closest* is prerequisite to any successful matching/valuation relation, and restrict attention in definitions to the hierarchical and phasal aspects of the relations.

<sup>5</sup> A plausible alternative to (9) is to suppose that probing is triggered always and only by (re-)Merge. (9) seems slightly preferable in that it does not rely on the existence of any actual probing operation.

- (i) Ex situ, by raising into locality with a matching feature in a higher phase, *OR*
- (ii) In situ, by the closest matching feature within the same phase.

Thus while my approach rejects upwards/downwards as a parametric choice (Baker 2008, Diercks 2011a), the investigation results in a suggestion that something resembling “upwards”-looking valuation processes are in principle available in all languages when first Merge provides no results. Any intrinsic directionality to probing is illusory, and so perhaps is any actual process of “probing”, on this view (cf. Dan Seely personal communication).

### **1.3 uF of X become uF of XP**

The approach to goal features and upwards agreement phenomena that I advocate here leads inevitably to rejection of the view that unvalued features of X abort XP or make it impossible for XP to Merge with Y (Chomsky 2000; Adger 2003). Chomsky (2000:132 writes, “Properties of the probe [...] must be exhausted before new elements of the lexical subarray are accessed to drive further operations.” But a DP bearing unvalued uCase is licit in syntactic relations with other expressions, including Merge with a selecting head (Merge (H, DP<sub>uCase</sub>)), and Merge of a higher probe that can value its uCase. Given that “active goal features” meet the definition of probes and that in my own and several other analyses they *are* probes (see Bošković (2007, 2011); Epstein & Seely (2006)) the hypothesis expressed in Chomsky’s quote is untenable. Throughout this paper I accordingly assume that XP inherits the features of X, because its label is a copy of X. Any unvalued features of X thus become properties of XP and can probe the c-command domain of XP (see also Bejar & Rezac (2009) for a different implementation of this idea). I return to the issue of XP probing in §7, arguing that concord on APs and agreement on the Luyia adjunct ‘how’ are additional cases in which unvalued features of X obtain value in relations (Agree (XP<sub>uPhi</sub> Y(P))).

## 1.4 Structure of the paper

This paper consists of eight sections. In §2 I propose the approach to goal features in terms of DELAYED VALUATION that is the theoretical premise upon which subsequent sections rely. In §3 I explore the difference between West Germanic and Lubukusu complementizer agreement and its implications for how DELAYED VALUATION works. §4 considers DELAYED VALUATION of Case, focusing on Bobaljik & Wurmbrand's treatment of nominative in German restructuring contexts, and the proposals of Bošković (2007, 2011) and Epstein & Seely (2006) regarding English Case. §5 addresses the question of how and when movement occurs. §6 looks at agreement displacement phenomena discussed in Bejar & Rezac (2009) in light of my findings. §7 provides independent evidence from a range of additional phenomena that uF of X can be valued through probing by XP. §8 concludes.

## 2 Goal features

Consider the partial derivation of (10a) presented in (10b,c) below. (10b) indicates that when v Merges with VP, VP contains a DP direct object bearing unvalued Case. Under fairly standard Minimalist assumptions, the interaction of this DP's uCase with v's uPhi permits both to be valued as shown in (10c).

(10) a. I will see him.

b. MERGE ( $v_{u\Phi i}$  [ $VP DP_{3S, uCase...}$ ])

c. [ $v_{u\Phi i 3S}$  [ $VP DP_{3S, uCaseAcc...}$ ]]

The process is repeated in subsequent stages of the derivation presented in (11) below.

The subject is Merged bearing a uCase feature (11a). Then vP is Merged with T, which bears a uPhi probe (11b). Only after this step can uCase of the subject DP be valued (11c).

(11) a. MERGE ( $DP_{1S, uCase}$  [ $vP...$ ])

b. MERGE ( $T_{u\Phi i}$  [ $vP DP_{1S, uCase}$  [ $v' V...$ ]]])

c.  $T_{u\Phi i3S} [_{VP} DP_{1S-uCaseNom...}]$

(10) and (11) represent the mechanics of Case-valuation in Chomsky (2000, 2001). The state of affairs sketched out here is at odds with the assumption that uFs must find values, where possible, in their c-command domains.

My proposal is to extend to goal features like uCase the approach that successfully accounts for probe uFs, that is, the assumption that valuation is automatically attempted at first Merge. Appearances to the contrary arise by virtue of an independently motivated claim that it is possible for matching of a uF  $\alpha$  to initially fail and the derivation to converge nonetheless as the syntactic object that contains  $\alpha$  is expanded to include additional material (Bejar (2003), Rezac (2003), Bejar & Rezac (2009)). I propose that D bears a uCase feature which is not valued in its c-command domain (= NP) because there is simply nothing suitable there (see (12)). Note that if uCase is assumed to be a property of N rather than D, greater technical difficulties face the problem's resolution since N is not the head of DP; hence DP does not automatically inherit its features (and see Carstens (2010, 2011) for arguments that there is no "percolation" of morpho-syntactic features from N to D).

(12)  $[_{DP} D_{uCase} \begin{array}{c} \diagup \quad \diagdown \\ \text{X} \end{array} [_{NP} \dots]]$

*Upon Merge, D's uCase cannot be valued*

There are in principle at least 3 conceivable ways in which a syntactic object that contains a stranded uF like D's uCase in (12) might be thought to progress towards a convergent derivation. I summarize in (13), where  $\alpha$  represents any uF in such a circumstance.

(13) Hypotheses for DELAYED VALUATION of uF  $\alpha$

- (i)  $\alpha$  raises to probe a possible valuer  $\beta$  under closest c-command (perhaps pied piping the XP bearing  $\alpha$  and thus yielding common Spec, head configurations and relations; cf. Epstein et al (1998); Epstein & Seely (2006); Bošković (2007, 2011)).
- (ii)  $\alpha$  can be valued by iF of a higher expression in a limited domain without moving, as the



syntactic object that includes it is expanded to include some  $\beta$  with matching features (Rezac (2003); Bejar & Rezac (2009)).<sup>6</sup>

(iii)  $\alpha$  is valued if a probe  $\beta$ , Merged higher in the same phase, takes it as goal in an Agree relation.

Though I have set out the problem of DELAYED VALUATION in relation to English Case, both raising and in situ analyses have been proposed for it in the syntactic literature as noted above. Choosing the best among these analyses is not an easy task due to the confounding issue of whether there is an independent catalyst for DP-movement in English -- the EPP. My strategy in this paper is therefore to evaluate the possibilities in (13i-iii) in relation to several different classes of phenomena that I think are more conclusive, beginning with the two varieties of complementizer agreement I have already introduced: the direct, downward-valued variety found in West Germanic, and the apparently upward-probing variety found in Lubukusu (cf. Diercks (to appear b)). As noted in the introduction, I analyze the latter as DELAYED VALUATION resulting from the absence of  $i\Phi$  in the c-command domain of Lubukusu C's  $u\Phi$  at the point of Merge, because Lubukusu C is high in the left periphery. By the time it enters the syntax, cyclic Transfer has removed the subject. Successful valuation is a subcase of (12i). But §4 and §5 present evidence that (13ii-iii) are also options employed in natural language for providing DELAYED VALUATION of  $u\Phi$ s, with the choice among mechanisms based primarily on locality. I will argue that (13ii) and (13iii) can be collapsed, hence the two-point conclusion in (8').

Before we begin, a clarification is in order regarding my approach to Case.

Throughout the paper I will assume with Bošković (2011) that categories can value  $u\text{Case}$  only if they themselves have uninterpretable but intrinsically valued Case features -- thus T

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<sup>6</sup> Rezac (2003) and Bejar & Rezac (2009) treat this as second-cycle probing. I will argue for a more neutral conceptualization under which it is simply Match and valuation in a larger domain; see §6 for discussion.

bears uNom, and v or P uAcc. Because they have values, these features do not require “checking” or deletion, but a match relation with one of them is necessary to provide valuation for D(P)’s intrinsically unvalued uCase feature.<sup>7</sup> And as in Chomsky (2000, 2001), the Case-valuing heads generally have uPhi. These assumptions are important ingredients in the creation of a unified treatment for agreement and Case.

### 3. Evidence from “upward” complementizer agreement.

#### 3.1 The empirical issue

I argued in §2 that there is no species of uF that fails to probe downwards upon Merge, for reasons rooted in the derivation. Goal features heretofore seemed a notable exception to this rule. The proposal in §2 eliminates them as an obstacle to a unitary conception of uFs, arguing that goals are simply uFs that cannot obtain values on first Merge.

The idea that probes must search in their sisters has been challenged in recent work by Baker (2008), Diercks (2011), and (to appear b)), Zeijlstra (2012), Wurmbrand (2011) among others. Baker (op cit) proposes that upwards/downwards probing (henceforth U/D) is a parametric choice. One piece of evidence he cites is the existence of agreement in certain languages between a complementizer and the subject of the immediately higher clause. I illustrate with data from Lubukusu since it will be explored in detail here (CA is bolded in (14) and (15), from Diercks (to appear b))..

- (14) Khw-aulile **khu**-li ba-limi ba-funaka- ma-indi. [Lubukusu]  
 1plSA-heard 1pl-that 2-farmers 2S-harvested 6-6-maize  
 ‘We heard that the farmers harvested the maize.’

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<sup>7</sup> Contra Pesetsky & Torrego (2004) and Zeijlstra (2012) I do not adopt Brody’s (1997) *Thesis of Radical Interpretability* and the conceptually related proposal that Nominative uCase on DP is uT, valued by iT of Tense. Carstens (2010) and Boskovic (to appear) argue that grammatical gender is strictly uninterpretable: on N it is valued but uninterpretable; on agreeing categories it is both unvalued and uninterpretable. A valuation relation (T, DP<sub>uT</sub>) is in principle possible however under the directionality free approach in (8’R).

- (15) Sammy ka-bol-el-wa      a-li    ba-keni    b-ola.  
       1Sammy 1SA-say-APPL-PASS 1-that2-guests 2S-arrived  
       ‘Sammy was told that the guests arrived.’

Diercks (op cit) provides two important arguments that Lubukusu CA is not simply subject agreement copied onto it from the higher T (a possibility that is in any case at odds with phase theory for reasons that will become clear in §3.4.2). In subject extraction contexts, T can only agree in number and gender (Diercks calls this the Alternative Agreement Effect, thus AAE below), but agreeing C exhibits full features of gender, number, and person (16). And in imperatives, there are no explicit subject agreement features on the verb; but C bears second person singular or plural (17a,b). Hence it appears that Lubukusu C has independent uPhi features that are valued by the subject (assuming with Diercks op cit that in imperatives like (17a,b) there is a silent second person subject).

- (16) Naanu o-manyile    a-li    (\*o-li)      Alfred a-l-ola?  
       who    AAE-knows 1-that (\*AAE-that)    1Alfred 1SA-FUT-arrive  
       ‘Who knows that Alfred will arrive?’

- (17) a. Suubisye o-li      o-kh-eche      muchuli.  
       promise 2-that    2SSA-FUT-come tomorrow  
       ‘Promise me that you (sg) will come tomorrow.’  
       b. Loma mu-li      orio      muno.  
       say    2PL-that    thank you very much (pl)  
       ‘Say thank you very much.’

The Lubukusu pattern resembles that of CA in the better-documented West Germanic (WG) languages in being demonstrably independent of SA. But the two contrast crucially in that WG CA reflects features of the embedded SU (see (18)). Carstens (2003), Haegeman & van Koppen (2010) argue that West Germanic C has uPhi distinct from that of T, and each uPhi is valued by SU independently as seems to be the case in Lubukusu. Among the evidence

provided by Haegeman & van Koppen (op cit) is the fact that WG C can agree with the left member of a conjoined subject, while T must agree with the whole:<sup>8</sup>

- (18) Ich dink de-s [ toow en Marie] kump. [Lumburgian]  
I think that-2s you(s) and Marie come.pl  
'I think that you and Marie will come'

### 3.2 Against analysis of Lubukusu as an upwards-agreeing language

I showed above that the agreeing Cs of West Germanic and Lubukusu both have uPhi features independent of those giving rise to subject agreement on the verb; but the values they acquire are drawn from quite different domains – the higher versus the lower clause. For Baker (op cit) and Diercks (2010), the contrast between West Germanic and Lubukusu CA motivates and is at least partially explained by the U/D parameter. A very fruitful approach to parameters attributes them to properties of lexical items (Borer (1984), Chomsky (1995)). As Baker (op cit) acknowledges, U/D is probably not implementable in these terms. It is hard to imagine a potential feature of LIs, save perhaps a fanciful designation such as “novelty seeker,” that could encode the downwards value of the U/D parameter, causing an unvalued feature to spurn valuation available to it in a feature-match at Merge. A less constrained and predictive grammar results from the admission of representation-based parameters like U/D.

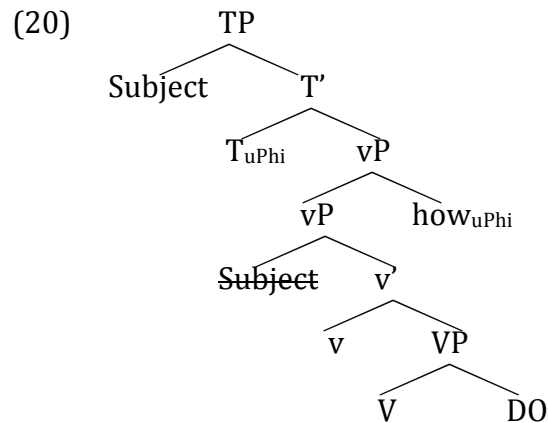
In addition to this derivationalist and parameter-theoretic argument, there is also strong empirical evidence in Lubukusu that agreement does not in general look upward for

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<sup>8</sup> Some but not all conjoined DPs allow mismatches between SA and CA in Lubukusu, and I have yet to determine a general pattern. Lubukusu conjoined DPs exhibit puzzling behavior in other respects, suggesting that they originate conjoined and can then separate (see Baker & Safir (2012a)) and/or perhaps originate separate and move to conjoin. Person hierarchies also seem to influence agreement with conjoined DPs. Pending insight into their syntax I defer discussion of their interaction with CA to future research.

valuation..<sup>9</sup> Carstens & Diercks (2011) argue that the Lubukusu *wh*-expression ‘how’ is a right adjunct to *vP* bearing *uPhi* which are valued by the subject through downward probing (see (19) and (20)).

(19) A-li-le            e-nyama   a-riena /\*e-riena?  
       1SA-eat-PST 9-meat    1-how/9-how  
       ‘How did he eat the meat?’



Viewed in isolation, (19) might seem compatible with several alternative analyses, among them (i) upwards agreement, where *uPhi* of ‘how’ are valued by the subject in Spec, TP; or (ii) downwards control by the matrix subject of a hypothetical *pro* subject in a ‘how’ predicate. But only the analysis in (20) explains agreement on ‘how’ in an A-movement type of locative inversion (LI) construction, restricted to locatives selected as arguments of an unaccusative verb. In this construction the locative DP (*DP<sub>loc</sub>*) raises to Spec, TP leaving the thematic subject *in situ* (see (21), adapted from Diercks (2011)). T agrees with the inverted *DP<sub>loc</sub>* while ‘how’ agrees with the *in situ* subject (22a). Carstens & Diercks (op cit) propose that ‘how’ probes downwards as in (22b).

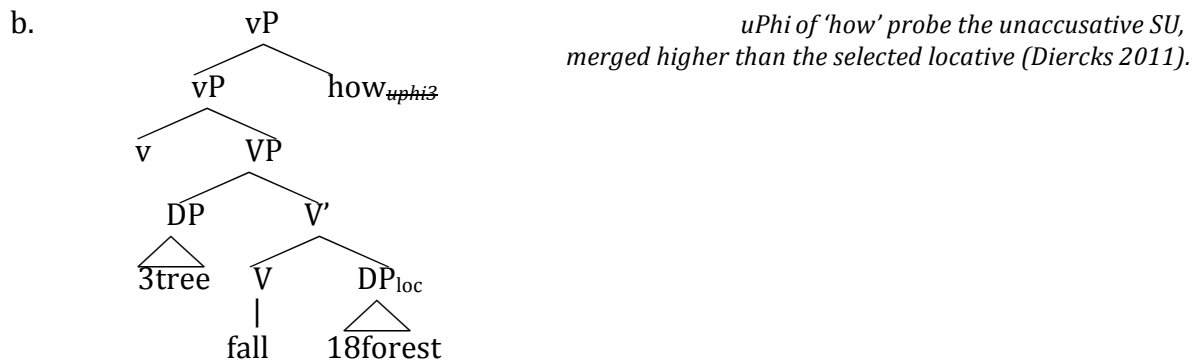
(21) **Repeated agreement LI (RALI):**

[<sub>TP</sub> LOC T-v-V... [<sub>VP</sub> ▯ [<sub>VP</sub> SUBJ ▯ LOC ] ] ]

*DP<sub>loc</sub> complement to V raises to Spec, TP;  
 thematic SU in situ (Diercks 2011)*

<sup>9</sup> This is partly obscured by frequent pairing of *uPhi* and edge features; see Carstens’s (2005); Collins (2004).

- (22) a. **Mu**-mu-siiru **mw**-a-kwa-**mo** ku-mu-saala ku-rie RALI  
 18-3-forest 18SA-PST-fall-18L 3-3-tree 3-how  
 'How did a tree fall in the forest?' (Lit: In the forest fell a tree how?)



Agreeing 'how' is thus powerful evidence that Lubukusu uPhi probes its c-command domain at first Merge, as the derivationalist view of syntax predicts. It provides empirical arguments against upwards Agree in Lubukusu, either as a matter of parametric choice (Baker (op cit) and Diercks (2011)) or as a universal, as in Zieljstra (2012). While it is conceivable that uPhi of different categories probe in different directions in Lubukusu, this attributes a sort of arbitrariness to syntactic behavior that is difficult to reconcile with Minimalist principles. A unified analysis seems vastly preferable. In §3.3 I provide an approach under which, despite surface appearances, Lubukusu CA also probes downwards, both at first Merge and in the relation that ultimately values its features. This brings Lubukusu's agreeing C into line with agreeing 'how' and with a number of well-motivated approaches to Case valuation discussed in this paper; and I take these to be strengths of the proposal. I will nonetheless conclude in §4 that valuation relations are not intrinsically directional. They rely only upon sufficiently local feature matching.

### 3.3 The delayed valuation approach

I turn now to the facts of WG and Lubukusu CA illustrated in (5a) and (6a), repeated below.

- (5) a. Kvinden **dan** die boeken te diere zyn [West Flemish; Haegeman 1992]  
 I-find that-PL the books too expensive are  
 'I find those books too expensive.'
- (6) a. N-enya **n-di** Barack Obama a-khil-e [Lubukusu; Diercks to appear b]  
 1SSA-want 1s-that 1Barack.Obama 1S-win-SBJ  
 'I want Barack Obama to succeed.'

I propose that, like the difference between probe and goal features, the contrasting properties of CA in the two languages is due to whether valuation is available for the relevant uFs in their Merge locations. The analysis rests on interaction among a few independently motivated factors: (i) the Phase Impenetrability Condition of Chomsky (2000); (ii) an articulated left edge as in Rizzi (1997, 1999) allowing differences in the height of agreeing Cs in the 2 cases; and (iii) one of the DELAYED VALUATION mechanisms sketched out in relation to goal features in §2. Relevant aspects of Rizzi's approach to the left periphery are illustrated in (23) (INT = interrogative; FOC = focus). The version of the PIC that I adopt is shown in (24).

(23) ...[ForceP FORCE [FOCP FOC [IntP INT [FinP FIN [TP SU T...]]]]] *Articulated left periphery*

(24) In a phase  $\alpha$  with head H, the domain of H is inaccessible to operations outside  $\alpha$ , only H and its edge are.<sup>10</sup>

Since West Germanic C clearly has access to the contents of the embedded TP I propose that it is the lowest complementizer, Rizzi's Fin. When uPhi of Fin probes its sister upon Merge, SU is accessible under the PIC (see 25). Hence Fin's uPhi can find a match in the features of SU within its c-command domain at first Merge:

(25) a.  $\text{Fin}_{u\text{Phi}} [\text{TP } \text{SU } \text{T} [\text{vP } \text{SU } \text{v} \dots]]$  *West Germanic Complementizer Agreement*  
*uPhi of Fin successfully probe the subject*

---

<sup>10</sup> The version of the PIC in Chomsky (2001) (see below) can capture the delay in Lubukusu CA valuation if both ForceP and FinP are strong phases, so Force cannot reach across Fin into TP, and if the analysis of hyper-raising constructions is slightly altered (see discussion of (27) ahead, and also note 11). ; I leave this aside.  
 (i) Given phases ZP and HP, the domain of H is inaccessible to operations at ZP, only H and its edge are.

- b.  $\text{Fin}_{u\text{Phi}} [\text{TP SU T } [_{\text{VP}} \text{SU v} \dots]]$

In contrast Lubukusu's agreeing C is closer to the matrix clause – I will assume it is Rizzi's Force. Suppose Fin is a phase head; then by the time Force merges, phasal transfer has taken place and the subject is already gone. Thus like a goal feature, uPhi of agreeing C cannot be valued until and unless Merge of additional material expands the possibilities.

- (26)  $[_{\text{ForceP}} \text{Force}_{u\text{Phi}} \dots [_{\text{FinP}} \text{Fin } [_{\text{TP}} \text{SU } \dots]]]$  *Lubukusu Complementizer Agreement:*  
*Force<sub>uPhi</sub> cannot probe SU, removed by phasal transfer*

But there is reason to think the phase head of the CP-domain is instead intermediate between ForceP and FinP. Carstens & Diercks (to appear) argue from the existence of reconstructed readings for examples like (27a) that there is HYPER-RAISING in Lubukusu -- raising out of tensed clauses. While the agreeing C is not possible in a HYPER-RAISING construction (see (27b)), HYPER-RAISING is licit across a non-agreeing complementizer *mbo*.

- (27) a. Mikaeli a-lolekhana **mbo** a-si-kona  
Michael 1SA-seem that 1SA-PRES-sleep  
'Michael seems to be still sleeping.'  
[Lit: Michael seems that is sleeping]  
(OK upon observing Mike's house is dark: the reconstructed reading)
- b. \* Mikaeli a-lolekhana **a-li** a-si-kona  
Michael 1SA-seem 1-that 1SA-PERS-sleep  
'Michael seems to be still sleeping.'

Following Carstens & Diercks (to appear) I identify *mbo* as Lubukusu's low C Fin. The simplest approach to the permeability of clauses introduced by *mbo* is to assume with Carstens & Diercks (to appear) that *mbo* is not a phase head.<sup>11</sup> Hence cyclic transfer must

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<sup>11</sup> Bošković (2007) reviews evidence from Chuckchee and Blackfoot from Stepanovic & Takahashi (2001) and Legate (2005) suggesting that Agree can reach into an embedded clause. He argues that only Move is subject to the PIC. Given the evidence that Lubukusu cross-clausal agreement fails, I suggest instead that the relevant C in Chuckchee and Blackfoot is the low non-phasal C Fin, so that long-distance Agree in these languages relies on the same embedded clause permeability as Lubukusu hyper-raising across *mbo*. See also Bhatt (2005), Bobaljik & Wurmbrand (2005) for analyses of some long-distance agreement in terms of restructuring, and Polinsky & Potsdam (2001) for arguments that long-distance agreement in Tsez is mediated by a null topic in Spec of the embedded CP.



be triggered by a null head between *mbo* and agreeing C. Rizzi (1999) posits a C intermediate between Fin and Force, where interrogative complementizers (Int) appear. I will assume that there are both interrogative and non-interrogative versions of Int, and that the CP it heads (IntP) is selected by Force. A raising verb selects a bare FinP headed by *mbo*, out of which A-movement is possible (and see note 11 on long-distance agreement); other verbs of speech, perception, and thought select ForceP.<sup>12</sup> containing the intermediate, phasal CP.<sup>13</sup> Thus *mbo* clauses are permeable, and uPhi of the agreeing C cannot be valued by an embedded subject – all the desired results are obtained.

(28) [ForceP Force<sub>uPhi</sub> [IntP Int [FinP Fin [TP SU ...]]]] *Lubukusu Complementizer Agreement:*  
✕ *Force<sub>uPhi</sub> cannot probe SU, removed by phasal transfer.*

The situation for uPhi of Force at the point in (26/28) is entirely parallel to that of D's uCase in (12). In line with the possibilities in (13), there seem to be three ways in which valuation might be hypothesized to take place here. Force might raise to c-command an expression bearing iPhi (with or without pied-piping surrounding material). Alternatively, Force might probe upwards as the syntactic object containing it is expanded. Lastly, Force might be able to obtain valuation without doing anything at all, when a higher expression is merged that bears some relevant uF probe feature and/or matching iPhi. Teasing out the best among these options is the next task. I will argue below that ForceP raises to outer Spec, vP where its uPhi probes the subject.

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<sup>12</sup> Diercks (2011b) presents evidence of raising to object (RTO) across agreeing C – a state of affairs at odds with this analysis (see (i)). I follow Bruening (2001) in assuming RTO can be either A- or A' movement. The A-movement variety originates in outer Spec, CP (in Lubukusu, outer Spec of ForceP<sub>uPhi</sub>).

(i) N-enya Baraka Obama n-di a-khil-e  
 1sSA-want 1S-that 1SA-win-SUBJ  
 'I want Barak Obama to win'

<sup>13</sup> See Diercks (2011b) for discussion of other verbs and C choices; also brief discussion in §3.7.

### 3.4 The subject orientation and its implications

#### 3.4.1 The empirical problem

The evidence that Force(P) must move lies in the identity of the expression that ultimately values its uPhi. Diercks (to appear b) demonstrates that only the subject of the immediately superordinate clause can value uPhi of C. C cannot agree with a more remote subject (see (29)); nor with an indirect object or causee (see 30) ((29) and (30a) from Diercks op cit; thanks to Lillian Waswa for (30b)).

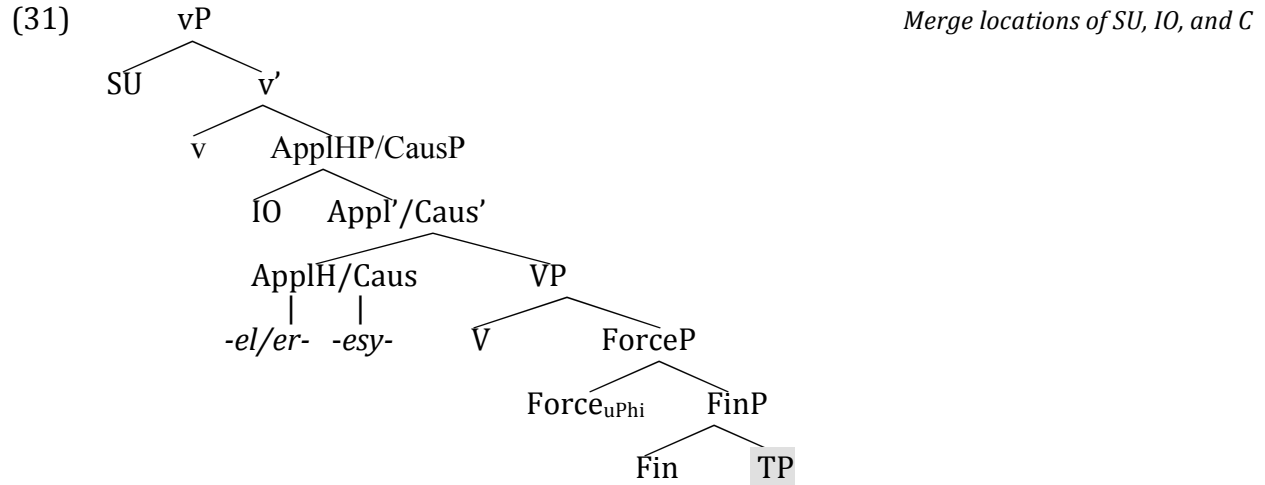
(29) Alfredi ka-a-loma a-li ba-ba-andu ba-mwekesia \*a-/ba-li o-mu-keni k-ola  
1Alfred 1SA-PST-say 1-that 2-2-people 2SA-revealed \*1-/2-that 1-1-guest 1S-arrived  
'Alfred said people revealed that the guest arrived.'

(30) a. Ewe w-abol-el-a Nelsoni \*a-/o-li ba-keni ba-rekukha.  
you 2SSA-say-APPL-FV 1Nelson 1/2s-that 2-guests 2SA-left  
'You told Nelson that the guests left.'

b. N-ok-esy-a Wekesa ndi /(\*ali) ba-keni ba-rekhukha.  
1SSA-see-CAUS-FV 1Wekesa 1s-that (\*1-that) 2-guests 2SA-left  
'I showed Wekesa that the guests had left.'

(29) indicates that the relation underlying Lubukusu CA is local, as Diercks (to appear b) points out. Given this, (30a,b) present a puzzle. Following Marantz (1993) and McGinnis (2001) I assume that indirect objects in Bantu languages merge in Spec of a 'high' Appl(icative)P located between vP and VP (on 'high' versus 'low' applicatives see Pylkkanen 2002, 2008, for whom the external argument is merged in Spec of VoiceP where VoiceP>ApplHP>vP>VP; this differences is not significant here). The syntax of causative and applicative constructions seems to be parallel in Lubukusu so I will treat them alike (see Baker & Safir (2012b), §3.4.2:(30) and §3.5). Hence the schematic structure of (30a,b) is (31). Evidence that IO asymmetrically c-commands DO is presented in (32), supporting this analysis (see Barss & Lasnik 1986; Marantz 1993 for early recognition of the

significance of binding for diagnosing the structure of double object constructions).<sup>14</sup> As (31) illustrates, the Merge positions of the subject and agreeing C are not at all local.



- (32) a. Na-a-rer-er-a                      buli   mayi<sub>i</sub>      omwana   wewe<sub>i</sub>  
          1sSA-PAST-bring-APPL-FV   every 1mother   1child      1POSS1  
          'I brought each mother<sub>i</sub> her<sub>i</sub> child' (OK with bound variable reading)
- b. \*Na-a-rer-er-a                      mayi      wewe<sub>i</sub>   buli   omusoleli<sub>i</sub>  
          1sSA-PAST-bring-APPL-FV 1mother 1POSS1   every   1boy  
          \*'I brought his<sub>i</sub> mother each boy<sub>i</sub>' (OK without bound reading)

Thus whether Force(P) is hypothesized to raise, to probe upwards, or to be valued by a feature of T or the subject DP interacting with it downwards, the indirect object or causee would seem to be in the way. Diercks (op cit) argues that there is a logophoric subject-oriented null operator in Spec of the embedded CP with which C agrees (see (33)). But the mechanics of the proposed operator's subject orientation are unclear, leaving the question restated but not fully answered. The apparent contrast in agreement directionality between Lubukusu's agreeing 'how' and Force<sub>uPhi</sub> is also mysterious under this account.

- (33) a. [You<sub>i</sub> say-APPL Alfred<sub>j</sub> [CP OP<sub>i</sub> C<sub>uPhi</sub> the guests left]] →  
       b. [You<sub>i</sub> say-APPL Alfred<sub>j</sub> [CP OP<sub>2nds</sub> C<sub>uPhi2nds</sub> the guests left]]

<sup>14</sup> Binding relations in Lubukusu double object constructions are more complex than this, as will be detailed §3.5. I assume that the rigid word order and binding pattern when both objects are animate reveal the underlying hierarchical relations; see also prior works on the topic of DOCs cited in this section.

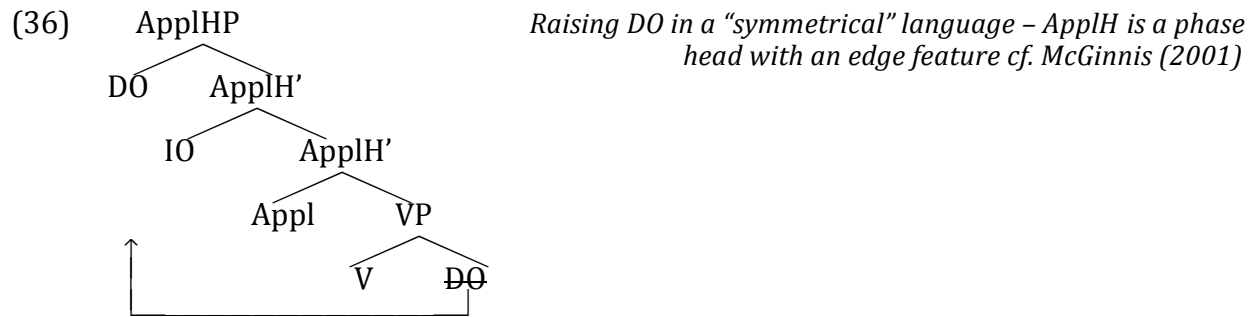
### 3.4.2 A movement account

Lubukusu is a so-called “symmetrical” language: either a direct or an indirect object can generally be realized as an object pronoun, or move to Spec, TP in a passive (see also Baker & Safir (2012b)). McGinnis (2001) argues that in such languages, Appl is a phase head with an edge (= EPP) feature<sup>15</sup> permitting direct objects to raise across indirect objects to feed passivization and pronominalization. The examples in (34) demonstrate this symmetry, and (35) shows that causatives are also symmetrical (thanks to Aggrey Wasike for (34); (35) is from Baker & Safir (2012b)). I illustrate McGinnis’s approach in (36).

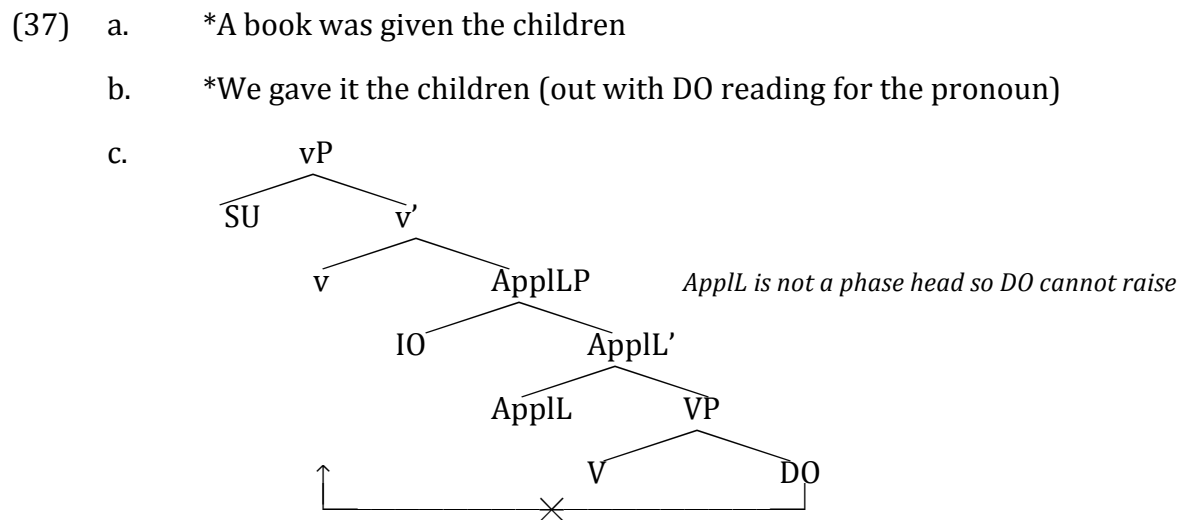
- (34) a. Khu-rer-er-e                      omusoleli vitabu  
           1plSA-bring-APPL-PAST    1boy        8book  
           ‘We brought the boy books’
- b. Khu-**mu**-rer-er-e                      vitabu  
           1plSA-1OM-bring-APPL-PAST    8book  
           ‘We brought him books’
- c. Khu-**vi**-rer-er-e                      omusoleli  
           1plSA-8OM-bring-APPL-PAST 1boy  
           ‘We brought them (to) the boy’
- d. Omusoleli a-rer-er-w-e                      vitabu  
           1boy        1SA-bring-APPL-PASS-PAST    8book  
           ‘The boy was brought books’
- e. Vitabu vi-rer-er-w-e                      omusoleli  
           8book 8SA-bring-APPL-PASS-PAST 1boy  
           ‘The books were brought (to) the boy’
- (35) a. Sitabu sy-ok-esy-ebw-a    Wekesa.  
           7book 7SA-see-CAUS-PASS    Wekesa  
           ‘The book was shown to Wekesa.’
- b. Wekesa o-ok-esy-ebw-a    situbu.  
           Wekesa 1SA-see-CAUS-PASS    7book  
           ‘Wekesa was shown the book.’

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<sup>15</sup>Chomsky (2008) defines an A’ position as one created by an edge feature of a phase head, raising questions about the A/A’-status of pronominalization and passivization under this analysis. I discuss this in §3.5.



In contrast, only the IO can be passivized or pronominalized in an “asymmetrical” language (many of which are the “low” applicatives in Pylkannen 2002, 2008; but see McGinnis 2005 on exceptions in each direction). McGinnis argues that when double object constructions are not symmetrical, Appl is not a phase head. It hence has no edge feature, so the DO is trapped below the IO (unless it is A'-extracted to Spec, CP; presumably via Spec, vP).



McGinnis’s successful analysis of the two varieties of applicatives extends nicely to the symmetrical double object constructions of Lubukusu. Interestingly for our purposes, it is completely incompatible with an approach to Lubukusu CA in terms of in situ valuation of Force<sub>uPhi</sub>. This is because by the time the subject is merged, the complement to the Appl/Caus phase head including ForceP will have been spelled out:

(38)  $[_{VP} SU [_{v'} v [_{AppIP} IO [_{AppI'} Appl [_{VP} V [_{ForceP} Force_{uPhi} \dots ]]]]]]$

*Since Lubukusu Appl is a phase head (, an in situ approach to CA must fail*

On the other hand, McGinnis's proposal that an edge feature of phasal Appl can raise the DO yields a straightforward movement analysis for valuing  $Force_{uPhi}$ . Since ForceP is the direct object, the possibility of raising it is automatically available under McGinnis's approach.<sup>16</sup>

(39)  $[_{VP} SU [_{v'} v [_{AppIP} ForceP_{uPhi} [_{AppIP} IO [_{AppI'} Appl [_{VP} V [_{ForceP_{uPhi}} \dots ]]]]]]]]$

The question that the analysis must confront next is why the indirect object does not value  $Force_{uPhi}$  under closest c-command, once this raising has taken place. Something apparently blocks the potential Agree relationship:

(40)  $[_{VP} v [_{AppIP} ForceP_{uPhi} [_{AppIP} IO [_{AppI'} Appl [_{VP} V [_{ForceP} \dots ]]]]]]$

*ForceP raises to outer Spec, Appl but Agree does not occur*

I will argue below that the IO or causee is Case-licensed in situ and hence "deactivated". As the derivation continues, Merge introduces  $v$  and the thematic subject in Spec,  $vP$ . If  $uPhi$  of ForceP is successfully valued after ForceP raises again, to outer Spec,  $vP$ .<sup>17</sup>

(41)  $[_{VP} ForceP_{uPhi} [_{VP} SU [_{v'} v [_{AppIP} ForceP [_{AppIP} IO [_{AppI'} Appl [_{VP} \dots ]]]]]]]]$

*After ForceP raises again, Agree (ForceP<sub>uPhi</sub>, SU) succeeds*

The analysis rests crucially on the proposition that Lubukusu subjects and indirect objects/causees contrast with respect to  $vP$ -internal Case-valuation. I argue for this conclusion next.

<sup>16</sup> The phase-theoretic problem arises for the logophoric operator approach in Diercks (2010); (to appear b): unless the operator raises at least from Spec, CP to Spec, ApplP it will be trapped inside the transferred VP. But unlike movement of ForceP, raising of the operator does not fall out as a subcase of the independently motivated raising DO over IO, or from principles of  $uF$  valuation like (8') – a theoretical shortcoming.

<sup>17</sup> Example (15) demonstrated that C agrees with the derived IO subject when a double object verb with a ForceP complement is passivized. This result can be obtained by assuming either that (i) even unaccusative  $v$  is a phase head (see Legate 2003); or (ii) anticipating §3.3.4, when Appl is passivized the IO has no in situ Case licensing and hence is "active". ForceP stops in outer Spec, ApplP and probes the IO before the IO raises to Spec, TP (see also note 21). Solution (ii) is simple and consistent with the approach to movement in (9).

### 3.4.3 Case and multiple agreement with subjects

Much has been written about how and whether Case plays a role in Bantu (see among others Harford-Perez (1986); Baker (2003); Diercks (to appear a); Carstens (2005); Carstens (2010); Carstens (2011); Carstens & Diercks (to appear); Henderson (2007); Halpert (2011); and Ndayiragije (1999)). One area of conflict between Bantu language data and Case theory is the phenomenon of multiple agreement with subjects in Bantu compound tense constructions. Subjects can also be doubly agreed with in Lubukusu ‘how’ questions (see the Lubukusu (42) and (43), taken from Carstens & Diercks (2011), and the HYPER-RAISING (27a) of §3.4.2). Such iterating agreement is impossible in English (see (44)).

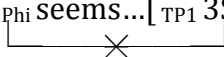
(42) a-kha-be ne-a-khola siina?  
1SA-FUT-be NE-1SA-do 7what  
‘What will s/he be doing?’

(43) Baba-ana **ba**-kha-kule bi-tabu **ba**-rie(ena)?  
2-children 2SA-FUT-buy 8-book 2-how  
‘How will the children buy books?’

(44) a. \*John has is sleepings.  
b. \*He seems \_\_ has left.

Chomsky (2000, 2001) addresses (44b), attributing it in part to a strict relationship between agreement and Case-valuation. He argues that Agree with a “phi-complete” probe (in (33b)/(45a,b), the lower T) values a DP’s uCase. This prohibits the embedded subject from Agreeing with the matrix T (see 45c). Chomsky (2001:6) writes, “Once the Case value is determined, N no longer enters into agreement relations and is ‘frozen in place.’”

(45) a. [TP<sub>1</sub> T<sub>1uPhi</sub> 3S<sub>uCase</sub> have left] →  
b. [TP<sub>1</sub> T<sub>1uPhi</sub> 3S<sub>uNom</sub> have left] Lower clause of (44b)  
c. \*[TP<sub>2</sub> T<sub>2uPhi</sub> seems...[ TP<sub>1</sub> 3S<sub>uNom</sub> T<sub>1</sub>...]] Agreement/movement of 3S blocked,  
after Case-valuation in the lower clause of (44b)



(46)  $[_{TP} \text{SU be} + T_{\text{Phi}} [_{\text{AspP}} \text{SU V} + v + \text{Asp}_{\text{Phi}} [_{VP} \text{SU} \dots]]]$  *Asp agrees with and raises SU; then T agrees with and raises SU*  
 Agree x2 Agree x1

In addition to the unusual ability of Bantu subjects to value multiple agreement, several works have made the potentially related observation that the location of DPs in many Bantu languages is unconstrained in ways unexpected from the standpoint of Case theory. Among the evidence is the licitness of inversion constructions like the Zulu (47). Consideration of such phenomena has played a major role in shaping proposals that Case is completely absent in Bantu (see in particular Harford-Perez (1986); Diercks (to appear a)).

- (48) CASE PARAMETER: a language does/does not have abstract Case.  
(Diercks (to appear a)).

24



otherwise exhibiting the constellation of properties that motivated Diercks (to appear a) to propose a negative value in Bantu for his Case parameter. One of the vP-internal positions that Halpert (op cit) argues is Case licensed in Zulu is that of applied objects. McGinnis (2001) also argues that Appl Case-licenses applied objects in Bantu languages generally – a view that I will adopt here.<sup>18</sup>

As noted above, Halpert’s proposals are based on Zulu, a language in which transitive inversions are possible, leaving the thematic subject in situ as we saw in (47). While Harford-Perez (op cit) and Diercks (to appear a) took evidence like (47) to indicate that Bantu DPs do not have abstract Case features restricting their distribution, Halpert’s proposals make it possible to interpret such inversions as coming about at least in part because more vP-internal Case-licensing is available in Bantu languages than in English.

It is accordingly very interesting to note that in Lubukusu, only unaccusative subjects may appear in situ (see (49), from Carstens & Diercks 2011):

(49) **Repeated agreement Locative inversion:**  $DP_{loc}$  raises to Spec, TP; thematic SU in situ<sup>19</sup>  
 $[_{TP} LOC \ T-v-V... [_{VP} \forall [_{VP} SUBJ \ \forall \ Loe ] ] ]$  *OK: unaccusative*

a. **Mu-mu-siiru mw-a-kwa-mo ku-mu-saala.**  
 18-3-forest 18SA-PST-fall-18L 3-3-tree  
 ‘In the forest fell a tree’

b. **\*Mw-iloo mu-sun-ile-mo e-nduyu.** *\*unergative*  
 18-5hole 18SA-jump-pst-18L 9-9rabbit  
 ‘Into the hole jumped the rabbit’

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<sup>18</sup> Halpert argues that Zulu Appl Case-licenses the argument to its right, usually the DO, while a higher licenser Case-licenses IO. But I will assume that Lubukusu Appl values Case on its own argument (since Appl raises, the directionality of this relation is an open question). The approach is preferable for Lubukusu since it does not lead to the erroneous expectation that in the absence of an IO, the hypothesized higher Case-licenser will be able to value Lubukusu in situ subjects as Halpert argues that it does in Zulu. My discussion here omits many interesting details of Halpert’s analysis including consideration of the augmentless Zulu nouns upon which her theory is based. All that is crucial for purposes of this analysis is that in situ IOs/causees have Case licensing (unless APPL/CAUS is passivized), and evidence that Lubukusu in situ subjects do not (see (49b,c)).

<sup>19</sup> In a second A’- type of LI construction ‘how’ also agrees with the post-verbal SU (Carstens & Diercks 2011).

- c. \*Mu-mu-siiru mu-kha-kule ba-ba-ana bi-tabu \*transitive  
 18-3-forest 18SA-FUT-buy 2-2-child 8-book  
 \*'In the forest bought the children books'

Departing somewhat from the framework of Halpert's proposals, I suggest that whether or not subjects can remain vP-internal diagnoses the availability of in situ Case licensing for them (see (45) and Belletti (1988)). In view of an identical contrast between in situ unaccusatives and other subjects in English and Italian, Belletti (1988) proposed that unaccusative subjects have a special inherent Case available to them in situ which allows them to remain there. This Case is compatible with subsequent Agree/structural licensing relations if an unaccusative subject raises out of vP. I adopt Belletti's approach here to explain the Lubukusu contrast in (49) and those of English in (51).

(50) If DP can surface vP-internally, then it is Case-licensed there.

- (51) a. On the table lay the keys to the jewelry box. *OK: unaccusative SU in situ*  
 b. There arrived a man with three daughters. *OK: unaccusative SU in situ*  
 c. \*In the kitchen smoked a waitress (a cigarette). *\*unergative/ transitive SU in situ*  
 d. \*There broke the children several toys. *\*transitive SU in situ*

Hence the fact that only subjects of unaccusatives can remain in situ in Lubukusu indicates that, unlike in Zulu, subjects cannot obtain Case-values in Spec, vP but must instead raise to Spec, TP. See Epstein & Seely (2006); Bošković (2007, 2011) for proposals that English nominative valuation is contingent upon raising the subject (and see §4 and §5); on the other hand see Halpert (op cit) for an argument that Zulu DPs receive no abstract Case in Spec, TP -- hence only DPs bearing an intrinsically Case-licensing pre-prefix may appear in Spec, TP.<sup>20</sup> The precise situation ex situ is not crucial here. What matters to the account of

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<sup>20</sup> Lubukusu DPs exhibit the preprefix but its removal does not yield the NPI reading found in Zulu (see Halpert (op cit)). A question arises regarding (50), if we adopt for Lubukusu Halpert's proposal of intrinsic Case-licensing for Lubukusu's preprefixed DPs, namely why would it be that an intrinsically Case-licensed DP can't remain in situ? Either something about intrinsic Case is incompatible with the in situ location in

CA is that at least until their arrival to Spec, TP, Lubukusu subjects are “active.”<sup>21</sup> IOs in contrast are Case-valued and hence “inactive” for relations with other probes.<sup>22</sup> As a result, Force<sub>uPhi</sub> cannot be valued by the object in Spec, Appl in (see (40), repeated below).

(40) [vP v [ApplP ForceP<sub>uPhi</sub> [ApplP IO [Appl' Appl [VP V [ForceP]]]]]]  
*ForceP raises to outer Spec, Appl but Agree does not occur*

Now a point of indeterminacy arises. Once SU is Merged, it is conceivable that a local match relation could be established between it and ForceP in Spec, ApplP (see (52)): at the edge of ApplP, ForceP is visible in relations at the next phase (Chomsky 2001). But given the existence of an edge feature on the higher phase head v, nothing prevents a derivation in which ForceP moves to an outer Spec, vP to c-command SU as in (41), repeated below.

(52) [vP SU [v' v [ApplP ForceP<sub>uPhi</sub> [ApplP IO [Appl' Appl [VP ... ]]]]]]  
*Hypothesis #1: Match with iPhi c-commanding uPhi*

(41) [vP ForceP<sub>uPhi</sub> [vP SU [v' v [ApplP ForceP<sub>uPhi</sub> [ApplP IO [Appl' Appl [VP ... ]]]]]]  
*Hypothesis #2: Match with uPhi c-commanding iPhi*

I can think of no empirical means for choosing among these options (assuming the CP would extrapose from either position; see §3.5 below). But the facts so far have been consonant with the view that “imperfections” of an expression force its movement from a position in which they cannot be immediately remedied via valuation, whenever such

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Lubukusu, or Lubukusu subject DPs are in fact forced to raise for structural Case, raising questions about (27a). Because the solution to this puzzle lies outside the scope of my paper I leave it for future research.

<sup>21</sup> I assume that Bantu multiple agreement involves iterating match relations between the valued but uninterpretable uGen feature of N and unvalued uGen (the “probe”) on categories that Agree with it (for a symmetrical version of the “activity requirement” where uFs must match in kind for Agree to work, see Carstens (2010, 2011a). If uCase is involved in an Agree relation, further Agree relations are often impossible because they yield unclarity at PF regarding how uCase should be pronounced (see Carstens (2010, 2011a); Epstein, Kitahara & Seely (2010)). Bejar & Massam (1999), Melebari & Seely (2011) provide evidence that Case values can change in the course of the derivation, but this seems to be an option unavailable in English and many familiar languages. I will not explore the sources of this cross-linguistic contrast here.

<sup>22</sup> Passivization can lift this restriction presumably by eliminating the Case-licensing property of Appl in a case like (34d) (passive can alternatively eliminate the Case-licensing property of v yielding e.g. 34e). This argues that the Case of Lubukusu IOs is not like German dative; I will assume that it is structural. Realization of the IO as a pronoun in cases like (34b) is arguably mediated by Appl itself, hence not a contradiction to my claim that with Case-licensing from Appl, the IO cannot interact with other probes.

movement is possible (see Bošković (2007, 2011);<sup>23</sup> Epstein & Seely (2006); my (9), and discussion to come in §5). There seems to be no principled basis on which to suspend this process at the stage in (52), save perhaps for applying a kind of “global economy” metric here, in the terminology of Collins (1994). I follow Collins (op cit) in considering this an illusory kind of economy. At the stage in (40), uPhi of ForceP cannot be valued, and this should suffice to drive its movement onwards if circumstances permit (i.e. there is a phase edge for it to move to). On this basis I adopt (41). The same consideration argues that in clauses without an indirect object, ForceP nonetheless raises to outer Spec, vP as in (53): it has a uF, and an edge feature is available to raise it (in §4 I will propose an exception to “imperfection-driven” movement which does not change the analysis here).<sup>24</sup>

(53) [<sub>vP</sub> ForceP<sub>uPhi</sub> [<sub>vP</sub> SU [<sub>v'</sub> V [<sub>VP</sub> V ForceP<sub>uPhi</sub> ]]]]

### 3.5 Summary and a word order question

I argued in §3.4 for an analysis of Lubukusu CA in which ForceP raises to Spec, vP where its uPhi are valued by the in situ subject. I present a full derivational history in (54), including head movements of V to Appl, V+Appl to v, and v+V+Appl to the middle field of the clause (for simplicity I represent adjunction to T, though a lower landing site for Bantu inflected verbs has been persuasively argued for; see among others Julien 2002). (54a-f) show the Merge operations building from embedded ForceP upwards to the vP level, and indicate

<sup>23</sup> In Bošković (2007) movement to what he calls a “cyclic Spec” like (52) is explicitly ruled out by a c-command requirement on probing. See §5 for discussion of an alternative view.

<sup>24</sup> Diercks (2011b) demonstrates that a CP within a complex NP agrees not with the head noun but with the subject. I assume there is no phase head with an edge feature lower than v (or Appl) to raise ForceP to closest c-command N. The pattern presents a challenge for the directionality free (8’R) that I argue for in §5. My only thought for the moment is that valuation awaits the phase level, at which point the CP is raised away.

(i) n-a-ulila li-khuwa nd-i/\*li-li Sammy ka-a-kula li-tunda  
 1sS-PST-hear 5-word 1sS-that 1Sammy 1sS-PST-buy 5-fruit  
 ‘I heard the rumor that Sammy bought the fruit.’

Transferred material with shading. After merge of Appl and the indirect object in steps (54c-d), v is merged in (54e). Merge operations take precedence over Move (see Chomsky 1995, 2001), so the subject is added next yielding (54f). ForceP then raises to outer Spec, vP (54g). Once T is merged (54h) and the subject raises to its Spec, (54i) results.<sup>25</sup>

- (54) a. [<sub>ForceP</sub> Force<sub>uPhi</sub> [<sub>FinP</sub> Fin [<sub>TP...</sub>]]] →  
 b. [<sub>VP</sub> V [<sub>ForceP</sub> Force<sub>uPhi</sub> [<sub>FinP</sub> Fin [<sub>TP...</sub>]]]] →  
 c. [<sub>Appl'</sub> Appl [<sub>VP</sub> V [<sub>ForceP</sub> Force<sub>uPhi</sub> [<sub>FinP</sub> Fin [<sub>TP...</sub>]]]]] →  
 d. [<sub>ApplP</sub> IO [<sub>Appl'</sub> V+Appl [<sub>VP</sub> V [<sub>ForceP</sub> Force<sub>uPhi</sub> [<sub>FinP</sub> Fin [<sub>TP...</sub>]]]]]] →  
 e. [<sub>v'</sub> v [<sub>ApplP</sub> IO [<sub>Appl'</sub> V+Appl [<sub>VP</sub> V [<sub>ForceP</sub> Force<sub>uPhi</sub> [<sub>FinP</sub> Fin [<sub>TP...</sub>]]]]]]] →  
 f. [<sub>VP</sub> SU [<sub>v'</sub> V+Appl+v [<sub>ApplP</sub> IO [<sub>Appl'</sub> Appl [<sub>VP</sub> V [<sub>ForceP</sub> Force<sub>uPhi</sub> [<sub>FinP</sub> Fin [<sub>TP...</sub>]]]]]]]] →  
 g. [<sub>VP</sub> [<sub>ForceP</sub> Force<sub>uPhi</sub>...] [<sub>VP</sub> SU [<sub>v'</sub> V+Appl+v [<sub>ApplP</sub> IO Appl [<sub>VP</sub> V [<sub>ForceP</sub> Force<sub>uPhi</sub>...]]]]]] →  
 h. V+Appl+v+T [<sub>VP</sub> [<sub>ForceP</sub> Force<sub>uPhi</sub>...] [<sub>VP</sub> SU [<sub>v'</sub> V+Appl+v [<sub>ApplP</sub> IO ...]]]] →  
 i. [<sub>TP</sub> SU V+Appl+v+T [<sub>VP</sub> [<sub>ForceP</sub> Force<sub>uPhi</sub>...] [<sub>VP</sub> SU [<sub>v'</sub> v [<sub>ApplP</sub> IO ...]]]]]

As noted above, this analysis is in the spirit of approaches in Epstein et al (1998), Epstein & Seely (2006), and Bošković (2007, 2011) to motivating syntactic movement. Though there are some differences in implementation among these works, each argues that an item bearing uF must move to a position where it c-commands a source of valuation. The analysis predicts, however, that agreeing CP should precede IO, contrary to fact.

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<sup>25</sup> The absence of an intervention effect by Force when T probes SU in (54h) might have either of 2 sources: A'-opacity (cf. Rezac (2003); Obata & Epstein (2011); Carstens & Diercks (2011) among others) or the invisibility of one uPhi to another uPhi probe even after valuation (cf. Carstens (2010); Carstens & Diercks (2011)).

- (55) a.\* Ewe w-abol-el-a [ o-li ba-keni ba-rekukha] Nelsoni  
 you 2SSA-say-APPL-FV 2SSA-that 2-guests 2SA-left 1Nelson
- b.\* Ewe w-abol-el-a o-li Nelsoni ba-keni ba-rekukha  
 you 2SSA-say-APPL-FV 2SSA-that 1Nelson 2-guests 2SA-left

Intended: 'You told Nelson that the guests left.'

*Neither CP (55a) nor C alone (55b) can precede the indirect object*

CPs have a well-known propensity to seek clause-peripheral positions that is likely at work here (cf. Stowell (1981); Emonds (1976)). The contrast between (56) and (57) demonstrates that English CPs cannot surface in the canonical position of direct objects. Instead they appear at the right edge of the clause.<sup>26</sup> Sentential subjects are similarly resistant to being "hemmed in" to the canonical subject position (see (58)).

- (56) a. John said [<sub>DP</sub> his name] loudly.  
 b. \*John said loudly [<sub>DP</sub> his name].
- (57) a. \*John said [<sub>CP</sub> that he was leaving] loudly.  
 b. John said loudly [<sub>CP</sub> that he was leaving].
- (58) a. Did [<sub>DP</sub> John's departure] upset Mary?  
 b. \*Did [<sub>CP</sub> that John left] upset Mary?

I propose that the CP headed by Lubuku's agreeing C = Force must surface at the right edge like the English CP in (57b). Thus word order does not conflict with a raising approach to delayed valuation of Lubukusu CA. Given this, and the advantages of the raising approach to overcoming phase-theoretic problems that confront in situ valuation of Force<sub>uPhi</sub>, I conclude that it is the best analysis of the facts.

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<sup>26</sup> Under the copy theory of movement perhaps the low in situ copy of ForceP must be the one spelled out. I have no insight as to why this might be, apart from convergence with the general pattern in (57) and (58).

### 3.6 Excursus on binding and the edge feature of Appl/Caus

§3 has developed an analysis of how uPhi of Force is valued, based upon the approach to ‘high’, symmetrical applicative constructions in McGinnis (2001). Following McGinnis, I have argued that ApplHP (and by extension CausP) has an edge feature that raises the DO across the IO in a language with symmetrical double object constructions. McGinnis argues that this edge feature indicates that ApplH is a phase head.

Chomsky (2008) proposes that an A’ position is one created by the edge feature of a phase head. As I noted in footnote 15, questions accordingly arise about the nature of raising of the DO across the IO, mediated by ApplH/Caus. Given that this movement feeds pronominalization and passive, should these be viewed as A’ processes in Lubukusu?

Alternatively, should the status of ApplH/Caus as a phase head be reassessed? Or is Chomsky’s biconditional linkage between phasal edge features and A’ positions too rigid?

My investigation uncovered novel evidence that raising of the DO across the IO is in fact A-movement. Some applied or causative verbs that take an animate IO and inanimate DO allow symmetrical ordering and binding possibilities among the two post-verbal objects. I show this in (59) and (60). When the IO precedes the DO as in (59a) and (60a), a universal quantifier in the former can bind a pronoun in the latter as expected (see (59b) and (60b); see also (32)). But when the DO precedes the IO as in (59c) and (60c), a universal quantifier in the DO can bind a pronoun in the IO (see (59d) and (60d)). McGinnis (2010) argues that binding relationships are irreversibly established as each phase is completed. Under this assumption, and given that the ApplP phase is not completed until the DO raises to outer Spec, Appl, the change in binders is correctly predicted to be licit.

- (59) a. Khu-rer-er-e                      omuloleli bitabu  
           1plSA-bring-APPL-PAST    1boy        8book  
           ‘We brought the boy books’
- b. Khu-rere-re                      buli    musoleli sitabu siewe  
           1plSA -bring-APPL-PAST    every 1boy        7book 7POSS1  
           ‘We brought every boy his (own) book’
- c. Khu-rer-er-e                      bitabu omusoleli.  
           1PLSA-bring-APPL-PAST    8book 1boy  
           ‘We brought the boy books’ [Lit: We brought books the boy]
- d. Khu-rere-re                      buli    sitabu omwene-syo  
           1PLSA-bring-APPL-PAST    every book    1owner-7  
           ‘We brought every book (to) its owner’
- (60) a. E-som-el-e                      buli    omwandiki    sitabu syewe  
           1sSA-read- APPL-PAST    every 1author        7book 7POSS1  
           ‘I read each author his book’
- b. Esom-el-e                      buli    sitabu omwandiki wasyo  
           1sSA-read- APPL-PASTevery 7book 1author        1POSS7  
           ‘I read every book (to) its author’

- (61) a. ...<sub>[VP SU v+Appl+read [ApplP every author [Appl' Appl [VP V his book]]]]</sub> = (60a)  
       b. ...<sub>[VP SU v+Appl+read [ApplP every book [ApplP its author [Appl' Appl [VP ...]]]]</sub> = (60b)

If raising of the DO across the IO were A'-movement, we would expect (59d) and (60b) to be unacceptable. Recall that in the order [V IO DO], a pronoun in the IO cannot be bound by a quantifier in the DO (see (32), repeated below). (62) shows that this is true also in cases where the DO is inanimate and the order [V DO IO] is possible. The degraded status of such an example does not seem to arise from a “backwards pronominalization” problem. (63) shows that backwards pronominalization is acceptable when a pronoun is within the subject and its logical antecedent is an object. More marginally, but not entirely excluded, is backwards pronominalization in a double object construction like (64). Hence the standard approach seems best – that the quantifier cannot bind a pronoun that it does not c-command. A'-movement would not be expected to have an impact; the bound reading is infelicitous in *\*Every paycheck, I gave its owner* just as in *\*I gave its owner every paycheck*.



- (32) a. Na-a-rer-er-a buli mayi omwana wewe<sub>i</sub>  
 1SSA-PAST-bring-APPL-FV every 1mother 1child 1POSS1  
 'I brought each mother<sub>i</sub> her<sub>i</sub> child' (*OK with bound variable reading*)
- b. \*Na-a-rer-er-a mayi wewe buli omusorereri<sub>i</sub>  
 1SSA-PAST-bring-APPL-FV 1mother 1POSS1 every 1boy  
 'I brought his<sub>i</sub> mother each boy<sub>i</sub>' (*OK without bound reading*)
- (62) \*N-ok-esy-a omwenyesyo buli kumupira  
 1sSA-see-CAUS-FV its.owner every 3ball  
 'I showed its owner every ball'
- (63) John ka-sim-a engenyi. Mayi wewe a-tekh-el-anga John eng'enyi buli nyanga.  
 1SA-like-FV 9fish. 1mom 1his 1SA-cook-APPL 1John 9fish every 9day  
 'John likes fish. His mother cooks John fish every day'.
- (64) ?N-ok-esy-a omwenyesyo kumupira  
 1sSA-see-CAUS-FV its.owner 3ball  
 'I showed its owner the ball'

Summing up, raising of the DO over the IO patterns as A-movement with respect to binding.

It also feeds passivization and pronominalization, both of which are typically part of A

rather than A' relations. Hence one of three things must be true:

- (65) Hypotheses consistent with A-movement of DO over IO in high Appl constructions
- Appl has an extra edge feature but it is not a phase head.
  - A position created by the edge feature of a phase head is not always an A' position, contra Chomsky (2008).
  - 'High' applicative constructions are always surrounded by an invisible layer of structure including a Spec position into which the DO A-moves across the IO; hence A-movement is not to an outer Spec, Appl contra McGinnis (2001).

Among these options (65b) seems the most promising. Arguing against (65a) is the fact that multiple edge features are consistent properties of v and C, and not available in every kind of XP. The problem with (65c) is that the IO in Spec, ApplP should intervene to block single step A-movement of the DO from VP to any Spec external to ApplP, so the desired results are unobtainable. It is also relevant that many Bantu languages have an inverse construction called Subject-Object-Reversal (SOR) in which a direct object raises to Spec, TP (see the Kilega (66a) from Kinyalolo (1991) via Carstens (2005)). It has been argued quite convincingly in Ndayiragije (1999) that SOR is A-movement to Spec, TP. To account

for the fact that the subject in Spec, vP does not block raising of the DO, Carstens (2005, 2010) proposes that the DO first moves to an outer Spec, vP (see (66b)). If outer Spec, vP were necessarily an A' position, A-movement through it to Spec, TP would be impossible.

- (66) a. Maku ta-ma-ku-sol-ag-a mutu weneene.  
 6beer NEG-6AGR-PROG-drink-HAB-FV lperson alone  
 'No one usually drinks beer alone'  
 [Lit: Beer doesn't usually drink a person alone]

- b. T [<sub>VP</sub> OB [<sub>VP</sub> SU [<sub>V'</sub> V [<sub>VP</sub> V OB]]]] → [<sub>TP</sub> OB T [<sub>VP</sub> ~~OB~~ [<sub>VP</sub> SU [<sub>V'</sub> V [<sub>VP</sub> V ~~OB~~]]]]]  
 Agree (T, OB) is possible after OB raises to outer Spec, vP

I conclude that (65b) is correct.<sup>27</sup> The A/A' distinction must be otherwise derived, perhaps from the presence or absence of an operator feature on the head of the chain (see Carstens & Diercks 2011 for recent discussion in relation to Lubukusu inversion constructions).

### 3.7 Restrictions on agreeing C and the logophoric operator approach

Diercks (to appear b) claims that Lubukusu CA agrees with a subject-oriented logophoric null operator in the Spec of an evidential point-of-view projection (= EpistP in (67), adapted from Diercks (to appear b:(130)); and see Cinque (1999); Speas (2004)). The analysis is intended to account for restrictions Diercks proposes in (68). (69a) illustrates one source of motivation for (68b): inanimate DPs were often judged by Diercks's speakers to be infelicitous controllers of CA unless they included an animate possessor (see (69a,b)). And the speakers Diercks consulted preferred a different C, *bali*, when either the speaker or the subject of the sentence doubts the contents of the embedded clause (see (70)).<sup>28</sup>

- (67) [<sub>TP1</sub> SU<sub>i</sub> V (IO) [<sub>EpistP</sub> OP<sub>i</sub> [<sub>Epis</sub><sup>0</sup>...[<sub>TP2</sub>...]]]]

<sup>27</sup> In §3.3 I argued that Fin is not a phase head to account for raising from tensed clauses headed by *mbo*. Adoption of (65b) makes it possible to reconsider this: we might instead suppose that *mbo* = Fin IS a phase head, but one whose Spec is not an A' position. I leave the decision among these options to future research.

<sup>28</sup> *Bali* is homophonous with the agreeing C for 3pl/Class 2, as is entirely consistent with its 'hearsay' usage. 2 of 3 speakers I consulted did not accept *bali* in the absence of a 3pl/Class 2 subject, however, as I will discuss below.

- (68) Conditions on complementizer agreement (Diercks 2011b):  
 a. Controller of agreement must be a subject.  
 b. Controller of agreement can establish a “point of view” (i.e. has a mind to report).
- (69) a. E-barua y-ekesya mbo (??e-li) Nelsoni a-sangaala  
 9-letter 9SA-showed that (??9-that) Nelson 1SA-is.happy  
 ‘The letter said that Nelson is happy.’  
 b. E-barua y-a Nelsoni y-ekesie e-/\*a-li ka-sangaala  
 9-letter 9-of 1Nelson 9SA-show9-/\*1-that 1SA-is.happy  
 ‘Nelson’s letter showed that he is happy.’
- (70) Mosesi a-ul-ile a-li /bali Sammy k-eba chi-rupia  
 1Moses 1SA -hear-PST 1-C/BALI 1Sammy 1S-stole 10-money  
 ‘Moses heard that Sammy stole the money.’  
 [*a-li*: Moses and the speaker believe it.]  
 [*bali*: Moses doesn’t believe it or the speaker doubts it.]

But Diercks also includes examples of CA with quasi-expletive subjects (see (71)), which he says are accepted by some speakers (*quasi*- because Diercks reports that such examples are interpreted as indicative of some unspecified evidence, more sharply than if the complementizer were non-agreeing *mbo*). These are hard to reconcile with (68b), the requirement that the agreed-with subject have a “mind to report” or a “point of view.”

- (71) a. Ka-lolekana ka-li Tegani ka-a-kwa  
 6SA-seems 6-that 6SA-PST-fall  
 ‘It seems that Tegan fell’  
 b. Li-lolekana li-li Sammy a-likho a-lwala  
 5SA-seems 5-that 1SA-PROG1SA-be.sick  
 ‘It seems that Sammy is sick’

I have already pointed out a locality problem for the null operator approach in connection with the phasal properties of Lubukusu’s symmetrical Appl/Caus. But this is not the only analytical shortcoming of (67). It is unclear why the point of view of the subject is not the determining factor in whether the subject can be agreed with in (70), and there is no explanation for why the point of view of the indirect object does not make it a plausible candidate to control CA in case like (72) (Diercks (to appear b: (39))). As Diercks’s two-

point formulation in (68) acknowledges, the evidential/point of view architecture and the null operator do not derive the subject orientation. This is very clear in the fact that logophoric pronouns in many languages are not bound exclusively by subjects, as Diercks notes (see the Yoruba (73) in which either the subject or the IO can bind the logophor). Pulleyblank (1986), Koopman & Sportiche (1989), Adesola (2005) provide successful analyses of logophoricity that do not rely on point of view architecture at all.<sup>29</sup>

(72) Chi-sale khu-mesa chy-a-subi-sya      Alfred mbo/??chi-li/\*a-li    chi-mbeba  
 10-mark 16-table    10SA-PST-believe-CAUS      that/10-that/\*3that 10-rat

chi-li      mu-nju  
 10SA-be 18-9house

(73) Olú<sub>i</sub> gbà fún Adé<sub>j</sub> pé kí òun<sub>i/j</sub> lo kí bàbá Ojó.  
 Olú said for Adé that SUBJ LOG go greet father Ojó  
 'Olú<sub>i</sub> agreed with Adé<sub>j</sub> that he<sub>i/j</sub> should visit Ojó's father'

The subject orientation is simply stipulated under Diercks's approach. In §3.4 I presented a syntactic approach that derives the subject orientation without stipulation. While an account of all the nuances of complementizer choice is outside the scope of this paper, I end this brief discussion with the observation that logophoricity and point of view not only fail to explain the subject orientation; they do not provide much insight into the semantic and pragmatic issues either. It seems to me more likely that the meaning and distribution of the agreeing C lie in its own lexico-semantic properties. As a first step I suggest (74) to account for the judgments in (70):

(74) Complementizers selected by verbs of locution, perception, and thought:

*Bali:*                      Hearsay  
*Agreeing C:*      Elsewhere

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<sup>29</sup> Pulleyblank (1986) presents quite a successful analysis of Yoruba logophoricity in which it is not even the logophor but rather the "anti-logophoric" pronoun that is bound by a null operator which hence must be A-free. The "logophoric" pronoun is used in "elsewhere" environments, including all instances of A-bound coreference that fall outside the domain of Principle A.

Two out of three Lubukusu speakers I consulted do not use the *bali* complementizer unless it is agreeing with a 3PL/Class 1 subject, and accepted agreeing C under both circumstances described in (70). For such speakers, the division of labor in (73) is simply absent.

#### **4. Mechanisms of delayed Case valuation**

##### **4.1 Introduction**

§3 argued that agreement can obtain DELAYED VALUATION by raising to c-command an “active” expression which bears iPhi features. In this section I broaden the investigation by turning to the issue of how uCase obtains DELAYED VALUATION.

As I pointed out in the introduction, the investigation of this topic is complicated by the consistency with which a DP must occupy Spec, TP in many languages including English. Attempts have been made to reduce this to Case (see Grohman, Drury, & Castillo 2000; Martin 1999; Bošković 1997, 2002, 2007, 2011); but consensus remains elusive.

However Bobaljik & Wurmbrand (2005; henceforth B&W) presents an illuminating study of two ways that nominative can be valued in German, a language which Wurmbrand (2004/6) argues convincingly lacks any general requirement that Spec, TP be filled. German also has Case morphology, and subject-verb agreement tracks the nominative DP. These three properties make investigation of German Case especially instructive.

B&W show that nominative case can be valued in situ on a VP-internal DP in two environments: (i) when it is the theme argument in the VP of a simple passive; or (ii) when it is the theme argument within the complement to a passive non-lexical restructuring modal or ‘seem’ (see also Wurmbrand 2004/2006). On the other hand, B&W also show that a nominative DP must raise to Spec, TP if its Merge location is too distant from T – outside

of what they refer to as a single *agreement domain*. This circumstance arises when restructuring involves two lexical verbs. In the interests of creating a unified account I will treat the VP2 complement to V1 as a Spell Out unit (see also §5.1 and footnote 30). B&W's analysis argues that uCase can drive raising of DP just as we saw uPhi driving raising of ForceP in Lubukusu, and hence supports (8'i) and the approaches to Case in Bošković (2007, 2011); Epstein & Seely (2006). But the existence of in situ nominative valuation strongly motivates (8'ii) as well (8' is repeated below). I conclude with B&W that both possibilities are part of natural language.

- (8') **Mechanics of Delayed Valuation:** uF with no match in its c-command domain can be valued:  
 (i) Ex situ, by raising to c-command a matching feature in a higher phase *OR*  
 (ii) In situ, by a matching feature within the same phase.

#### 4.2 German nominative in Bobaljik & Wurmbrand (2005)

B&W demonstrate that in German restructuring contexts, the case of an embedded object is dependent on the matrix verb. If the verb is active, the embedded object is accusative (75). If the matrix verb is passive as in (76), the object of the restructuring infinitival verb must be nominative even though this verb bears no passive morphology itself.

- (75) a. weil er den /\*der Traktor versucht hat [ t<sub>OBJ</sub> zu reparieren]  
 since he the.ACC/\*the.NOM tractor tried has t<sub>OBJ</sub> to repair  
 'Since he tried to repair the tractor' *active*
- b. weil er jeden/\*jeder Brief vergessen hat [ t<sub>OBJ</sub> zu öffnen]  
 since he every.ACC/\*every.NOM letter forgotten has t<sub>OBJ</sub> to open  
 'Since he forgot to open every letter' *active*
- (76) weil der Traktor zu reparieren versucht wurde  
 since the.NOM tractor to repair tried was.SG  
 'Since they tried to repair the tractor' *passive*

B&W go on to provide evidence from scope interactions that nominative DPs in restructuring infinitives are not uniform in location. In (77), the nominative must be

interpreted as having wide scope over the verb ‘forget’. Thus the interpretation cannot be one where the implicit agent remembered to close some but not all windows; rather, (77) means that no windows were remembered to be closed. In contrast, in the simple passive (78) and in (79) where the restructuring verb is a modal, a narrow scope reading is preferred for the nominative, though a wide scope reading is marginally possible.

(77) weil alle Fenster zu schließen vergessen wurden  
 since all windows(NOM) to close forgotten were  
 ‘Since they forgot to close all the windows’  $\forall \gg \text{forget}; * \text{forget} \gg \forall$

(78) weil mindestens einem Kind jede Übung gelungen ist  
 since at.least one.DAT child every.NOM exercise managed AUX  
 ‘Since at least one child managed to do every exercise’  $E \gg A/?A \gg E$

(79) weil mindestens einem Kritiker jeder Film gefallen sollte  
 since at.least one.DAT critic every.NOM film please should  
 ‘Since at least one critic should like every movie’  $E \gg A/?A \gg E$

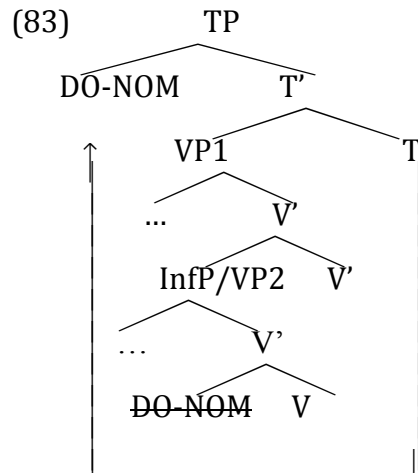
B&W argue for the generalizations in (80) and (81) (Cable to appear supports (81) with evidence from Luo, another language that lacks obligatory EPP of T). I reproduce their analyses of (78) and (77) in (82) and (83) respectively.<sup>30</sup>

(80) A DP may not be interpreted (for scope and binding) in a position lower than the domain in which it undergoes Case/agreement-checking.

(81) Case/agreement-checking may occur without DP-movement but only within a single *agreement domain*.



<sup>30</sup> Unlike Bantu applied objects, German datives cannot be agreed with or raised to Spec, TP even in a passive (see among others McFadden 2006). I assume that they therefore do not count in the calculation of *closeness* for the Case-valuing relation (Agree (T,  $DP_{uCase}$ )) in (82) and (8ii).



Representation of (77):  
Case driven movement and ex situ valuation of  $DP_{nom}$

B&W thus provide a strong and persuasive argument that successful valuation of a DP's uNom does not entail raising of DP to c-command T in all cases, contra Bošković (2007, 2011) and Epstein & Seely (2006). But in situ valuation of uCase can happen only when T and the relevant DP are within the same *agreement domain*. It follows inevitably from the theory of cyclic Transfer that the full inventory of *agreement domains* must include the phases v\*P and ForceP. Phasal transfer also potentially provides an excellent explanation for why a DP within VP2 cannot be valued nominative by the matrix T. Given this, and in the interests of forging a general account under one rubric, I suggest (as mentioned in §4.1) that the VP complement to a lexical restructuring verb in German be viewed as a phase in the sense of a Spell Out unit.<sup>31</sup>

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<sup>31</sup> Bobaljik & Wurmbrand argue that VP2 does not include an edge feature in part to account for the absence of reconstructed readings for the raised DP (see discussion in B&W:30 example (41)). Hence it arguably has some but not all features of a strong phase. They also claim that VP1 cannot have an edge feature either, for movement theoretic reasons, but given (9) and anticipating discussion of (8'R), I see no reason in principle to rule out the option that the nominative may surface in a Spec of VP1 if German T happens to have no EPP feature in a given sentence, and VP1 does. Scope phenomena motivating their analysis will still be captured.



## **5. Case and agreement viewed together: motivating A-movement**

### **5.1 The proposal**

At this point I turn to an important question facing any approach to delayed valuation – how to predict movement. As noted in the introduction, my answer is a version of the view that movement is driven by features of the moving item (see Bošković (2007, 2011)).

(9) Why there is movement: The edge feature of a head H removes any visible uF from within the complement of H.

(9) is intended to ensure that ForceP will raise all the way to outer Spec, vP, and that a DP that requires nominative will raise out of a restructuring infinitive with two lexical verbs as in B&W's analysis. It is also intended to give rise to obligatory raising of the nominative argument in languages like English that have EPP features in all clauses, like Bošković (2007, 2011) and Epstein & Seely (2006) propose. But in German, where T's EPP feature is arguably optional, nominative subjects will only optionally raise (see Cable to appear for arguments that optional raising to Spec, TP relies on optional EPP-features). In (78) and (79)/(82), the absence of an EPP feature does not cause any problem because in situ valuation is possible. In (77)/(83), because in situ valuation is impossible, a derivation including the optional EPP feature of T is arguably the only one that can converge (though see note 30 and discussion in §5.2).

Note that the analysis rests on the assumption that valuation does not precede raising, when the same head triggers both processes, so that there is no contradiction in the fact that T raises DP with uCase while also serving as its source of valuation.

Together (9) and (8i,ii, repeated below) account for all the instances of A-movement and in situ valuation we have observed.

- (8') **Mechanics of Delayed Valuation:** uF with no match in its c-command domain can be valued:
- (i) Ex situ, by raising to c-command a matching feature in a higher phase *OR*
  - (ii) In situ, by a local matching feature within the same phase.

## 5.2 A speculation: could raising to be closest c-commandee be enough?

Consider a possible addition to (8'), adding a second hypothetical option for successful valuation via movement:

- (84) uF can obtain valuation from features of a distant expression by:
- (i) raising to closest c-command it, *OR*
  - (ii) raising to be its closest c-commandee.

(84) is an initial attempt to suggest that only locality between 2 features matters for Match and Agree to proceed. If we determine that (83ii) is viable, and define locality as closest c-command, we can collapse (i) and (ii) as the revised condition (i) in (8'R).

- (8'R) **Directionality-Free Mechanics of Delayed Valuation:** uF with no match in its c-command domain can be valued:
- (i) Ex situ, by raising into locality with a matching feature in a higher phase *OR*
  - (ii) In situ, by a matching feature within the same phase.

I argued in §3 that Lubukusu ForceP must continue to raise after v is Merged because v has an edge feature, as is consistent with (9), hence rejecting the valuation scenario in (52) in favor of (41) (both are reproduced below). The argument was based on the fact that v has an edge feature, and motivated by the “imperfection-driven” approach stated in (9). This analysis was consistent with (8i).

(52)  $[_{VP} \text{ SU } [_{v'} v \text{ } [_{AppIP} \text{ ForceP}_{uPhi} [_{AppIP} \text{ IO } [_{AppI'} \text{ Appl}]]]]]]$  *\*Match with iFc-commanding uF*

(41)  $[_{VP} \text{ ForceP}_{uPhi} [_{VP} \text{ SU } [_{v'} v \text{ } [_{AppIP} \text{ ForceP}_{uPhi} [_{AppIP} \text{ IO } [_{AppI'} \text{ Appl}]]]]]]]$  *Match with uF c-commanding iF*

But consider a hypothetical case such as (85) in which an edge feature is not available to raise uF all the way to Spec, XP. B&W's account of in situ Nominatives in simple restructuring clauses argues that valuation is a simple matter of two uFs establishing a

matching relation under locality (8'ii). Given this, a natural question arises as to why (85) should be ruled out. Bošković (2007) labels Spec, YP in (85) a *cyclic Spec* and argues that raising of uF cannot stop here. This is in part due to standard minimalist assumptions that valuation relies upon probing, and probing requires closest c-command by a uF. But, following a suggestion of Dan Seely (personal communication), suppose that probing is just a metaphor. One feature does not in reality probe another; rather valuation is possible in a sufficiently local domain whenever a feature-match obtains. Assuming also the Activity Requirement, thus that both members in an Agree relation must have a uF, then what can be wrong with (85)?

(85) [XP X<sub>uF1</sub> [YP ...Z<sub>uF2</sub> [WP Z<sub>uF2</sub> ...]]]

*Valuation following movement of uF2 to the position closest c-commanded by uF1*

I suggest that (85) might be precisely the situation under which a subject's Case is valued in English [*for...to*] infinitives such as (86) and (87). It is well known that the presence of *for* on the left edge of an infinitival clause correlates positively with the possibility of a lexical subject appearing in an infinitive. Pronominalization shows that the lexical subject bears accusative Case, leading to the proposal in (Chomsky 1981) that *for* is a prepositional complementizer, assigning accusative to the subject of its infinitival complement.<sup>32</sup> (86) demonstrates with a pronominal theme argument of a passive verb raising to Spec of the infinitival TP where *for* values its Case as accusative. (87) illustrates the analysis for a transitive verb with an agent subject.

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<sup>32</sup> In more recent literature attention has turned away from the correlation of *for* with accusative, focusing on its incompatibility with subject extraction \**Who do you want for \_ to visit?* See Pesetsky (1991), Bošković & Lasnik (2003), Kim (2008) for proposals that English null C is an affix; its overt counterparts showing up when affixation is impossible. I will assume that solution to the overt versus null issue is not in principle incompatible with an account under which *for* values accusative Case (and see my suggestion above).

- (86) a. For him to be arrested would surprise me.  
 b. [TP 3S<sub>uCaseAcc</sub> to be [vP v [VP arrested <3S<sub>uCase</sub>>]]]...  
 c. [CP For<sub>uAcc</sub> [TP 3S<sub>uCaseAcc</sub>to be [vP v [VP arrested <3S<sub>uCase</sub>>]]]...  
 (87) a. For Mary to invite John is typical.  
 b. [TP Mary<sub>uCaseAcc</sub>to [vP <Mary<sub>uCase</sub>> v [VP invite John]]]...  
 c. [CP For<sub>uAcc</sub> [TP Mary<sub>uCaseAcc</sub>to [vP <Mary<sub>uCase</sub>> v [VP invite John]]]]

(86) and (87) argue that raising to be closest c-commandee as in (85) is licit; hence the more liberal wording of (8’Ri) should be preferred over that in (8’i). We need only suppose that it is impossible for a lexical DP to occupy [Spec, *for*] to account for the pattern of facts, perhaps because that DP is a non-operator or because *for* has no Spec (hence the famous *\*[for t]* effect might reduce to the impossibility of [~~wh~~ *for*]). With respect to the “activity” requirement, I further assume that *for* has uPhi agreeing abstractly with the infinitival subject, the same as English *v* agrees abstractly with the DP that it Case-licenses.

Melebari & Seely (2011) provide evidence similar to the English [*for...to*] construction that Case-valuation is possible under raising of a DP to be the c-commandee of a head with Case-“assigning” feature. They demonstrate that the Arabic complementizer *ʔanna* licenses accusative Case on a DP that follows it. Hence the contrast between the nominative subject in (88a) and the accusative subject in (88b). Melebari & Seely analyze this as re-valuation of the subject’s uCase from nominative to accusative (see Bejar & Massam (1999) on this phenomenon), so it does not disprove the narrow claim that unvalued features must raise to probe their valuers as in Bošković (2007, 2011) and my (8) and (8’i). It does however strongly suggest that valuation is not contingent upon the valuee’s c-commanding the valuer, hence weakening the motivation to reject (85).

- (88) a. ʔal-ʔawlad-u qaraʔ-u d-dars-a *Main clause SU is NOM*  
 the-boys-NOM read-3PL.MASC the-lesson-ACC  
 ‘The boys read the lesson.’

- b. ʔanna al-ʔawlad-a ʔakal-u T-Taʔaam-a yusʔidu-ni ʔanna, values SU as ACC  
 that the-boys-ACC ate-3PL.MASC the-food-ACC pleases 3PL.MASC-me  
 'That the boys ate the food pleases me.'

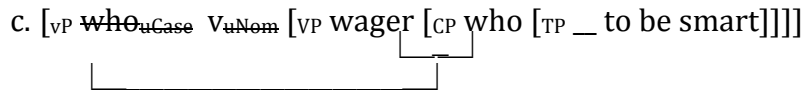
I conclude that there are ample grounds to doubt whether features unvalued in situ must raise to a position c-commanding the valuer, and that this doubt means we should take seriously the more permissive, less representationally rigid (8'Ri). As noted in §1.1, the fact that  $\alpha$  probes its c-command domain for valuation has a clear derivational basis at the point of first Merge. But in DELAYED VALUATION, there is no obvious reason why this downward bias should persist.

Bošković (2007) discusses two cases that provide apparent counter-examples to the hypothesis of valuation in (85) which, as noted above, he calls raising to a *cyclic* Spec. He first argues that sentences involving the English verbs *conjecture* and *remark* do not license accusative Case, hence the unacceptability of (89a). He next concludes from the unacceptability of (89b) that raising the object of *conjecture* or *remark* to Spec of a CP embedded under an accusative Case-licensor such as *know* does not remedy the problem (see (89c)).

- (89) a. \*John conjectured/remarked something.  
 b. \*I know what John remarked/conjectured.  
 c. \*I [<sub>VP</sub> v [<sub>VP</sub> know [<sub>CP</sub> what [<sub>TP</sub> John remarked ~~what~~]]]]  
Case-valuation fails

Bošković also argues that the unacceptability of (90a) is due to the fact that ECM-type Case-licensing is unavailable with *wager*, as a locality problem (outside the scope of this discussion) blocks A-movement of the infinitival subject into the higher Spec, vP of the *wager* clause (see Bošković (1997)). But under *wh*-movement, DP does raise through the higher Spec, vP and this yields a felicitous result.

- (90) a. \*John wagered Mary to be smart.  
 b. Who did John wager to be smart?



1st move

2nd move leads to Case-valuation

These are persuasive arguments, but it seems to me that it is a high cost to conclude from them that the relationship for ex situ valuation is narrowly representational rather than purely local. As I pointed out above, first Merge of uF  $\alpha$  with a sister  $\beta$  leads naturally to “downwards” valuation relations. But for cases of DELAYED VALUATION, this rationale is lacking. I offer therefore the conjecture that Case-valuation fails in (90a) because *wager* selects a phasal CP complement, unlike *believe*-type verbs (see (91)). This being the case, unless the subject is raised by A’ movement to matrix Spec, vP as it is in (90c), it must Transfer to Spell Out inside the embedded TP with no Case value, causing a PF-interface crash. As for (88), *remark*-type verbs do not allow extraction at all (92). Whatever explains this fact might underlie the unacceptability of (89b).

(91) \*John [<sub>VP</sub> *wagered* [<sub>CP</sub> C [<sub>TP</sub> *Mary to be smart*]]]

(92) \*What do you think John remarked?

Summing up, the facts I have examined in connection with Case and agreement all converge on a general conclusion: the distinction between unvalued probe and goal features is illusory. The two function identically; all that is necessary for valuation is establishing a match between relevant features under local conditions. There is ample evidence that, when valuation is not available to a uF at the point of first Merge, DELAYED VALUATION can take place if uF moves to a location where it closest c-commands a potential valuer. More speculatively, this section has argued that DELAYED VALUATION might also be possible even if uF can only raise to a location where it is closest c-commandee of the potential valuer. I am not aware of many studies looking into this possibility, and accordingly leave it as a

question that should ultimately be decided on the basis of further empirical work on a range of languages.

## 6. Agreement displacement and delayed valuation: Bejar & Rezac (2009)

Something very like the concept of **DELAYED VALUATION** was developed independently in the work of Bejar & Rezac (2009) based on the phenomenon of “agreement displacement” (see also Bejar 2003; Rezac 2003). Bejar & Rezac explore several languages in which they argue that person feature hierarchies play a crucial role in determining whether agreement is valued by the internal or the external argument. If the internal argument is first or second person, the verb agrees with it (see (93a-c); following their conventions the relevant agreement morpheme is underlined, as is its controller in the translation). But third person is low on the hierarchy (in fact underspecified) and therefore if the object of the verb is third person and the subject is first or second person, the verb’s *uPhi* agrees with the subject (93d). For Bejar & Rezac, this indicates a second cycle of probing under *cyclic expansion* (see (94)). Simplifying somewhat the technical details, this is possible because the unvalued features of *v* are inherited by projections of *v*, and can initiate a continuation of the search.<sup>33</sup> Bejar & Rezac’s analysis provides important and compelling evidence that the absence of a match in the *c-command* domain of a *uF* is not fatal to the derivation.

- (93) a. ikusi z-in-t-u-da-n [Basque]  
seen 2-X-PL-have-1-PAST  
‘I saw you.’  
b. ikusi n-ind-u-en  
seen 1-X-have-PAST  
‘He saw me.’

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<sup>33</sup> See Nevins (2011) for an approach in terms of simultaneous Multiple Agree. Absent clear constraints or a principled account of where Multiple Agree is possible, I prefer to avoid it (see Haegeman & Londahl (2009) for a persuasive argument against its involvement in licensing of multiple negative expressions).

- c. ikusi n-ind-u-zu-n  
seen 1-X-have-2-PAST  
'You saw me.'
- d. ikusi n-u-en  
seen 1-have-PAST  
'I saw him.'

- (94) a. [<sub>VP</sub> EA [<sub>v-Agr</sub> [<sub>VP</sub> V IA]]] *Agree cycle 1*  
       b. [<sub>VP</sub> EA [<sub>v-Agr</sub> [<sub>VP</sub> V IA]]] *Agree cycle 2*

Bejar and Rezac's analysis provides evidence that there is "upwards" valuation upon Merge of the external argument without movement of the uPhi probe. IN terms of my DELAYED VALUATION account, agreement displacement is an instance of (13ii) (see below).

(13) Hypotheses for delayed valuation of uF  $\alpha$

- (i)  $\alpha$  raises to probe a possible valuer  $\beta$  under closest c-command (perhaps pied piping the XP bearing  $\alpha$  and thus yielding common Spec, head configurations and relations; cf. Epstein et al 1998; Epstein & Seely 2006; Bošković 2007, 2011).
- (ii)  $\alpha$  can be valued by iF of a higher expression in a limited domain without moving, as the syntactic object that includes it is expanded to include some  $\beta$  with matching features (Rezac 2003; Bejar & Rezac 2009).<sup>34</sup>
- (iii)  $\alpha$  is valued if a probe  $\beta$ , Merged higher in the same phase, takes it as goal in an Agree relation.

I propose however that there is no real difference between (13ii) and (13iii). Given cross-linguistic evidence that an expression must have a uF to be "active" in agree relations, the DPs that can value the uPhi probe qualify as probes themselves as I have argued previously in this paper. Basque and other agreement displacement languages provide supporting evidence that the would-be probe need not c-command the would-be goal; their positions can be reversed. Thus agreement displacement converges with Bobaljik & Wurmbrand's treatment of in situ Nominative valuation, in which there is "downwards" valuation of DP's

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<sup>34</sup> Rezac (2003) and Bejar & Rezac (2009) treat this as second-cycle probing. I assume instead that it is simply Match and valuation in a larger domain as in (13ii/iii).



uCase without its undergoing raising. This convergence argues for reducing the three points in (13) to the two-point (8') (or the more liberal and speculative 8'R).

(8') **Mechanics of Delayed Valuation:** uF with no match in its c-command domain can be valued:

- (i) Ex situ, by raising into locality with a matching feature in a higher phase *OR*
- (ii) In situ, by a matching feature within the same phase.

I suggest that it is preferable to analyze agreement displacement along the same lines as German in situ Nominative, that is, as an instance of (8'ii), than to suppose that vP can search material that it dominates. A model that dispenses with the probe-goal distinction has no need for this assumption.

## 7. XPs as probes

### 7.1 Introduction

As noted in §1.3, it is sometimes suggested that XP cannot be completed or XP Merged with another element so long as X has unvalued features (Chomsky 2000; Adger 2003).

Chomsky (2000:132) writes,

“Properties of the probe [...] must be exhausted before new elements of the lexical subarray are accessed to drive further operations.”

A common corollary assumption is that only heads can probe (in fact, Chomsky 2007, 2008 argues that only phase heads have probe features).

I pointed out in §1.3 that it is anomalous, in this connection, for DP with uCase to be licit in syntactic relations with other expressions including the relation Merge with a selecting head (Merge (H, DP<sub>uCase</sub>)), prior to its valuation. As uFs requiring valuation, uCase of DP meets the definition of a probe. Yet no problem seems to arise for the participation of DPs in syntactic relations prior to valuation of their uCase. Bošković (2007, 2011) and Epstein & Seely (2006) argue convincingly that DPs must be able to probe when they raise to c-command T or v; and as we have seen, sometimes this is the only way uCase can get valued

(recall the German facts of restructuring constructions with two lexical verbs in which a nominative DP must raise to Spec, TP). Thus (95) is common and well-motivated cross-linguistically:

- (95)  $[_{TP} DP_{uCase} [_{T'} T_{uNom} \dots]]$  *Match and valuation where DP's uCase is the "probe"*

In addition, we have seen that a unified account is possible for Case and valuation of  $Force_{uPhi}$  under the assumption that ForceP raises and probes (see (41), repeated below).

- (41)  $[_{VP} ForceP_{uPhi} [_{VP} SU [_{v'} v [_{AppIP} ForceP [_{AppIP} IO [_{AppI'} Appl [_{VP} \dots ]]]]]]]]$   
*After ForceP raises again, Agree (ForceP<sub>uPhi</sub>, SU) succeeds*

§7.2-3 provide more evidence that XPs probe, from agreeing APs and Luyia agreeing 'how'.

## 7.2 Concord on APs as probing by XP

In languages with grammatical gender, it is common for adjectival modifiers to show "concord" in gender and number features. Under the traditional analysis of adjectives as heading AP adjuncts<sup>35</sup> to NP (or nP), concord entails that XPs can probe (see (96)-(98)).

- (96) a. kitabu  $[_{AP} kizuri sana]$  [Swahili]  
 7book 7good very  
 'a very good book'

- b. mzigo  $[_{AP} mzito mno]$   
 3load 3heavy too  
 'too heavy a load'

- (97) a. la muchacha  $[_{AP} muy bonita]$  [Spanish]  
 the.fem girl.fem very pretty.fem  
 'the very pretty girl'

- b. une voiture  $[_{AP} plus vite]$  [French]  
 a.fem car.fem more fast.fem  
 'a faster car'

- (98)  $[_{NP} AP_{uPhi} [_{NP} N_{iPhi}]]$

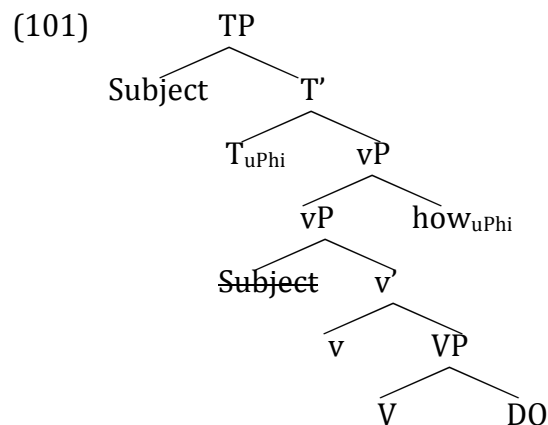
<sup>35</sup> There is controversy on this issue. See Cinque (2005) and Shlonsky (2004) for an alternative view, and Carstens (2011b) for a rejoinder, analyzing adnominal modifiers as XPs.

### 7.3 Agreeing ‘how’ as XP probing

As noted in §3.2, Carstens & Diercks (2011) argue that ‘how’ in Lubukusu is a vP-adjunct with  $u\Phi$  that agrees with the subject in Spec, vP under closest c-command. An analysis of ‘how’ as head of a clause-level functional projection is ruled out on the basis of word order: Lubukusu is left-headed, and ‘how’ appears on the right edge of the clause. The subject with which it agrees is separated from it as shown in (99), arguing against any Spec, head sort of approach (see 100). Carstens & Diercks (2011) propose (101), where ‘how’ is an XP adjunct to vP. Their analysis of agreeing ‘how’ provides one more argument that XPs can function as probes in Agree relations.

- (99) Baba-ana ba-kha-kule bi-tabu ba-rie(ena)?  
 2-children 2SA-FUT-buy 8-book 2-how  
 ‘How will the children buy books?’

- (100) \*[<sub>TP</sub> the children [<sub>T'</sub> FUT [<sub>HowP</sub> ~~the children~~ [<sub>How'</sub> how [<sub>vP</sub> ~~the children~~ buy the books]]]]]



## 8. Conclusion

In this paper I have shown that it is licit for  $uF$  of  $X$  to remain unvalued at and beyond the point where  $XP$  is Merged with  $Y$ , and that this routinely happens if a value for  $uF$  of  $X$  is lacking in  $X$ 's sister.  $uF$  of  $X$  can obtain DELAYED VALUATION either in situ or by raising of  $XP$ .

In situ valuation occurs under closest c-command by an expression Merged prior to any head with an edge feature (thus within the same phase). This is how DELAYED VALUATION of nominative Case works in passives of German simple clauses and simplex restructurings, and how agreement displacement works in a language like Basque. DELAYED VALUATION is also possible under movement of XP to c-command an expression with matching features, as in Lubukusu complementizer agreement, or German nominative valuation in more complex restructuring constructions; or whenever an edge/EPP feature c-commands the source of Case valuation as it always does in English TP. The anomalous concept of “active” goal features receives a principled account under this analysis, yielding a simpler theory. Some apparently upward-oriented uFs fall out from the approach, coupled with independently motivated factors including cyclic transfer and the articulated left-periphery. Finally, I have made a speculative proposal that raising into locality with a potential valuer suffices to permit DELAYED VALUATION, and this includes raising to be the potential valuer’s c-commandee.

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