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 α is generally

taken to be its c-command domain, comprised of the contents of α's sister β. 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, α has no place to look other than β. It

follows automatically that β is where α must seek the valuation that it needs. Thus (2):[1, 2]

(2)   MERGE (T$_{uPhi}$ [$_{vP}$ DP$_{3S}$...])   necessarily $\rightarrow$ [T$_{uPhi3S}$ [$_{vP}$ DP$_{3S}$...]].

[1] 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.
[2] In glosses, <X> means X moved X̶ indicates valuation of X. CA= complementizer agreement; SA=subject agreement; PST = past. Cardinal numbers (1-3) denote person features when accompanied by a number specification (s= singular and pl= plural). Arabic numbers 1-17 are noun classes, hence 2SA=subject agreement for noun class 2. Other abbreviations should be transparent.

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 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 α 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.

Familiar 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 uFs 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?[3]

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 γ fails to be valued

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[3] Bošković (2007, 2011); Epstein & Seely (2006) argue that goals must move and probe; see discussion below.

before phasal Transfer, the result is a PF crash due to unclarity as to how γ 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 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 in 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 (Bobalijk & 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; Haegeman & 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)^0 – 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^0, 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.[4]

(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. Fin$_{uPhi}$ [$_{TP}$ SU T [$_{vP}$ <SU> v [$_{VP}$ ...]]] *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-SBJ
  'I want Barack Obama to succeed.'

  b. [$_{ForceP}$ Force$_{uPhi}$ ...[$_{FinP}$ Fin [$_{TP}$ 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) [$_{vP}$ ForceP$_{uPhi}$ [$_{vP}$ SU [$_{v'}$ v [$_{VP...}$ 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 symmetrical double object construction. Thus if ForceP did not

move, it would transfer with uPhi of Force unvalued, 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-

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[4] Through a timing paradox and an oversight my analysis of Lubukusu vs. West Germanic CA made an unattributed first 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 provide a different perspective in §3.7. See their paper also for detailed comparison of upwards/downwards approaches to West Germanic CA.

driven movement of nominatives in German restructuring constructions involving 2 lexical verbs as described and analyzed in Bobaljik & Wurmbrand 2005. But Bobaljik & 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 simplex 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.[5]

(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.[6] 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

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[5] 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.
[6] While I think (i) is a plausible alternative, (9) seems slightly preferable in that it does not rely on the existence of any actual probing operation.
(i)   Probing is triggered always and only by (re-)Merge.

not available c-commanding a potential source of valuation β, moving of uF α to be closest c-commandee of β 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:
(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 the analysis is not compatible with "upwards" agreement as a parametric choice (Baker 2008, Diercks 2011a) or as a universal (Zielstra 2012; Wurmbrand 2011), my 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 on 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_{uCase})), 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$_{uPhi}$ Y(P))).

1.4   Structure of the paper

This paper consists of nine 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 sketches out an extension of the approach to valuation of tense features on V. §9 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$_{uPhi}$ [$_{VP}$ DP$_{3S, uCase}$...])

    c. [v~~uPhi3s~~ [vP DP3S, ~~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

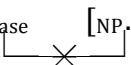bears a uPhi probe (11b). Only after this step can uCase of the subject DP be valued (11c).

(11) a. MERGE (DP1S, uCase [vP...])

    b. MERGE (TuPhi [vP DP1S, uCase [v' V...]]])

    c. T~~uPhi3S~~ [vP DP1S ~~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 α to initially fail and the derivation to converge

nonetheless as the syntactic object that contains α 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 DuCase   [NP...]]

                                                        Upon Merge, D's uCase cannot be valued

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

(13)   Hypotheses for DELAYED VALUATION of uF α

(i) α raises to probe a possible valuer β under closest c-command (perhaps pied piping the XP bearing α and thus yielding common Spec, head configurations and relations; cf. Epstein et al 1998; Epstein & Seely 2006; Bošković 2007, 2011).

(ii) α 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 β with matching features (Rezac 2003; Bejar & Rezac 2009).[7]

(iii) α is valued if a probe β, 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 iPhi in the c-command domain of Lubukusu C's uPhi 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

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[7] 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.

also options employed in natural language for providing DELAYED VALUATION of uFs, 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 uCase only if they themselves have uninterpretable but intrinsically valued Case features -- thus T bears uNom, and v or P uAcc. Because they are already valued, these features have no intrinsic need to participate in Agree relations, but a match with one of them is necessary to provide valuation for D(P)'s intrinsically unvalued uCase feature.[8] 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

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[8] Contra Pesetsky & Torrego 2004 and Zeijlstra 2012 I do not adopt Brody's 1997 *Thesis of Radical Interpretability* and the conceptually related proposal that uCase on DP is uT. Carstens 2008; 2010, Boskovic to appear, and Zamparelli 2008 argue that grammatical gender is strictly uninterpretable: on N it is uninterpretable but valued; on agreeing categories it is uninterpretable and unvalued. A valuation relation (T, DP_{uT}) is in principle possible however under the directionality free approach in (8'R).

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.'

(15) Sammy ka-bol-el-wa   **a**-li   ba-keni   b-ola.
     1Sammy 1SA-say-APPL-PASS 1-that 2-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 (see

(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).[9]

(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?'

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[9] Ndayiragije (personal communication) suggests that Lubukusu agreeing C is not a C at all but a verb agreeing with a controlled *pro* subject (hence perhaps a kind of small clause hypothesis). Agreeing C is homophonous with 'be' and it seems reasonable to suppose that it is a repurposed 'light' verb in the way that the English C *for* appears related to a P. But a control analysis faces severe problems. §3.4 shows that a matrix IO/causee cannot value uPhi of Lubukusu C and explains this with the proposal that IOs/causees have Case-licensing from Appl/Caus and hence are inactive for Agree. Case-valued expressions are licit controllers, so the approach cannot be modified to suit a controlled *pro* account. We could stipulate that every Lubukusu matrix verb with a ForceP complement functions like *promise*, but this lacks any principled basis. Lastly, it seems undesirable for the categorial realization of clauses to be CP in one language and VP in the next language (or the next construction within the same language) without strong independent motivation.

(17) a. Suubisye **o**-li   o-kh-eche   muchuli.
      promise 2s-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:[10]

(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,

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[10] 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.

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 upwards 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 valuation.[11] 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?'

(20)   vP   *uPhi of Lubukusu agreeing 'how' probes SU in its base position*
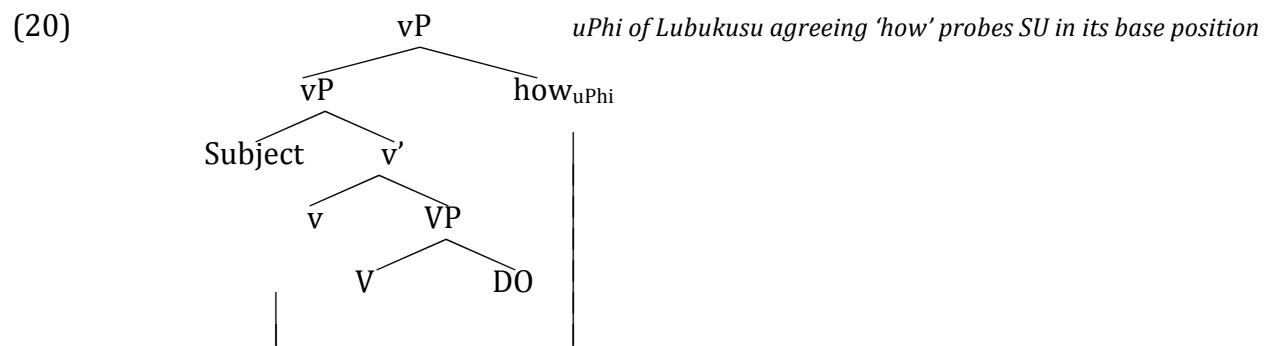
Viewed in isolation, (19) might seem compatible with several alternative analyses, among them (i) upwards agreement, where uPhi of 'how' is valued by the subject in Spec, TP; or (ii) downwards control, where the matrix subject controls a hypothetical *pro* subject in a HowP. But only the analysis in (20) explains agreement on 'how' in an A-movement type of

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[11] This is partly obscured by frequent pairing of uPhi and edge features; see Carstens 2005; Collins 2004.

locative inversion (LI) construction, restricted to locatives selected as arguments of an

unaccusative verb. In this construction the locative DP (DP$_{loc}$) raises to Spec, TP via Spec of

a locative clitic, AgrL in (22b), leaving the thematic subject *in situ* (see (21), adapted from

Diercks 2011). T agrees with the inverted DP$_{loc}$ 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):**   *DP$_{loc}$ complement to V raises to Spec, TP;*
        [$_{TP}$ DP$_{loc}$ v-V-T… [$_{vP}$ <v> [$_{vP}$ S$_{UBJ}$ V <DP$_{loc}$>]]]   *thematic SU in situ (Diercks 2011)*

(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?)

b.

uPhi of 'how' probe the unaccusative SU, merged higher than the selected locative (Carstens & Dierkcs 2011).

Probing by the locative clitic (AgrLoc) raises DP$_{loc}$ to a position accessible for Agree, (T, DP$_{loc}$).
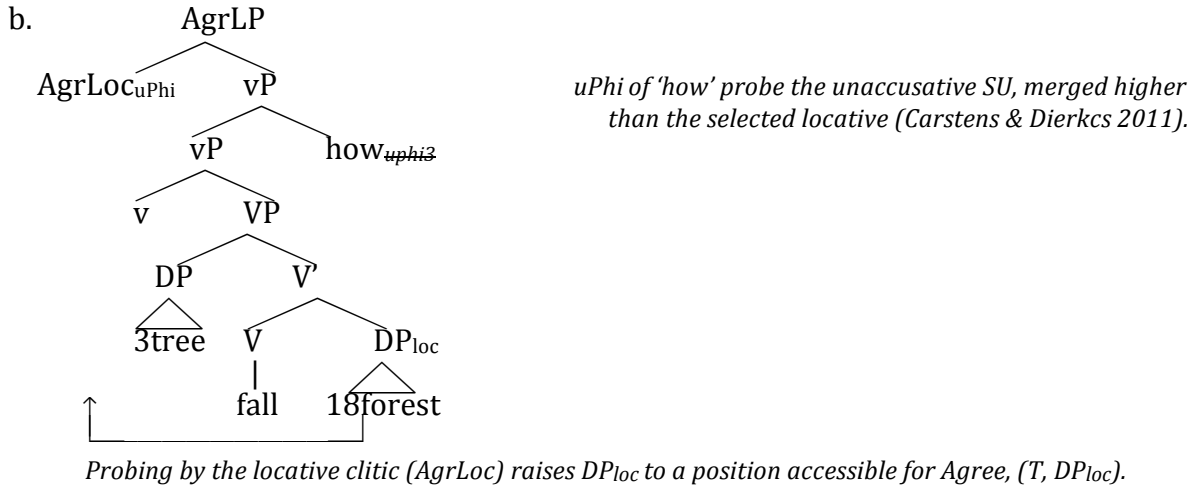
Agreeing 'how' is thus powerful evidence that Lubukusu uPhi probes its c-command

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 both agreeing 'how' and 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 are 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 α with head H, the domain of H is inaccessible to operations outside α,

only H and its edge are.[12]

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

phi-features of SU within its c-command domain at first Merge:

(25) a. Fin$_{uPhi}$ [$_{TP}$ SU T [$_{vP}$ <SU> v [$_{VP}$ ...]]]   *West Germanic Complementizer Agreement*
                                                                                   uPhi of Fin successfully probe the subject

      b. Fin$_{\text{uPhi}}$ [$_{TP}$ SU T [$_{vP}$ <SU> v [$_{VP}$ ...]]]

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) [$_{ForceP}$ Force$_{uPhi}$ ...[$_{FinP}$ Fin [$_{TP}$ SU ...]]]   *Lubukusu Complementizer Agreement:*
                                                                                   Force$_{uPhi}$ 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)

---

[12] 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 13). 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. *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.[13] Hence cyclic transfer must

be triggered by a null head located between *mbo* and agreeing C. Rizzi 1999 posits a C

intermediate between Fin and Force, where overt interrogative (Int) complementizers

appear in some languages. I will assume that there are positive and negative values for 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[14] (and see note 13 on long-distance

agreement); other verbs of speech, perception, and thought usually select ForceP, [15]

containing the intermediate, phasal CP. 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$_{uPhi}$ [$_{IntP}$ Int [$_{FinP}$ Fin [$_{TP}$ SU ...]]]]   *Lubukusu Complementizer Agreement:*
Force$_{uPhi}$ 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

---

[13] 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 Tzez is mediated by a null topic in Spec of the embedded CP.
[14] 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; and the A-movement variety originates in outer Spec, CP (in Lubukusu, this would be outer Spec of ForceP$_{uPhi}$).
(i) N-enya Baraka Obama n-di a-khil-e
1sSA-want 1S-that 1SA-win-SUBJ
'I want Barak Obama to win'
[15] Both Fin and Force appear to have null variants that I will not consider here. See Diercks 2011b for discussion of C choices and properties of their selecting verbs; and see brief discussion in §3.7.

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.

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 Lubukusu C. C cannot agree with a more remote subject (see (29)); nor with an indirect object (IO) or causee (see (30); (29) and (30a) from Diercks op cit; thanks to Lillian Waswa for (30b)).
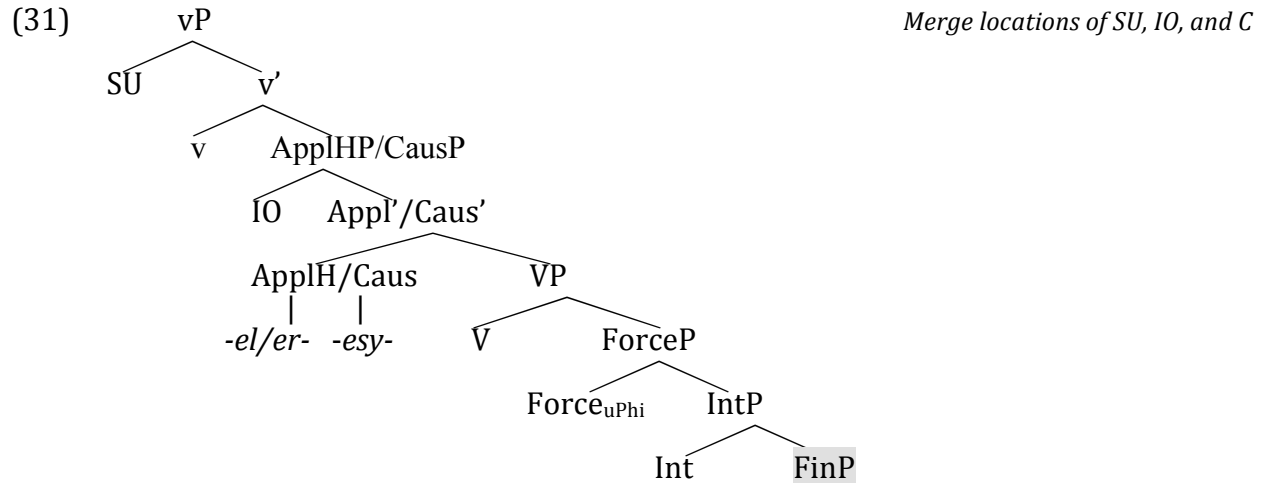
(29) Alfredi ka-a-loma   a-li   ba-ba-andu ba-mwekesia *a-/ba-li   o-mu-keni k-ola
     1Alfred 1SA-PST-say 1-that 2-2-people 2SA-revealed *1-/2-that 1-1-guest 1S-arrived
     'Alfred said people revealed that the guest arrived.'

(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) shows that the relation valuing 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 IOs in Bantu languages merge in Spec of a 'high' Appl(icative)P located between vP and VP (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).

Anticipating discussion of (34) and (35) in §3.4.2 and additional binding evidence in §3.6, I

claim that Lubukusu causative and applicative constructions have parallel syntax and treat

them alike (see also Baker & Safir 2012b). Hence the schematic structure of (30a,b) is (31).

Evidence that IO asymmetrically c-commands DO is presented in (32), supporting this

analysis (I follow Barss & Lasnik 1986; Marantz 1993 on this binding diagnostic).[16] Hence

the Merge positions of the subject and agreeing C are not at all local.

(31) vP   *Merge locations of SU, IO, and C*

   SU   v'

        v   ApplHP/CausP

           IO   Appl'/Caus'

           ApplH/Caus   VP

           | |

         -el/er- *-esy-*   V   ForceP

                     $\text{Force}_{\text{uPhi}}$ IntP

                           Int   FinP

(32) a. Na-a-rer-er-a   buli   mayi$_i$ omwana wewe$_i$
     1sSA-PAST-bring-APPL-FV   every 1mother 1child   1POSS1
     'I brought each mother$_i$ her$_i$ child' *(OK with bound variable reading)*

    b.*Na-a-rer-er-a   mayi   w-ewe$_i$ buli   omusoleli$_i$
     1sSA-PAST-bring-APPL-FV 1mother1-POSS-1 every 1boy
     *'I brought his$_i$ mother each boy$_i$' *(OK only 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 interacting with it downwards, the IO or causee would seem to

be in the way. Diercks (op cit) argues that C agrees with a logophoric null operator in its

---

[16] Binding relations in Lubukusu double object constructions (DOCs) are more complex than this, as will be detailed §3.6. 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.

Spec. The subject orientation is reduced to that of long distance anaphors which, following Safir 2004, raise and adjoin to T (see the partial schematics in (33), adapted from Diercks op cit; I am agnostic here on how high into the middle field the inflected verb raises).

(33) a. [$_{TP}$ You T say+APPL [$_{ApplP}$ Alfred <APPL> [$_{VP}$ <V>[$_{CP}$ OP$_{uPhi}$ C$_{uPhi}$ guests left]]]] →
    b. [$_{TP}$ You OP$_{uPhi}$+T say+APPL [$_{ApplP}$ Alfred <APPL> [$_{VP}$ <V> [$_{CP}$ <OP> C$_{uPhi}$ guests left]]]] →
    c. [$_{TP}$ You OP$_{uPhi2s}$+T say+APPL [$_{ApplP}$ Alfred <APPL> [$_{VP}$ <V> [$_{CP}$ <OP$_{uPhi2s}$> C$_{uPhi2s}$ guests left]]]]

But Lubukusu agreeing C does not have a reflexive or bound pronominal meaning; and the contrasting directionality of probing by agreeing 'how' and C is entirely mysterious under this account. Given that 'how' probes downwards (see §3.2), an explanation is needed for why and how uPhi of C can wait to agree until the operator is merged, instead of probing downwards in its c-command domain like uPhi of 'how.'

3.4.2 A movement-based Agree account

Lubukusu has what are called "symmetrical" double object constructions: either DO or IO 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[17] permitting direct object raising across indirect objects, feeding 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   o-mu-soleli   bi-tabu
         1plSA-bring-APPL-PAST   1-1-boy   8-book
         'We brought the boy books'

     b Khu-**mu**-rer-er-e   bi-tabu
         1plSA-1OM-bring-APPL-PAST 8book
         'We brought him books'

---

[17]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.
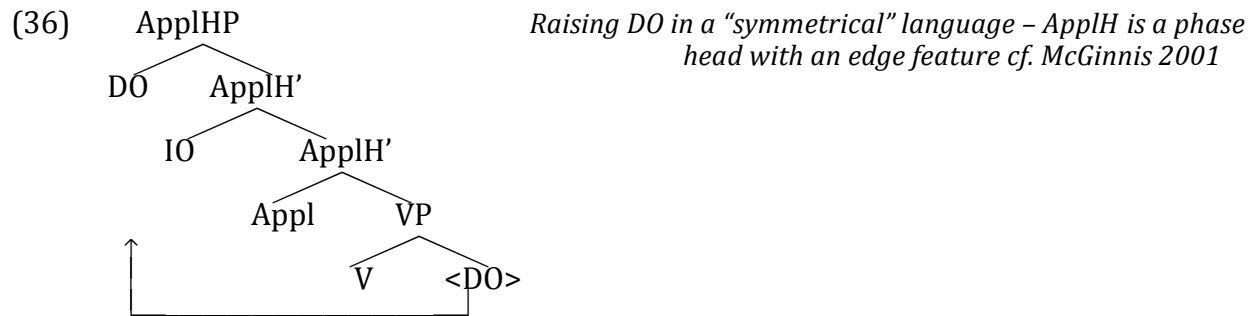
c. Khu-**vi**-rer-er-e   o-mu-soleli
   1plSA-8OM-bring-APPL-PAST   1-1-boy
   'We brought them (to) the boy'

d. Omusoleli   a-rer-er-w-e   bi-tabu
   1boy   1SA-bring-APPL-PASS-PAST   8-book
   'The boy was brought books'

e. Bi-tabu   bi-rer-er-w-e   o-mu-soleli
   8-book   8SA-bring-APPL-PASS-PAST 1-1-boy
   'The books were brought (to) the boy'
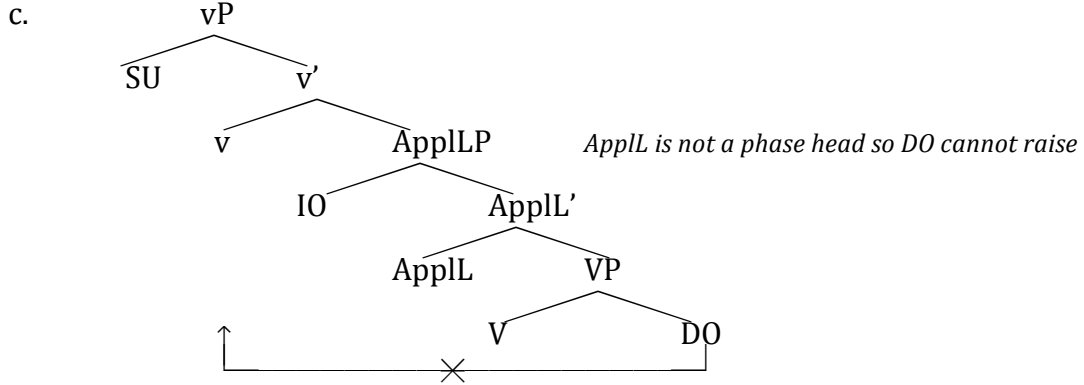
(35) a. Si-tabu sy-ok-esy-ebw-a   Wekesa.
      7book   7SA-see-CAUS-PASS Wekesa
      'The book was shown to Wekesa.'

    b. Wekesa   o-ok-esy-ebw-a   si-tabu.
      Wekesa   1SA-see-CAUS-PASS   7-book
      'Wekesa was shown the book.'

(36)   ApplHP   *Raising DO in a "symmetrical" language – ApplH is a phase*
                                               head with an edge feature cf. McGinnis 2001

In contrast, only the IO can passivize or pronominalize in an "asymmetrical" applied

construction (many of which are "low" applicatives in Pylkannen 2002, 2008; but see

McGinnis 2005 for some exceptions). McGinnis argues that when double object

constructions are asymmetrical, Appl is not a phase head. It hence has no edge feature, so

the DO is trapped below the IO (unless it A'-moves to Spec, CP; presumably via Spec, vP).

(37)   a.   *A book was given the children
       b.   *We gave it the children (out with DO reading for the pronoun)

c.

```
                    vP
                  /    \
                SU      v'
                      /    \
                    v       ApplLP        ApplL is not a phase head so DO cannot raise
                          /      \
                        IO        ApplL'
                                /      \
                            ApplL       VP
                                      /    \
                                     V      DO
```

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 $Force_{uPhi}$. 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 $[_{ApplP}$ IO $[_{Appl'}$ Appl $[_{VP}$ V $[_{ForceP}$ $Force_{uPhi}...]]]]]]$

Since Lubukusu Appl is a phase head, *an in situ approach to valuing 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. [18]

(39) $[_{ApplP}$ $ForceP_{uPhi}$ $[_{ApplP}$ IO $[_{Appl'}$ Appl $[_{VP}$ V $<ForceP_{uPhi}>]]]]$

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) $[_{ApplP}$ $ForceP_{uPhi}$ $[_{ApplP}$ IO $[_{Appl'}$ Appl $[_{VP}$ V $<ForceP_{uPhi}>]]]]$

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

---

[18] This phase-theoretic problem arises for the anaphoric operator approach in Diercks to appear b: unless the operator raises to T via Appl or Spec, ApplP it will be trapped inside the transferred VP. Unlike the movement of ForceP argued for above, this movement does not fall out as a subcase of raising DO across IO.

I propose that the IO or causee is Case-licensed dative by Appl/Caus and hence is "inactive" for Agree relations with other probes. As the derivation continues, Merge introduces v and the thematic SU in Spec, vP. Subjects seem never to become comparably "inactive" in Lubukusu, interacting with multiple probes and valuing agreement many times. §4.3.3 addresses the question of why this is so. For present purposes, let us take it as a given. uPhi of ForceP is successfully valued only if ForceP raises again, to outer Spec, vP.[19]

(41) [$_{vP}$ ForceP$_{uPhi}$ [$_{vP}$ SU [$_{v'}$ v [$_{ApplP}$ <ForceP$_{uPhi}$> [$_{ApplP}$ IO [$_{Appl'}$ Appl [$_{VP}$ ...]]]]]]]

After ForceP raises again, Agree (ForceP$_{uPhi}$, SU) succeeds

4.3.3   Case, inversion, and multiple agreement: how IOs and causees are different

In Minimalist theory, activity in A-relations is generally related to Case-licensing (see Chomsky 2000; 2001 among many others). The role of Case in Bantu languages is a topic of some controversy and debate due to widespread full-featured multiple agreement phenomena and a variety of inversion constructions (see among others Baker 2003, Carstens 2001, 2005, 2010, 2011; Carstens & Diercks to appear; Diercks to appear a; Halpert 2011; Harford-Perez 1986; Henderson 2007; Ndayiragije 1999; Zeller 2011). Among the 400+ Bantu languages, the precise inventory of licit inversions and multiple agreement constructions is subject to cross-linguistic variation. In what follows I will describe multiple agreement with structural subjects and two inversion constructions in Lubukusu, and demonstrate that IOs and causees cannot invert. I will argue that, in contrast to Lubukusu subjects (and perhaps even direct objects), IOs and causees cannot interact

---

[19] 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 (a) even unaccusative v is a phase head (see Legate 2003); or (b) anticipating §3.4.4, Assuming Appl can be passivized (see (i)) it does not dative-mark the IO, which is therefore "active." ForceP stops in outer Spec, ApplP and probes IO before the IO raises to Spec, TP. This solution is simple and consistent with the approach to movement in (9). Passivized causees can also control CA (see Diercks to appear b); I assume the analysis extends to them.
(i) [$_{TP}$ IO [$_{vP}$ v [$_{PassP}$ Pass [$_{ApplP/CausP}$ ForceP$_{uPh}$ [$_{ApplP/CausP}$ <IO> [$_{Appl'/Caus'}$ Appl/Caus [$_{VP}$ ...]]]]]]]

with multiple probes. I conclude that IOs and causees are special in having a one-to-one relationship with a vP-internal Case-licenser, which I analyze as Appl/Caus licensing dative Case.[20] Since IO/causee inversion is to the best of my knowledge unattested in Bantu languages, this property may be common to them.

All Lubukusu speakers that I have consulted employ multiple agreement in full phi-features with subjects, in certain compound tense constructions and in questions with agreeing 'how' (see (42) and (43)). Multiple agreement is also characteristic of an A-movement type of locative inversion construction in which a locative DP complement to V raises to Spec, TP and controls both SA on T (and any aspecuals) and agreement on a special locative verbal clitic; the unaccusative thematic subject remains in situ (see (44b); and Diercks 2011 for a range of evidence that the inverted DP_{loc} is in Spec, TP).

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

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

(44) a. Ku-mu-saala kw-a-kwa mu-mu-siiru.   *Neutral word order*
       3-3-tree   3SA-pst-fall 18-3-forest
       'A tree fell in the forest.'   [Lubukusu]

    b. Mu-mu-siiru **mw**-a-kwa-**mo**   ku-mu-saala.   *Repeated Agreement LI*
       18-3-forest   18SA-PST-fall-18L 3-3-tree   [Lubukusu]
       'In the forest fell a tree'

    c. [$_{TP}$ T_{uPhi} [$_{AGRLP}$ $AgrL_{uPhi}$ [$_{vP}$ v [$_{VP}$ SUBJ V DP_{loc18}]]]] → *Derivation of (44b);*

d. [$_{TP}$ DP$_{loc18}$ v-V-T$_{uPhi18}$ [$_{AGRLP}$ AgrL$_{uPhi18}$ [$_{vP}$ v̶ [$_{VP}$ SUBJ <V> DP$_{loc18}$]]]]   *DP$_{loc}$ raises to Spec, TP via Spec, AgrL; thematic SU in situ*

In theory-neutral terms, the fact that uPhi of Lubukusu ForceP agrees only with a subject may be viewed as just one among many indicators that structural subjects in Bantu languages have an unusual capacity to license agreement multiple times. This phenomenon, dubbed "hyper-agreement" in Carstens 2011, is impossible in English (see (45)).

(45)   a.   *John has is sleepings.
       b. *He seems __ has left.

Chomsky 2000, 2001) addresses (45b), attributing it in part to a strict relationship between agreement and Case-valuation. He argues that Agree with a "phi-complete" probe (in (45b)/(46a,b), the lower T) values a DP's uCase. This prohibits the embedded subject from Agreeing with the matrix T (see 46c). Chomsky (2001:6) writes, "Once the Case value is determined, N no longer enters into agreement relations and is 'frozen in place.'"

(46)   a.   [$_{TP1}$ T1$_{uPhi}$ 3S$_{uCase}$ have left] →
       b.   [$_{TP1}$ T1$_{uPhi3S}$ 3S$_{uNom}$ have left]   *Lower clause of (45b)*
       c. *[$_{TP2}$ T2$_{uPhi}$ seems…[$_{TP1}$ 3S$_{uNom}$T1…]]   *Agreement/movement of 3S blocked, after Case-valuation in the lower clause of (45b)*

I pointed out in Carstens 2001 that subjects in Bantu languages typically do not exhibit the expected "frozen in place" property, analyzing cases like (42) as in (47). I provide a Lubukusu-specific descriptive generalization in (48), but the phenomenon is attested in many additional Bantu languages.

(47)   [$_{TP}$ SU be+T$_{uPhi}$ [$_{AspP}$ S̶U̶ V+v+Asp$_{uPhi}$ [$_{vP}$ SU …]]]   *Asp agrees with and raises SU;*
        Agree x2   Agree x1   *then T agrees with and raises SU*

(48)   Full phi-feature agreement with a subject does not "deactivate" it in Lubukusu; subjects can have relations with multiple uPhi probes.

(48) presents a puzzle for theories of agreement and Case-licensing that are addressed in the works cited above. I will assume, following Carstens 2010, 2011 that the principal

"activity" feature of nominal expressions in Bantu languages is not Case but the grammatical gender component (uGen) of noun class. Carstens (op cit) agues that the gender feature of nouns is uninterpretable so, like uCase, it makes a nominal expression "active". But unlike uCase, uGen comes from the lexicon with a value that is not affected by its participation in Agree relations. Carstens (op cit) proposes that "deactivation" accompanies Case valuation in a language like English because successive Agree relations could tamper with a Case value, leading to unclarity as to how uCase should be pronounced (see Epstein, Kitahara & Seely 2010 and Carstens 2010 on this conception of uF-induced crashes). No such issue arises for nominal gender since it is never valued via Agree. It therefore does not "deactivate" and can serve as goal iteratively, in successive Agree relations. Lastly, N-to-D adjunction makes uGen of Bantu nouns accessible to clause level probes, so clause level agreement includes gender and iterates, similarly to DP-internal concord in Romance and other languages that lack systematic N-to-D.

Summarizing, I have argued that subjects can interact with multiple probes. If the proposals sketched out above are on the right track and if all Lubukuu DPs have the same featural properties, (48) should be generalizable to all Lubukusu DPs.

Turning to direct objects (DOs), because object marking in Lubukusu is not agreement but an incorporated pronominal, the possibilities for investigating multiple probe-goal relations are more limited. But an OVS construction provides evidence that like subjects, Lubukusu DOs also differ from their English counterparts in terms of Case and Agree relations. Lubukusu is at the conservative end of the Bantu spectrum where inversion constructions are concerned, in that many speakers reject sentences that leave the external argument vP-internal. However Sikuku (2012) judges (49a,b) acceptable,

where the DO raises to clause-initial position and controls "subject" agreement.[21]

Comparable movement and agreement are ruled out for an English DO on the assumption

that its uCase is valued by v, rendering the DO "inactive."

(49) a. Ka-mabeele   ka-a-nyw-a   ba-baana
        6-6milk   6SA-PST-drink-FV 2-2child
        'The children drank the milk' (ie. not the adults)

     b. Bitabu bi-a- soma   Yohana
        8book 8SA-PST-read John
        'John read the books' (i.e not Mary)

The cross-linguistic contrast on this point makes sense if, following Harford-Perez 1984;

Diercks to appear a, uCase is lacking in Bantu (though under my analysis of IOs and causees

to come, the conclusion is too strong); or if, adapting a proposal made by Halpert (2011)

for similar facts in Zulu, DPs have available intrinsic Case-licensing in their noun class

morphology which is compatible with their agreeing and moving freely to and among vP-

external positions. So while it is not at this point entirely clear that DOs have a licensing

relationship with v, (49) shows that whether they do or don't, they are active to value

agreement and move higher in the clause. As noted above, in (49) the thematic DO is

preverbal and controls SA. The result resembles the so-called "Subject-Object Reversal"

constructions described in a variety of Bantu languages including Kirundi (Ndayiragije

1999) and Kilega (Kinyalolo 1991; Carstens 2005). Ndayiragije (op cit) and Kinyalolo (op

cit) provide evidence that the fronted object in SOR constructions in these languages

occupies the canonical subject position.

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[21]Were the DO in Spec CP in these examples, an agreeing C would be obligatory (see Diercks 2011; Carstens & Diercks 2011). In previous drafts of this paper I stated that an external argument can NOT surface in situ in Lubukusu, and argued, adapting ideas of Halpert 2011. that this is a point of contrast which exists between Lubukusu and Zulu because in order to surface vP-internally, external arguments required Case-licensing there that is lacking in Lubukusu. Hence on this account Lubukusu's subjects are active in Spec vP to value uPhi of ForceP at the crucial point where IOs and causees are inactive. Given Sikuku's (2012) judgments I have revised the analysis to focus on a general way in which IOs/causees pattern apart from other arguments.

But the precise details of (49) are not really crucial here. What is important for purposes of this investigation is that inversion and hence, I would argue, multiple probe-goal relations are NOT acceptable to any Lubukusu speaker I consulted if the inverted expression is an IO or causee in an active clause. This is demonstrated in (50).

(50) a. Ba-ba-ana by-a-som-el-a   Yohana   bi-tabu
        2child   2SA-PST-read-APPL-FV John   8-book
        OK: 'The children read John books'
        NOT: 'John read the children books' (as opposed to e.g. Peter reading them)

    b. O-mu-soleli   a-ok-esy-a   Wekesa e-m-bwa
       1-1-boy   1SA-see-CAUS-FV 1Wekesa 9-9-dog
       OK: 'The boy showed Wekesa the dog'
       OK: 'The boy showed the dog Wekesa'
       NOT: 'Wekesa showed the boy the dog'
       NOT: 'The dog showed the boy Wekesa'

On the other hand, as we saw in (34d) and (35b) (repeated below), an IO or causee can move to Spec TP if the sentence is passive. This argues that the restriction in (50a,b) is Case-related: the IO/causee in active clauses like (50) has valued uCase that prohibits it from interacting with T. Under passivization of Appl/Caus, this Case is eliminated (see note 19), so the IO/causee can value uPhi of T and raise to Spec, TP. It is significant that in this instance, the IO or causee can value uPhi of ForceP as well (see (15), repeated below).

(34) d. O-mu-soleli   a-rer-er-w-e   bi-tabu
        1-1-boy   1SA-bring-APPL-PASS-PAST 8-book
        'The boy was brought books'

(35) b. Wekesa o-ok-esy-ebw-a   si-tabu.
        Wekesa 1SA-see-CAUS-PASS   7-book
        'Wekesa was shown the book.'

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

I noted above that there is some variation among Bantu languages regarding what arguments and adjuncts are able to licitly undergo inversion; and that Lubukusu is fairly conservative in that many speakers find transitive inversion infelicitous. Kirudi, Kilega, and

Zulu are more liberal in this regard (see Kinyalolo op cit, Ndayiragije op cit, Zeller 2011 for details). But inversion of IOs and causees does not seem to be subject to variation; it is unattested in any Bantu language, as far as I know. In Kirundi inverse is highly productive, rendering a sentence like (51) is ambiguous. But IO/causee inversions are ruled out just as in Lubukusu (see (52)).[22]

(51) Umwenyeshule a-∅-ra-kunda umwarimu [Kirundi; Ndayiragije 1999 & p.c.]
   1student 1-SA-PRES-like 1teacher
   'The student likes the teacher.' *OR* 'The teacher likes the student'

(52) Viki a-a-rungik-ir-ye   ikete Yuvinari   [Kirundi, Ndayiragije p.c.]
   Vicki 1sSA-pst-send-APPL-PERF 9letter Juvenal
   OK: 'Vicki sent Juvenal a letter'
   NOT" 'Juvenal sent Vicki a letter'

(51) makes it clear that the absence of an inverse reading in (52) cannot be attributed to ambiguity or "blocking" by the SVO reading. Similarly in Lubukusu because double object constructions allow symmetrical ordering possibilities for IO and DO, a double object construction can be ambiguous if both DO and IO are animate as demonstrated in the available readings for (50b) (cf. Baker & Safir 2012b). So intolerance of ambiguity is not a plausible approach to take to the impossibility of IO/Cause inversion.

   Inverse constructions thus provide evidence that IOs and causees contrast with other arguments and adjuncts in Lubukusu in that they cannot interact with T of an active clause; and as far as I know this is generally true across Bantu languages.[23] The fact that an IO or causee cannot value uPhi of Lubukusu ForceP is consistent with this generalization. I take it as evidence that Appl and Caus heads confer a special kind of Case-licensing on their

---
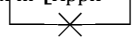
[22] Curiously, a DO cannot invert across an IO either, unless the sentence is passive. Since Lubukusu has symmetrical DOCs it is puzzling that the DO can't reach Spec, TP across the IO via the edge feature of Appl. Something about its Merge location 2 phases below T would appear to make the DO inaccessible for relations with T of an active clause; I leave the issue for future research.

[23]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.

IO and causee arguments respectively which I will hypothesize to be dative, rendering

them inactive for further Agree relations which might tamper with their Case values (see

discussion of (45) and (46)).[24] Given that IOs and causees can value SA and raise to Spec,

TP in passives, it is clear that their Case is not like German dative, which renders its bearer

wholly inactive even under passivization (see among others McFadden 2006). It seems that

passive can eliminate the case of Lubukusu IOs/causees in the same way that it removes

English accusative case.

### 3.4.5   What happens next: Raising ForceP to Spec, vP

I return to the analysis of Lubukusu's agreeing C. We have established that IOs and causees

are generally "inactive" for relations with probes other than Appl/Caus in active clauses.

$Force_{uPhi}$ therefore cannot be valued by the IO in Spec, Appl in (see (40), repeated below).[25]

(40)   [$_{ApplP}$ ForceP$_{uPhi}$ [$_{ApplP}$ IO [$_{Appl'}$ Appl [$_{VP}$ V <ForceP$_{uPhi}$>]]]]

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 beween SU and ForceP in Spec, ApplP (see (53)): at the edge

of ApplP, ForceP is visible in relations at the next phase (Chomsky 2000). 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.

(53)   [$_{vP}$ SU [$_{v'}$ v [$_{ApplP}$ ForceP$_{uPhi}$ [$_{ApplP}$ IO [$_{Appl'}$ Appl [$_{VP}$ ...]]]]]]

Hypothesis #1: Match with iPhi c-commanding uPhi

(41)   [$_{vP}$ ForceP$_{uPhi}$ [$_{vP}$ SU [$_{v'}$ v [$_{ApplP}$ <ForceP$_{uPhi}$> [$_{ApplP}$ IO [$_{Appl'}$ Appl [$_{VP}$ ...]]]]]]]

Hypothesis #2: Match with uPhi c-commanding iPhi

[24]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.
[25]On the mechanics by which passivized IO/causee values uPhi of Force, see note 19.

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 movement is possible (see Bošković 2007, 2011;[26] 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 (53), 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 (54): 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).[27]

(54)   [$_{vP}$ ForceP$_{uPhi}$ [$_{vP}$ SU [$_{v'}$ v [$_{VP}$ V <ForceP$_{uPhi}$>]]]]

---

[26] In Bošković 2007 movement to what he calls a "cyclic Spec" like (53) is explicitly ruled out by a c-command requirement on probing. See §5 for discussion of an alternative view.

[27] Diercks 2011b demonstrates that a CP within a complex NP agrees not with the head noun but with the subject. I assume anti-locality would prohibit ForceP from raising to Spec, NP; and in any case 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. I suggest that when a match for uF is absent in its sister at Merge, DELAYED VALUATION processes await the phase level, at which point ForceP is raised away and closest c-commands the subject.

(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.'

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 derivational history in (55), including head movements of V to Appl, V+Appl to v, and V+Appl+v 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). (55a-g) show the Merge operations building from embedded ForceP upwards to the vP level, and indicate transferred material with shading. After merge of Appl and the IO in steps (55c-d), ForceP raises to outer Spec, ApplP (55e). Then v is merged in (55f). Merge operations take precedence over Move (see Chomsky 1995, 2001), so the subject is added next yielding (55g). ForceP then raises to outer Spec, vP and its uPhi are valued by the in situ subject (55h). Once T is merged (55i), and the subject raises to its Spec, (55j) results.[28]

(55)   a. [$_{ForceP}$ Force$_{uPhi}$ [$_{IntP}$ Int [$_{FinP}$ Fin [$_{TP}$...]]]] →

   b. [$_{vP}$ V [$_{ForceP}$ Force$_{uPhi}$ [$_{IntP}$ Int [$_{FinP}$...]]]]]   →

   c. [$_{Appl'}$ Appl [$_{vP}$ V [$_{ForceP}$ Force$_{uPhi}$ [$_{IntP}$ Int [$_{FinP}$...]]]]] →

   d. [$_{ApplP}$ IO [$_{Appl'}$ V+Appl [$_{vP}$ <V> [$_{ForceP}$ Force$_{uPhi}$ [$_{IntP}$ Int [$_{FinP}$...]]]]]] →

   e. [$_{ApplP}$ ForceP$_{uPhi}$ [$_{ApplP}$ IO [$_{Appl'}$ V+Appl [$_{vP}$ ...]]]]   →

   f. [$_{v'}$ v [$_{ApplP}$ ForceP$_{uPhi}$ [$_{ApplP}$ IO [$_{Appl'}$ <Appl> [$_{vP}$ ...]]]]]   →

   g. [$_{vP}$ SU [$_{v'}$ V+Appl+v [$_{ApplP}$ ForceP$_{uPhi}$ [$_{ApplP}$ IO [$_{Appl'}$ <Appl> [$_{vP}$ ...]]]]]] →

   h. [$_{vP}$ ForceP$_{uPhi}$ [$_{vP}$ SU [$_{v'}$ V+Appl+v [$_{ApplP}$...]]]]]] →

   i. V+Appl+v+T [$_{vP}$ ForceP$_{uPhi}$ [$_{vP}$ SU [$_{v'}$ <V+Appl+v> [$_{ApplP}$ ...]]]] →

---

[28] The absence of an intervention effect by uPhi of Force when T probes SU in (55i) might have either of 2 sources: A'-opacity (cf. Rezac 2003; Obata & Epstein 2011; Carstens & Diercks 2011 among others) or the invisibility to probes of uPhi even after it is valued (cf. Carstens 2010; Carstens & Diercks 2011).

j. [$_{TP}$ SU V+Appl+v+T [$_{vP}$ ForceP$_{\text{uPhi}}$ [$_{vP}$ <SU> [$_{v'}$ v [$_{ApplP}$ ...]]]]]

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 the IO, contrary to fact.

(56) a.* Ewe w-abol-el-a   [$_{CP}$ o-li   ba-keni ba-rekukha] [$_{IO}$ Nelson$_i$]
          you 2s$_{SA}$-say-APPL-FV   2s$_{SA}$-that 2-guests 2$_{SA}$-left   1Nelson

    b.* Ewe w-abol-el-a   o-li$_C$ [$_{IO}$ Nelson$_i$] ba-keni   ba-rekukha
          you 2s$_{SA}$-say-APPL-FV   2s$_{SA}$-that   1Nelson   2-guests 2$_{SA}$-left

        Intended: 'You told Nelson that the guests left.'
        Neither CP (56a) nor C alone (56b) 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 (57) and (58) demonstrates that English CPs cannot surface in the canonical position of direct objects. Instead they appear at the right edge of the clause. Sentential subjects are similarly resistant to being "hemmed in" to the canonical subject position (see (59)).

(57)   a.   John said [$_{DP}$ his name] loudly.

        b.   *John said loudly [$_{DP}$ his name].

(58)   a.   *John said [$_{CP}$ that he was leaving] loudly.

        b.   John said loudly [$_{CP}$ that he was leaving].

(59)   a.   Did [$_{DP}$ John's departure] upset Mary?

        b.   *Did [$_{CP}$ 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 (58b). [29] 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$_{uPhi}$, I conclude that it is the best analysis of the facts.

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 17, 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. We saw in §3.4.2 that DO and IO are symmetrical for pronominalization and that DO can raise across IO en route to Spec, TP in a passive. Many applied or causative verbs also allow symmetrical ordering and binding possibilities among the two post-verbal

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[29] 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 (58) and (59).

objects. I show this in (60) and (61). When the IO precedes the DO as in (60a), a universal

quantifier in the former can bind a pronoun in the latter as expected (see (60b) and (61a)).

But when the DO precedes the IO as in (60c), a universal quantifier in the DO can bind a

pronoun in the IO (see (60d) and (61b)). 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.

(60) a. Khu-rer-er-e   o-mu-loleli   bi-tabu
          1plSA-bring-APPL-PAST   1-1-boy   8book
          'We brought the boy books'

     b. Khu-rere-re   buli   mu-soleli   si-tabu   si-e-we
         1plSA -bring-APPL-PAST   every 1-boy   7-book   7-POSS-1
         'We brought every boy his (own) book'

     c. Khu-rer-er-e   bi-tabu o-mu-soleli.
         1PLSA-bring-APPL-PAST   8-book 1boy
         'We brought the boy books' [Lit: We brought books the boy]

     d. Khu-rere-re   buli   si-tabu o-mw-ene-syo
         1PLSA-bring-APPL-PAST   every 7book   1-1-owner-7
         'We brought every book (to) its owner'

(61) a. E-som-el-e   buli   o-mw-andiki   si-tabu   sy-e-we
         1sSA-read- APPL-PAST   every 1author   7-book   7-POSS-1
         'I read each author his book'

     b. Esom-el-e   buli   sitabu o-mw-andiki   w-a-syo
         1sSA-read- APPL-PASTevery   7book 1-1-author   1-POSS-7
         'I read every book (to) its author'

(62) a. …[vP SU v+Appl+read [ApplP every author [Appl' <Appl>[vP V his book]]]]   = (61a)
     b. …[vP SU v+Appl+read [ApplP every book [ApplP its author [Appl' <Appl> [VP …]   = (61b)

If raising of the DO across the IO were A'-movement, we would expect (60d) and (61b) 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). (63) 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. (64)

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 (65). 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   w-e-we$_i$
          1sSA-PAST-bring-APPL-FV   every 1mother 1child   1-POSS-1
          'I brought each mother$_i$ her$_i$ child' *(OK with bound variable reading)*

   b. *Na-a-rer-er-a   mayi   w-e-we   buli   o-mu-soleli$_i$
          1sSA-PAST-bring-APPL-FV   1mother 1-POSS-1   every 1-1-boy
          'I brought his$_i$ mother each boy$_i$' *(OK without bound reading)*

(63)   *N-ok-esy-a   o-mw-enyesyo   buli   ku-mu-pira
          1sSA-see-CAUS-FV 1-1-owner   every   3-3-ball
          'I showed its owner every ball'

(64) John ka-sim-a   e-ng'-enyi. Mayi   wewe a-tekh-el-anga John e-ng'-enyi buli nyanga.
          1SA-like-FV 9-9-fish.   1mom 1POSS 1SA-cook-APPL 1John 9fish   every 9day
          'John likes fish. His mother cooks John fish every day'.

(65)   ?N-ok-esy-a   o-mw-enyesyo kumupira
          1sSA-see-CAUS-FV 1-1owner   3-3-ball
          '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:

(66) <u>Hypotheses consistent with A-movement of DO over IO in high Appl constructions</u>
          a. Appl has an extra edge feature but it is not a phase head.
          b. A position created by the edge feature of a phase head is not always an A' position,
             contra Chomsky (2008).
          c. '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 (66b) seems the most promising. Arguing against (66a) 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 (66c) 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. The Subject-Object-Reversal (SOR) construction introduced

briefly in §3.4.3-4 is also relevant (see the Kilega (67a) from Kinyalolo 1991). It has been

argued in Ndayiragije 1999, Kinyalolo 1991 that the inverted object in Kirundi and Kilega

SOR constructions lands in the canonical subject position. To account for the fact that the

thematic subject in Spec, vP does not block raising of the DO in the Kilega (67a), Carstens

(2005, 2010) proposes that the DO first moves to an outer Spec, vP (see (67b)). If outer

Spec, vP were necessarily an A' position, A-movement through it to Spec, TP would be

impossible.

(67) a. Maku ta-ma-ku-sol-ag-a   mutu   weneene.
       6beer NEG-6SA-PROG-drink-HAB-FV 1person 1alone
       'No one usually drinks beer alone'
       [Lit: Beer doesn't usually drink a person alone]

   b. T [$_{vP}$ OB [$_{vP}$ SU [$_{v'}$ v [$_{VP}$ V <OB>]]]] → [$_{TP}$ OB T [$_{vP}$ <OB> [$_{vP}$ SU [$_{v'}$ v [$_{VP}$ V <OB>]]]]]
       Agree (T, OB) is possible after OB raises to outer Spec, vP

I conclude that (66b) is correct.[30] 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).

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[30] In §3.3 I argued that Fin is non-phasal to account for raising from tensed clauses headed by *mbo.* Adoption of (66b) makes an alternative interpretation possible: 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.

3.7 Restrictions on agreeing C

Diercks (to appear b) argues for the restrictions on agreeing C summarized 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 doubts the contents of the embedded clause (see (70)).[31] (68)-(70) are factors that lead Diercks, van Koppen & Putnam (2011) to propose that Lubukusu C is anaphoric and has unvalued interpretable features.

(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-show 9-/*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."

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[31]*Bali* is homophonous with agreeing C for 3pl/Class 2, a fact consistent with its 'hearsay' usage.

(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-PROG 1SA-be.sick
       'It seems that Sammy is sick'

An account of all the nuances of complementizer choice is outside the scope of this paper

(complicating the task, Diercks (personal communication) informs me that they vary

significantly by region). The null hypothesis, though, would seem to be that these nuances

reduce to specific lexico-semantic properties of the several choices of C. As a first step I

suggest (72) to account for the judgments in (70):

(72) Force-level complementizers selected by verbs of locution, perception, and thought:

   Bali: Hearsay
   Agreeing C or ø: Elsewhere

Several Lubukusu speakers I consulted do not use *bali* except to agree with a 3PL/Class 1

subject, and accepted agreeing C under both circumstances described in (70). For such

speakers, the division of labor in (72) is absent or replaced by a different partitioning of Cs

to be determined in future research.

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, treatment 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 (2004/2006) 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 33). 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 (73).

If the matrix verb is passive as in (74), the object of the restructuring infinitival verb must

be nominative even though this verb bears no passive morphology itself.

(73) a. weil er   den   /*der   Traktor   versucht hat [t$_{OBJ}$ zu reparieren]
        since he   the.ACC/*the.NOM   tractor   tried   has t$_{OBJ}$ to repair
        'Since he tried to repair the tractor'   *active*

    b. weil er jeden/*jeder   Brief   vergessen hat [t$_{OBJ}$ zu öffnen]
        since he every.ACC/*every.NOM letter forgotten has   t$_{OBJ}$ to open
        'Since he forgot to open every letter'   *active*

(74) 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 (75), 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, (75)

means that no windows were remembered to be closed. In contrast, in the simple passive

(76) and in (77) where the restructuring verb is a modal, a narrow scope reading is

preferred for the nominative, though a wide scope reading is marginally possible.

(75) weil alle Fenster   zu schließen   vergessen wurden
     since all windows(NOM)   to close   forgotten were
     'Since they forgot to close all the windows   ∀ » forget; *forget » ∀

(76) 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'   ∃»∀/?∀»∃

(77) 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'   ∃»∀/?∀»∃

B&W argue for the generalizations in (78) and (79) (and Cable to appear supports (81)

with evidence from Luo, another language that lacks obligatory EPP of T). I reproduce their

analyses of (76) in (80) and their analysis of (75) in (81).[32]

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

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

(80)
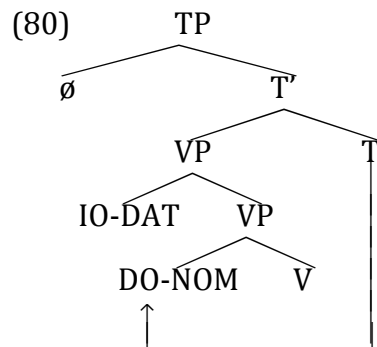
Representation of (76) and (77):
in situ valuation for DP_{nom}

(81)
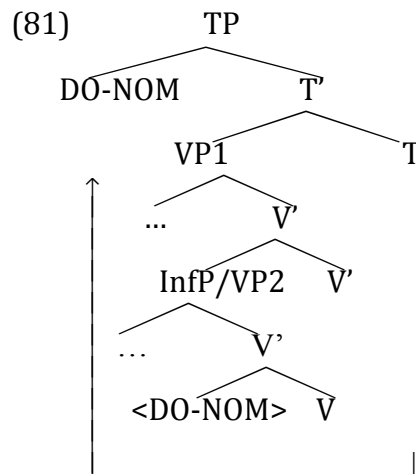
Representation of (75):
Case driven movement and ex situ valuation of DP_{nom}

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

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[32] As I noted in §3.4.4, German datives are unlike Bantu applied objects in that they 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 (80) and (8ii).

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. [33]

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 Lubukusu ForceP will raise all the way to outer Spec vP for its

uPhi to be valued by SU; and to capture the fact that in restructuring contexts, uCase of a

German DP merged within an infinitival complement to a lexical verb must move to Spec,

TP to be valued nominative, 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

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[33] 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, their (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.

optionally raise (see Cable to appear for arguments that optional raising to Spec, TP relies on optional EPP-features). In (76) and (77)/(80), the absence of an EPP feature does not cause any problem because in situ valuation is possible. In (75)/(81), 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 31 and discussion to come 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:

(82) 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.

(82) is an initial attempt to suggest that only locality between two features matters for Match and Agree to proceed. If we determine that (82ii) 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 (53) 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).

(53)   [$_{vP}$ SU [$_{v'}$ v [$_{ApplP}$ ForceP$_{uPhi}$ [$_{ApplP}$ IO [$_{Appl'}$ Appl [$_{VP}$ …]]]]]]

Hypothesis #1: Match with iPhi c-commanding uPhi

(41)   [$_{vP}$ ForceP$_{uPhi}$ [$_{vP}$ SU [$_{v'}$ v [$_{ApplP}$ <ForceP$_{uPhi}$> [$_{ApplP}$ IO [$_{Appl'}$ Appl [$_{VP}$ …]]]]]]]

Hypothesis #2: Match with uPhi c-commanding iPhi

But consider a hypothetical case such as (83) 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 (83) should be ruled out. Bošković 2007 labels Spec, YP in (83) a *cyclic Spec* and argues that raising of an expression bearing 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 of Chomsky 2000, thus that both members in an Agree relation must have a uF, then what can be wrong with (83)?

(83) [$_{XP}$ X$_{uF1}$ [$_{YP}$ Z$_{uF2}$ [$_{Y'}$ Y [$_{WP}$ <Z>$_{uF2}$ …]]]]

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

I suggest that (83) might be precisely the situation under which a subject's Case is valued in English [*for…to*] infinitives such as (84) and (85). 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.[34] (84) demonstrates with a pronominal theme argument of a passive verb raising to Spec of the infinitival TP where *for* values its Case as accusative. (85) illustrates the analysis for a transitive verb with an agent subject.

(84) a. For him to be arrested would surprise me.
b. [$_{TP}$ 3S$_{uCase}$ to be [$_{vP}$ v [$_{VP}$ arrested <3S$_{uCase}$>]]]…
c. [$_{CP}$ For$_{uAcc}$ [$_{TP}$ 3S$_{uCase}$ to be [$_{vP}$ v [$_{VP}$ arrested <3S$_{uCase}$>]]]]…
d. [$_{CP}$ For$_{\text{uAcc}}$ [$_{TP}$ 3S$_{\text{uCaseAcc}}$ to be [$_{vP}$ v [$_{VP}$ arrested <3S$_{uCase}$>]]]]…

(85) a. For Mary to invite John is typical.
b. [$_{TP}$ Mary$_{uCase}$ to [$_{vP}$ <Mary$_{uCase}$> v [$_{VP}$ invite John]]]…
c. [$_{CP}$ For$_{uAcc}$ [$_{TP}$ Mary$_{uCase}$ to [$_{vP}$ <Mary$_{uCase}$> v [$_{VP}$ invite John]]]]…
d. [$_{CP}$ For$_{\text{uAcc}}$ [$_{TP}$ Mary$_{\text{uCaseAcc}}$ to [$_{vP}$ <Mary$_{uCase}$> v [$_{VP}$ invite John]]]]

(84) and (85) argue that raising to be closest c-commandee as in (83) 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 edge feature (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 closest c-commandee of a

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[34] In more recent literature attention has turned away from the correlation of *for* with accusative, focusing on it 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).

head with a Case-"assigning" feature. They demonstrate that the Arabic complementizer

Ɂanna licenses accusative Case on a DP that follows it; hence the contrast between the

nominative subject in (86a) and the accusative subject in (86b). 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 (83).[35]

(86) a. Ɂal-Ɂawlad-u   qaraɁ-u   d-dars-a   *Main clause SU is NOM*
          the-boys-NOM read-3PL.MASC the-lesson-ACC
          'The boys read the lesson.'

      b. Ɂanna al-Ɂawlad-a   Ɂakal-u   T-TaSaam-a yusSidu-ni   *Ɂanna 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 directionally rigid (8'Ri). As noted in §1.1, the fact that

α 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 (83) which, as noted above, he calls raising to a *cyclic* Spec. He

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[35] In Arabic, it is well-known that when a lexical subject is post-verbal, number agreement on the verb is invariantly singular. Melebari & Seely (op cit) argue that a null singular expletive is probed by T and raises to occupy Spec TP in VS constructions. I find the proposal particularly persuasive given that person agreement is more often lost than number in agreement "impoverishment" situations (see Baker 2006 for an account). This analysis refutes Zeijlstra's (2012) claim that Arabic supports universal "Reverse Agree".

first argues that sentences involving the English verbs *conjecture* and *remark* do not license

accusative, hence the unacceptability of (87a). He next concludes from the unacceptability

of (87b) 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 (87c)).

(87) a. *John conjectured/remarked something.
    b. *I know what John remarked/conjectured.
    c. *I [$_{vP}$ v [$_{VP}$ know [$_{CP}$ what [$_{TP}$ John remarked <what>]]]]
                                           Case-valuation fails

Bošković also argues that the unacceptability of (88a) 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 felicitious result.

(88) a. *John wagered Mary to be smart.
    b. Who did John wager to be smart?
    c. [$_{vP}$ <who$_{uCase}$> v$_{uNom}$ [$_{VP}$ wager [$_{CP}$ <who> [$_{TP}$ __ to be smart]]]]
                                          No Case-valuation from 1st move
                               2nd move yields success: (Agree (who$_{uCase}$, v))

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 directional rather than purely

local. As I pointed out above, first Merge of uF α with a sister β leads naturally to

"downwards" valuation relations where α searches in β. But for cases of DELAYED

VALUATION, this rationale is lacking. I offer therefore the conjecture that Case-valuation fails

in (88a) because *wager* selects a phasal CP complement, unlike *believe*-type verbs (see

(89)). This being the case, unless the subject is raised by A' movement to matrix Spec, vP as

it is in (88c), it must transfer to Spell Out inside the embedded TP with no Case value,

causing a PF-interface crash. As for (87), *remark*-type verbs do not allow extraction at all

(90). Whatever explains this fact might underlie the unacceptability of (87b).

(89) *John [$_{vP}$ wagered [$_{CP}$ C [$_{TP}$ Mary to be smart]]

(90) *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 (91a-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 (91d). For Bejar & Rezac, this indicates a second cycle of probing under *cyclic expansion* (see (92))*.* 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.[36] 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.

(91) a.　ikusi z̲-in-t-u-da-n　　　　　　[Basque]
　　　　　seen 2-X-PL-have-1-PST
　　　　　'I saw you̲.'

　　　b.　ikusi n̲-ind-u-en
　　　　　seen 1̲-X-have- PST
　　　　　'He saw me̲.'

　　　c.　ikusi n̲-ind-u-zu-n
　　　　　seen 1-X-have-2- PST
　　　　　'You saw me̲.'

　　　d.　ikusi n̲-u-en
　　　　　seen 1-have- PST
　　　　　'I̲ saw him.'

(92) a. [$_{vP}$ EA [v-Agr [$_{VP}$ V IA]]]　　　　　*Agree cycle 1*

　　　b. [$_{vP}$ EA [v-Agr [$_{VP}$ 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 α

(i) α raises to probe a possible valuer β under closest c-command (perhaps pied piping the XP bearing α and thus yielding common Spec, head configurations and relations; cf.

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[36] 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).

Epstein et al 1998; Epstein & Seely 2006; Bošković 2007, 2011).

(ii) α 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 β with matching features (Rezac 2003; Bejar & Rezac 2009).[37]

(iii) α is valued if a probe β, 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 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.

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[37] 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).

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$_{uCase}$)), prior to its valuation. As a uF 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 from §4.2 the facts of German restructuring constructions with two lexical verbs, in which a nominative DP must raise from embedded VP to Spec, TP). Thus (93) is common and well-motivated cross-linguistically:

(93)   [$_{TP}$ DP$_{uCase}$ [$_{T'}$ T$_{\mu Nom}$ ...]]

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 [$_{ApplP}$ <ForceP$_{uPhi}$> [$_{ApplP}$ IO [$_{Appl'}$ Appl [$_{VP}$ ...]]]]]]
After ForceP raises to outer Spec, vP, Agree (ForceP$_{uPhi}$, 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[38] to NP (or nP), concord entails that XPs can probe (see (96)-(98)).[39]

(94) a kitabu [$_{AP}$ *ki*zuri sana]   [Swahili]
      7book   7good very
      'a very good book'

    b. mzigo [$_{AP}$ *m*zito   mno]
       3load   3heavy too
       'too heavy a load'

(95) a. la   muchacha   [$_{AP}$ muy bonit*a*]   [Spanish]
      the.fem   girl.fem   very pretty.fem
      'the very pretty girl'

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

(96) [$_{NP}$ AP$_{uPhi}$ [$_{NP}$ N$_{iPhi}$]]

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 uPhi 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 (97), arguing against any Spec, head sort of

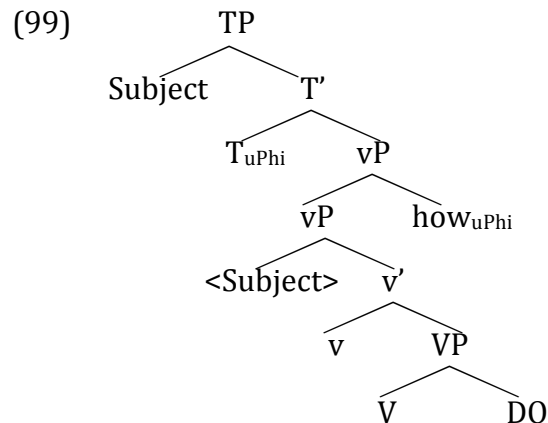approach (see (98)). Carstens & Diercks 2011 propose (99), where 'how' is an XP adjunct

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[38] 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.

[39] Recall from §3.4.3 that the grammatical gender of nouns is an "activity" feature, valued but uninterpretable. As such, like valued uNom of T or uAcc of v, it comes into the syntax with a value and hence need not be Agreed with but it can participate in probe-goal relations, conferring values on items with unvalued uGen.

to vP. Their analysis of agreeing 'how' provides one more argument that XPs can function as probes in Agree relations.

(97) 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?'

(98) *[TP children [T' FUT [HowP <children> [How' how [vP <children> buy the books]]]]]

(99)   TP
         ┌────────┴────────┐
      Subject   T'
                   ┌──────┴──────┐
                T_{uPhi} vP
                          ┌───────┴───────┐
                        vP how_{uPhi}
                 ┌──────┴──────┐
            <Subject>   v'
                       ┌──────┴──────┐
                      v   VP
                            ┌──────┴──────┐
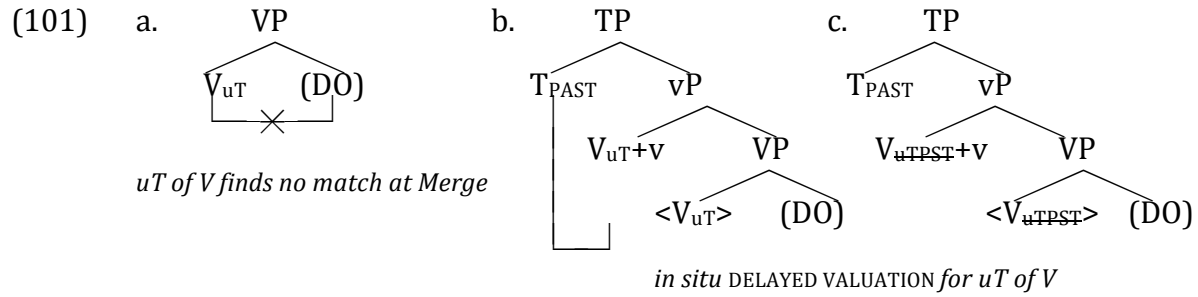   V   DO

8. A note on tense features and "Reverse Agree"

Following Pesetsky & Torrego 2007, Wurmbrand 2011 and Zeilstra 2012 argue that tense features on English verbs are uninterpretable, and must be valued by the interpretable features of T. Partly on this basis Wurmbrand op cit and Zeijlstra op cit argue that the Minimalist "downwards' probing approach to Agree should be rejected in favor of its inverse, "Reverse Agree."

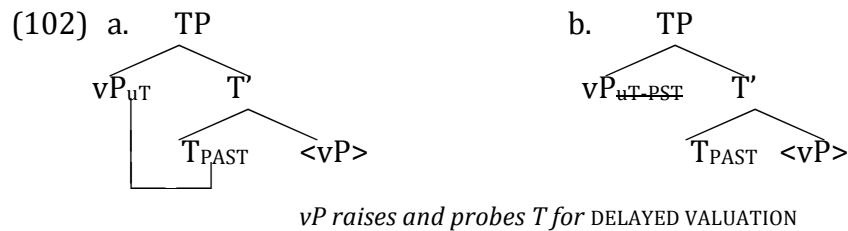(100) a. $T_i...V_{uT}$ → $T...V_{uT}$

       b.   Reverse Agree: universally, valuation obtains when iF closest c-commands uF
               (adapted from Wurmbrand 2011, Zeijlstra 2012)

I have argued that uF of X must probe the c-command domain of X upon Merge. If there is no source of valuation, X may be valued in situ or XP may raise and probe. The choice depends upon whether an edge feature is available and, if one is absent, whether a source of valuation is located in the same phase as uF's in situ position.

The general approach is compatible with a "Reverse Agree" valuation process for uT on a verb: lacking valued T-features within its c-command domain and in the same phase, it must obtain DELAYED VALUATION if the derivation that contains it is to converge. Assuming V always raises to v, it is in the same phase as T and hence can be valued downwards in situ.

(101) a.   VP
              / \
           V$_{uT}$ (DO)
              ✗

uT of V finds no match at Merge

b.   TP
        / \
     T$_{PAST}$ vP
            / \
        V$_{uT}$+v   VP
                 / \
            <V$_{uT}$>   (DO)

c.   TP
        / \
     T$_{PAST}$ vP
            / \
       V$_{\text{uTPST}}$+v   VP
                  / \
            <V$_{\text{uTPST}}$>   (DO)

in situ DELAYED VALUATION *for uT of V*

My two-point mechanics for DELAYED VALUATION, coupled with the approach to motivating movement in (9), argue that if there is an available edge feature in some language, we might see vP/VP raise into locality with T as an alternative to in situ valuation of V's uTense feature. Assume that VP inherits unvalued features from its head as I proposed for all XPs in §7; and that v and hence vP also inherit these features, as a consequence of V-to-v adjunction. Then we predict that some languages might value V's uCase as in (102):

(102) a.   TP
              / \
          vP$_{uT}$ T'
                  / \
              T$_{PAST}$ <vP>

b.   TP
        / \
    vP$_{\text{uT-PST}}$ T'
              / \
          T$_{PAST}$ <vP>

vP raises and probes T for DELAYED VALUATION

In fact, a proposal rather like this is made in Travis 2006 for "snowballing" movement in Malagasy. Travis argues that Malagasy DPs check their features by incorporation of D into relevant heads, leaving Spec positions open. Travis proposes that predicate movement checks the same kinds of features in Malagasy that head-movement checks in a language like English. I suggest that valuation of uT is involved in motivating predicate movement.

The fact that DPs remain in situ paves the way for edge features to raise vPs, since they bear the uF of unvalued tense (see (9)). Hence like valuation of uCase on DP, valuation of uTense on V can be valued in situ or by raising of vP.

An interesting question arises as to whether languages privilege DP-movement over vP movement, and if so why. But for reasons of space, I leave this and further exploration of uTense valuation to future research.

9. Conclusion

In this paper I have argued 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 complemetizer 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: goal features are simply uFs that find no match in their c-command domains at first Merge, and obtain valuation in situ when a matching feature is merged higher in the tree. Some apparently upward-oriented uFs fall out from

the approach, coupled with independently motivated factors including cyclic transfer and the articulated left-periphery.

I have also made a speculative proposal that valuation is not inherently directional. Though downwards probing of the c-command domain is automatic, when it fails the role of DELAYED VALUATION mechanisms is to etablish sufficient locality between valued and unvalued features. This does not logically entail a specific directionality. The upshot is that raising to be the potential valuer's c-commandee is a licit option. The approach explains Case-valuation in English [*for...to*] infinitives.

In the final few sections of the paper I sketched out how my approach can be extended to explain concord, agreement on a vP-level XP adjunct, and valuation of tense features on verbs.

I conclude that there is no upwards/downwards agreement parameter, contra Baker 2008 and Diercks 2011a; and no basis for rejecting the downwards probing model of valuation, contra Zeijlstra 2012 and Wurmbrand 2011. But some of the evidence those works present does indeed warrant a "Reverse Agree" type of analysis. This is entirely due to match failures in the c-command domain of a uF at the point of first Merge, and the ensuing processes of DELAYED VALUATION.

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