Implications of grammatical gender for the theory of uninterpretable features[*]

Vicki Carstens
University of Missouri
carstensv@missouri.edu

This paper argues that in languages with grammatical gender systems, the gender of nouns is uninterpretable yet intrinsically valued. Extensive evidence is then presented that nominal gender is infinitely reusable as an "active goal" feature in successive Agree relations, unlike Case; thus Agree relations apparently do not lead to *u*F deactivation /deletion marking for nominal gender. I point out that the approaches of Chomsky (2001), Chomsky (2007, 2008) and Richards (2008) lead to false predictions of crashes at the Conceptual-Intentional (C-I) interface for syntactic objects that contain nominal gender. In extending Minimalist theory to this under-explored variety of *u*F, I find strong support for the claims of Epstein, Kitahara, and Seely (this volume) that *u*Fs do not require deletion; they are simply ignored at the C-I interface. I argue further that deactivation of DPs accompanies Case-valuation because PF can spell out only one value for a given formal feature. Hence a property of the Sensory-Motor interface gives rise to the phenomenon that Case-valued DPs are "frozen in place" (Chomsky 2001), not the C-I interface as is standardly assumed. No comparable "freezing" effect is connected with nominal gender because its value is not determined through Agree relations.

1.   Introduction

1.1   Theoretical overview

This paper begins with an exploration of grammatical gender and then outlines some consequences of its properties for Minimalist syntactic theory. The theoretical interest of the investigation arises from a general assumption, following Chomsky (2001), that features come in just two varieties: interpretable, valued features on the one hand, and uninterpretable, unvalued features (*u*F) on the other. The properties unvalued and uninterpretable are biconditionally related.[1]

(1)   ***u*F biconditional:** F is uninterpretable ⟷ F is unvalued (Chomsky 2001)

Because they are meaningless, *u*Fs cannot figure in interpretation. Chomsky argues that they must be eliminated before the syntactic object containing them is handed over to the

---

[1] This section draws heavily on helpful discussion in Pesetsky & Torrego (2007). In particular, (1) and (2) are based largely on their formulation of how interpretability, valuation, and deletion interact in Chomsky (2001).

Conceptual-Intentional (C-I) Interface by the Transfer operation (see 2). Their unvalued status triggers an Agree relation, which values uFs and leads to their deletion.

(2)   ***uF deletion requirement:***
       (i)   Uninterpretable material is illegitimate at the C-I Interface.
       (ii)   Valuation deletion-marks uFs, leading to their removal
           and thereby averting a C-I crash.

(1) and (2) thus play an important role in the grammar: the absence of an intrinsic value goes hand in hand with uninterpretability and triggers Agree relations, without which a uF would fail to delete, yielding a C-I Interface crash.

These ideas apply in a by now familiar way to person and number features, which have meaningful, valued instantiations in a DP and meaningless, intrinsically unvalued instantiations in the form of agreement on other categories. But grammatical gender presents something of an anomaly in relation to Chomsky's system. Since many nouns have invariant, idiosyncratic gender specifications, it makes sense to think that gender is part of the lexical listings of such nouns, hence a valued feature. For a feature to be valued entails, in Chomsky's system, that it is interpretable. But it is precisely the semantic arbitrariness of gender that suggests it is valued; thus it seems valued and uninterpretable may go together in this case. On the other hand, there are correlations between meaning and gender for at least certain groups of nouns, so on the face of it, the evidence is inconsistent.

In this paper I explore Romance and Bantu data bearing on the question of whether grammatical gender is meaningful. I conclude that it is not, and hence that the gender of nouns is a feature with the status [valued, uninterpretable], a combination of properties predicted but not instantiated in a feature typology proposed in P&T. This forces abandonment of the biconditional in (1) (a conclusion P&T also endorse).

If the gender of nouns is uninterpretable, and agreement in gender is likewise (since all agreement is uninterpretable), then grammatical gender emerges as a feature with no semantic interpretation in any of its instantiations or syntactic locations. This

state of affairs renders untenable a proposal advanced in Brody (1997) and Pesetsky & Torrego (2001, 2007) that all features have interpretable instantiations (see P&T's formulation of Brody's radical interpretability, reproduced in 3).[2] The phenomenon of grammatical gender supports the conclusion that a morpho-syntactic feature may in principle be entirely without semantic content.

(3)   **Thesis of Radical Interpretability** (Brody 1997): Each feature must receive a semantic interpretation in some syntactic location.

This established I turn to aspects of variation in agreement. I review a proposal of Carstens (2005, and to appear) that systematic adjunction of N to D in Bantu provides a simple and elegant account of the fact that Bantu languages include gender in the features of SA. Then I discuss some general properties of concord and of Bantu multiple SA which suggest that nominal gender can serve as goal in any number of Agree relations. In this there is a sharp contrast between nominal gender and a DP's unvalued Case feature, which generally participates in a single Agree relation.[3] Since Chomsky (2001), the relevant property of Case has been captured in an Activity Condition, stipulating that a licit goal must have an unchecked (unvalued) uF (see 4).

(4)   **The Activity Condition**: a licit goal in Agree has an unchecked uF.

The contrast between Case and gender argues for a precise articulation of how Activity works. It indicates that deactivation is indeed crucially linked to valuation as in Chomsky (2001) (see 2ii). And since nominal gender is simultaneously uninterpretable and intrinsically valued, a strict interpretation of this linkage (see 5) gives rise to a loophole, allowing gender to be an iterative goal feature: even when it serves as goal in Agree

---

[2] Brody considers a version of radical interpretability treating every instantiation of a feature as potentially interpretable, but concludes it may be too strong. Pesetsky & Torrego 2001argue that Nominative Case is a Tense feature displaced on DP. P&T argue for the version of radical interpretabiliy in (3), and develop a conception of agreement as the sharing of features among items to create a kind of feature chain.

[3] For reasons of length I focus here on the limitation to one instance of subject or object phi-agreement per DP in Indo-European languages, with a brief discussion of DP-internal concord; I omit from consideration the interesting phenomena of Case concord and W. Germanic complementizer agreement (a significant but restricted exception to this generalization not expected under the Activity Condition; see Carstens 2003).

relations, nominal gender does not get valued and deactivate; hence it remains "unchecked", in the terminology of (4).

(5)   **Goal Deactivation Principle:** Only syntactic valuation via the Agree relation deactivates uF.

I will propose that deactivation reduces mainly to a phonological inability to spell out multiple values of a single formal feature:

(5')   **Goal Deactivation Principle** (phonological version)**:** Multiple values for a single formal feature are not legible at the S-M interface.

Since nominal gender is not assigned a value through Agree relations, the Goal Deactivation Principle has nothing to say about it. But the principle limits the "Activity" of Case to a single Agree relation in which it obtains a value.

Given the evidence that nominal gender is not deactivated through Agree, a question arises as to whether and how it can be eliminated before Transfer to the C-I interface; thus how it meets the uF deletion requirement in (2). I will argue following Epstein, Kitahara, and Seely (this volume, henceforth EKS) that there is in fact no such deletion requirement connected with Agree; thus (2) is incorrect. And section 6 presents arguments from the morpho-syntax of gender against a recent conceptual argument from Chomsky (2007, 2008) and Richards (2007) for the assumed uF deletion requirement. Chomsky (op cit) proposes that all uFs enter the syntax on phase heads. They must be passed down to be valued and Transferred within a single domain, the phase-head's complement, so that the Transfer operation can recognize them as uF and delete them, thereby averting a C-I interface crash. But Bantu A'-movement constructions show that C can agree with an operator in clauses where T agrees with the subject. They are thus inconsistent with proposals of Chomsky (2007, 2008), Richards (2007) that there is universal C-T Feature Inheritance, and that this process and cyclic transfer derive from the potential of valued uF to cause C-I interface crashes. On the other hand, the facts are entirely consistent with the proposal of EKS that the C-I interface always recognizes uFs as such, and ignores them in interpreting the syntactic object that contains them.

Summing up, the morpho-syntax of grammatical gender provides an illuminating case study regarding Activity, goal deactivation, the status of valued uFs at the C-I interface, and their implications for crashing at that level. Bantu phenomena reveal that uFs are only deactivated when they acquire values through Agree, since successive Agree relations would yield multiple values for a single feature. Given that nominal gender is not valued in Agree, it never deactivates. I conclude that valued uF do not lead to crashing at the C-I interface, and a more crash-proof conceptualization of this area of grammar is hence supported.

1.2. *Structure of the paper*

Section 2 sifts through Romance and Bantu evidence on whether gender is interpretable and shows that it is not. Section 3 presents the proposal for deriving cross-linguistic variation in the content of SA from the syntax of nouns. Section 4 examines the role of gender in concord and multiple SA and argues for the Goal Deactivation Principle in (5). It also argues that the internal syntax of DP impacts on clause-level agreement and A-relations, and that the outcome of one Agree relation cannot value another (Agree-with-Agreement) because the nature of valuation is essentially phonological. I briefly review DP syntax and agreement in Arabic in Section 4 as well, arguing that they support the proposals. Section 5 argues for a stronger, symmetrical version of the Activity requirement to complete the account of how Bantu and English agreement differ. Section 6 demonstrates that operator agreement and SA can co-occur, casting doubt on the validity of the Feature Inheritance approach to motivating uF deletion and cyclic transfer. Section 7 relates the Goal Deactivation Principle to deeper, more general properties of the phonological component. Section 8 concludes.

2. Gender and interpretability

2.1 Romance gender

The uninterpretability of grammatical gender is apparent in the fact that membership in a gender is arbitrary for large numbers of nouns. There is no principled or semantic basis for the fact that the Italian *patata* - 'potato' is feminine, while *pomodoro* – 'tomato' is masculine. Similarly, there seems to be no meaningful basis for the fact that in French, the word *voiture* 'car' is feminine, while *avion* 'airplane' is masculine, or for why *plume* – 'pen' is feminine but *stylo* – 'ball point' is masculine. In Spanish, *casa* – 'house' is feminine; *libro* – 'book' is masculine. There are large numbers of such cases that one could point to in Romance, all indicating that grammatical gender is arbitrary and meaningless; this being the case, it must be listed in lexical entries.

(6)   *Sample lexical listings with grammatical gender (arbitrary and semantically vacuous)*

a.	plume *feminine*	'pen'	[French]
b.	stylo *masculine*	'ball point'	[French]
c.	pomodoro *masculine*	'tomato'	[Italian]
d.	patata *feminine*	'potato'	[Italian]
e.	maleta *feminine*	'suitcase'	[Spanish]
f.	libro *masculine*	'book'	[Spanish]

The genders of the nouns above cannot be predicted, nor are they determined through syntactic relations. Assuming they are lexically listed noun by noun, they must be considered to be valued features and, since they are meaningless, they are uninterpretable.

Let us see if this conclusion holds up in its strongest and most general form. It is clear that grammatical gender has some semantic correlates, including the partitioning of male and female individuals into Romance masculine and feminine genders:[4]

(7)   a.   la   niña   b.   el   niño   [Spanish]
                the.fem child.fem   the.masc boy.masc.
                'the girl'   'the boy'

        c.   la   señora   d.   el   señor
                the.fem woman.fem   the.masc man.masc
                'the woman'   'the man'

And Ferrari (2005) cites a number of additional gender/meaning correlates as evidence that grammatical gender is universally semantic and hence its affixation to noun roots is partly derivational. There is a count vs. mass association for masculine vs. neuter gender in Ripano, and several patterns of semantic correlation to gender choice in Cantabrian (Ferrari 2005: 39-44), among them male/female, dark/light, coarse/smooth, vertical/horizontal, narrow/wide. Ferrari argues for several systematic gender-meaning correspondences in Italian, including count/mass, concrete/abstract; small/big, and animate/inanimate (examples below):

(8)   *Masculine-Feminine pairs of Italian nouns with semantic contrasts*

        a.   ferramento 'iron tool' ~ ferramenta 'hardware' [count/mass]
        b.   granolo 'grain' ~ granola 'the sifted whole wheat grains' [count/mass]
        c.   raccolto 'harvest/crop' ~ raccolta 'harvesting, collection [+/- collective]
        d.   scarico 'unloading of a weapon' ~ scarica 'a volley of riffle-fire' [+/-collective]
        e.   taglio 'cut' ~ taglia 'ransom, tally, body size' [concrete/abstract]
        f.   rancio 'ration'~ rancia 'the distribution of the 'ration' [concrete/abstract]
        g.   mestolo 'small ladle' ~ mestola 'big ladle' [small/big]
        h.   buco 'small hole' ~ buca 'pit or big hole' [small/big]
        i.   pozzo 'well' ~ pozza 'puddle' [small/big]
        j.   granito 'granite'~granita 'grated-ice drink' [inanimate- animate (food)]

---

[4] In glosses, f(em) = feminine; m(asc) = masculine; 1st – 3rd indicate person; sing = singular; PL = plural; numerals 1, 2, etc. designate Bantu Noun class; PRES = present; PST = past tense; ASP = aspect; NEG = negation; GEN = genitive; ACC = accusative; CA = complementizer agreement; HAB = habitual; SA = subject agreement; FV = final vowel of Bantu verbs, which varies with mood and other clausal properties.

k. ciuccio 'pacifier'~ciuccia 'breast' [inanimate –animate (body part)]

l. melo 'apple tree' ~ mela 'apple' [inanimate – animate (food)]

m. lucciolo 'sequin'~ lucciola 'fire-fly' [inanimate-animate (insect)]

n. girello 'small disk' ~ girella 'spinning wheel' [small/big]
o. ninfeo 'temple of pagan gods' ~ ninfea 'a kind of plant' [+/-animate]
p. terrazzo 'balcony' ~ terrazza 'terrace' [small/big]

While Ferrari presents such pairs as evidence that genders themselves are semantic, it seems to me that they argue strongly to the contrary. There is, for example, no unit of meaning common to small, concrete, male, and inanimate, all possible and in many cases mutually exclusive interpretations correlating with masculine, and thus there is no unified semantic content that might be ascribed to the gender.[5] Rather, some semantic properties of nouns seem to serve as sorting criteria, similar to what is involved in a household decision to keep, for example, t-shirts and sweaters in one drawer and socks and tights in another. No one seriously supposes that defining properties of shirts and sweaters are intrinsic to the units in which we store them, even if these items have characteristics in common; certainly no one would suggest that a component of sweaterhood or sockhood is added to them by their storage areas. Similarly, strands of semantic unity in grammatical genders should not suffice to persuade us that the genders themselves possess any semantic content that they contribute to nouns, particularly when the conclusion cannot be generalized to important and systematic semantic anomalies like those in (4).

Harris (1991) neatly accounts for the masculine/feminine alternations exemplified in (7) without attributing semantic content to genders. He does this by means of a rule he calls Human Cloning, which operates on any noun with the semantic specification 'human' and no specification for sex. Human Cloning turns such nouns into pairs of nouns specified 'male' and 'female'. Then a redundancy rule maps nouns denoting females to feminine grammatical gender, leaving the rest masculine by default.

---

[5]Ferrari proposes that semantic properties of the root interact with semantic properties of the gender to yield the correct interpretation, but does not provide details.

(9) a. *Human Cloning*: [Stem$_i$, N, human] → [Stem$_i$, N, human, female]
   → [Stem$_i$, N, human, male]

 b. *Human Gender*: 'female' → f/[__ human]

Under this approach, semantic properties of a class of lexical items play a role in

determining their morpho-syntactic gender features, but the gender features are not

themselves intrinsically semantic; hence we are not obliged to seek a semantic

explanation for the status of Italian *patata* - 'potato' or French *plume* – 'pen' as

grammatically feminine.

Adapting this approach to cover all the cases Ferrari cites, I propose (following

Carstens 2008a) that a noun root with two gender possibilities and corresponding

differences in meaning is one whose lexical meaning and gender are underspecified. I

implement this formally as an open variable (represented as Ø in 10); each such variable

ranges over a pair of oppositions out of a fixed and finite set: male/female; mass/count;

small/large; concrete/abstract; and so forth on a language-particular basis. The gender

variability of such nouns is grammatically encoded in under-specification for gender

(also represented Ø) and, as in Harris's proposal, a set of lexical redundancy rules maps

the nouns to genders, according to the value chosen for the semantic variable (see 10).

(10) Sample redundancy rules assigning gender to underspecified nouns

Stem		*Gender mapping rule*
N$_{\text{Øsex}}$	→	female → feminine
$_{\text{Øgender}}$	→	male → masculine
N$_{\text{Øcount/mass}}$	→	mass → feminine
$_{\text{Øgender}}$		count → masculine
N$_{\text{Øsize}}$	→	large → feminine
$_{\text{Øgender}}$		small → masculine

Under this approach, the genders themselves contribute no meaning. It is therefore quite

natural that the collection of semantic features in (6/8) that map to a given gender is an

arbitrary set, with the effect that individual nouns and subgroups of nouns in a gender can be semantically diverse.

2.2   Bantu noun class

Bantu noun classes differ from Romance genders in superficial ways: they are more numerous; they spell out number and gender fusionally in prefixes; and they reflect different sorting criteria for nouns, as we will see. Carstens (1991, 2008a) argues that noun class is a formal gender system (see also Corbett 1991) in which the genders and their morphology make no semantic contributions. Each pair of noun class prefixes is singular/plural morphology for one of the Bantu genders. Carstens argues for these conclusions based on Swahili data; (11) and (12) illustrate the approach for Kilega.[6]

(11)   a.   musikila/basikila   b.   mubili/mibili   [Kilega]
               1young man/2young man   3body/4body
               'young man/men'   'body/bodies'

        c.   liínyo/ményo   d.   kishúmbí/bishúmbí
               5tooth/6tooth   7chair/8chair
               'tooth/teeth   'chair/s'

        e.   nzogu/nzogu
               9elephant/10elephant
               'elephant/s

(12)   a.   Bantu Genders for classes 1-10[7] (Carstens 1991)

               Gender A: stems of classes 1/2
               Gender B: stems of classes 3/4
               Gender C: stems of classes 5/6
               Gender D: stems of classes 7/8
               Gender E: stems of classes 9/10

---

[6] In this paper Kilega data are taken from Kinyalolo (1991); Shona data from Tendai Mutangadura, my consultant for a 2010 Field Methods class at University of Missouri. I thank her for her assistance.
[7] See Carstens (1991, 1997) for extension of this approach to the more specialized Bantu Noun classes of locatives, gerunds, diminutives, and augmentatives. Despite my commitment to the approach, I use traditional noun class numbers in glosses as they are standard and facilitate cross-Bantu comparisons.

b.   *Sample Spell-Out rules yielding Kilega noun class prefixes*[8]

[Singular]   < -- > /*mu-*/   /__N
                                   Gender A

[Singular]   < -- > /*ki-* /   /__N
                                   Gender D

[Plural]   < -- > /*ba-*/   /__
                                   Gender A

[Plural]   < -- > /*vi-* /   /__N
                                   Gender D

Bantu noun classes show a mix of arbitrariness and threads of semantic coherence very like what we have seen in Romance. There seems to be no semantic basis for why e.g. the Shona words *mukono/mikono* for 'bull/s', is in noun classes 3/4, while *gotora/magotora* – 'male goat' belongs to classes 5/6. Similarly confounding for a semantic approach to noun class is the grouping together in classes 7/8 of Shona terms for 'citizen/s', 'sisal plant/s', 'lawn/s', and 'loaves of bread'. There is no component of meaning that the three class 7/8 nouns share, and which could accordingly be construed as the semantic content of the gender.

(13) a.   chizvarwa/zvizvarwa   b.   chikwenga/zvikwenga   [Shona]
            7citizen/8citizen   7sisal/8sisal
            'citizen/s'   'sisal plant/s'

      c.   chisarara/zvisarara   d.   chingwa/zvingwa
            7lawn/8lawn   7loaf/8loaf
            'lawn/s'   'loaf/loaves of bread'

Bantu classes 3/4 often include words for trees, long, thin objects, and some terms for natural phenomena. But as (14) illustrates, the contents are nonetheless diverse; in Shona, they include such words as the terms for 'back', 'drawing', 'bull' and 'door.'

(14) a.   musana/misana   b.   mukono/mikono   [Shona]
            3back/4back   bull/4bull
            'back/s'   'bull/s'

---

[8]In some genders, certain forms of agreement are homophonous with the prefixes on nouns (save for some phonologically-conditioned allomorphy). But this is not consistently true, so context-sensitive, category-specific Spell-Out rules like those in (12b) are needed. I take these to be post-syntactic lexical insertion rules along the lines of Halle & Marantz (1993).

b.	mufanandizo/mifanandidzo	d.	musuwo/misuwo	
	3drawing/4drawing		3door/4door	
	'drawing/s'		'door/s'	

In Kilega, these same noun classes includes terms for 'village', 'calamity', and 'body':

(15)	a.	mwilo/miilo	b.	mubili/mibili	[Kilega]
		3village/4village		3body/4body	
		'village/s'		'body/bodies'	
	b.	muziko/miziko			
		3calamity/4calamity			
		'calamity/calamities'			

Humans (in some Bantu languages, all animates) constitute a single gender, but this can readily be handled by a redundancy rule of gender assignment along the lines of the Romance rules in (10) (see 16). Other strands of semantic unity may be similarly accounted for without attributing meanings to the classes/genders.[9]

(16) *Bantu gender mapping rule for humans:* [human] → class 1/2

Upon careful consideration, then, I conclude that the grammatical gender of nouns is meaningless, thus uninterpretable, and this is true of both Romance gender systems and Bantu noun class. Gender agreement must also be considered an uninterpretable feature, just like agreement in person or number. The upshot is that grammatical gender is a feature with no meaning at all. The theory of grammar must accordingly permit morpho-syntactic features with no semantic content in any location, contra Brody (1997) (see 3, repeated below). Pesetsky & Torrego (2001, 2007) propose that each uninterpretable feature is just a "misplaced" interpretable feature, that is, a feature that has an interpretation in some other location. The facts of grammatical gender argue that this is not uniformly true, hence we must reject (3).

---

[9] Correlations between noun class and derivational processes in Bantu are well known and have been much described in the literature (see Sproat 1985, Myers 1987, Bresnan & Mchombo 1995, Mufwene 1980, and Ferrari 2005, among others). See Carstens (1991, 2008a) for arguments that even in these instances, exceptions and imperfections in the correlations of class and meaning argue that derivation is not directly attributable to a given class or its prefixes; rather, it often adds a zero morpheme with appropriate semantics and a gender feature. Only this approach can explain the presence within a would-be derivational Noun class of "stray" nouns, which lack the relevant semantic features.

(3)   **Thesis of Radical Interpretability** (Brody 1997): Each feature must receive
        a semantic interpretation in some syntactic location.

Given that a noun's gender is uninterpretable, Minimalist considerations dictate that it

cannot be licit at the C-I Interface (see 2i). Therefore if it isn't deletion-marked in the

syntax, it ought to give rise to a C-I crash (2ii). But the gender of a noun does not obtain

its value through Agree, and thus cannot be "marked for deletion" as an outcome of

valuation. We might conclude from this that it isn't valuation but rather simple

participation in an Agree relation which triggers deletion of grammatical gender.

Alternatively, we might adopt the proposal of EKS that there is no deletion process

required to remove uninterpretable features; they are always recognizable as such at the

C-I Interface and ignored. I will argue in section 6 that this approach is best able to

account for the phenomena surrounding nominal gender.

3.   Gender agreement in Bantu and Romance

In this section I summarize arguments from Carstens (to appear) that adjunction of nouns

to D in Bantu makes gender accessible to probes outside DP. As a result, Bantu SA

includes gender features. In section 4 I explore some striking syntactic consequences.

        (17) exemplifies the systematic exclusion of gender features in Romance SA. (18)

and (19) show that Bantu SA includes gender as well as person and number.

(17)   a.   La   chica   quiere   ir   [Spanish]
                the.fem child(f) want.3rdS to.go   *No SA contrast in gender*
                'The girl wants to go'

        b.   El   chico   quiere   ir
                the.masc child(m) want. 3rdS to.go
                'The boy wants to go'

(18)   a.   Muti u-cha-donha   [Shona]
                3tree 3SA-FUT-fall   *SA contrast in gender*
                'The tree will fall'

        b.   Shizha ri-cha-donha
                5leaf   5SA-FUT-fall
                'The leaf will fall'

13

(19)   a.   *pro* ndi-cha-donha   [Shona]
                        1stS-FUT-fall   *SA contrast in person & number*
                        'I will fall'

      b.   *pro* u-cha-donha
                        2stS-FUT-fall
                        'You will fall'

      c.   *pro* ti-cha-donha
                        1stPL-FUT-fall
                        'We will fall'

This difference has a correlate in the internal syntax of Bantu and Romance nouns, where the intrinsically valued versions of the features reside. Bantu nouns surface at the left edge of the DP, in a position I have argued is adjoined to a (systematically) null D. In contrast, Romance nouns generally surface in the DP's middle field.[10]

(20)   a.   chipunu changu chipuru   [Shona]
                        7spoon 7my   7big
                        'my big spoon'

      b.   [$_{DP}$ chipunu+D [$_{FP}$ changu t_F [$_{NP}$ chipuru [$_{NP}$ t_N]]]]

(21)   a.   la mia casa   [Italian; cf. Cinque 1994]
                        the my house
                        'my house'

      b.   [$_{DP}$ la [$_{FP}$ mia casa [$_{NP}$ t_N]]]

Researchers of DP-syntax generally assume that interpretable person is a feature of D (cf. Baker 2008; Ritter 1992; and Abney 1987, following an insight of Postal 1969). Interpretable number is a nominal affix or perhaps heads one of a set of functional categories in the DPs middle field, as I depict in (22) (cf. Ritter 1992, Carstens 1991, Bernstein 1991), and gender is a lexical property of nouns, as we have seen. Carstens (2005) points out that locality should in principle prevent number and gender from

---

[10]See Cinque 2005 for an alternative, strictly NP-movement approach to word order in DPs, and Abels & Neeleman 2006, Dehé, & Samek-Lodovici 2007 for counter-arguments. Though there has been controversy in recent years over head-movement, Matushansky (2006) defends it persuasively and proposes an approach in terms of raising to Spec followed by morphological amalgamation. Languages in which N sometimes (but not always) raises do not include grammatical gender in SA, or have any alternations in agreement paradigms that I know of (see for example Longobardi's 1994 argument that only proper names raise to D in Italian). This suggests that languages make a one-time choice of agreement paradigms reflecting features that can consistently be valued. An alternative might be some systematic asymmetry in the syntax of common and proper nouns with the result that proper nouns surface in the left edge but not in fact adjoined to D. A full treatment lies outside this paper's scope.

valuing $u\phi$ of T. A DP arguably inherits the features of its head, since the head

determines the category's label; this should render person features uniformly visible to

probes. But there is no percolation-type mechanism in Minimalist theory by which the

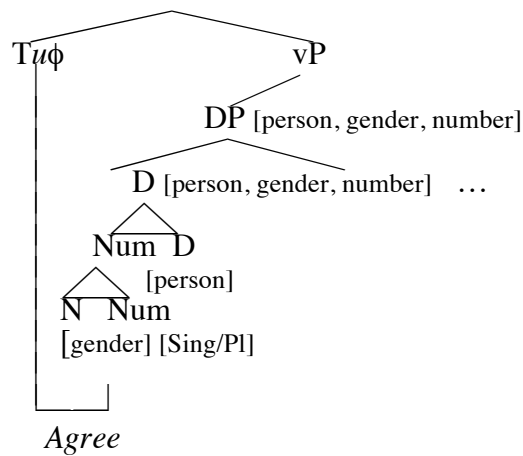DP might obtain the features of lower categories contained within it.

(22) TP   *In their base positions, number & gender cannot value $u\phi$ of T*
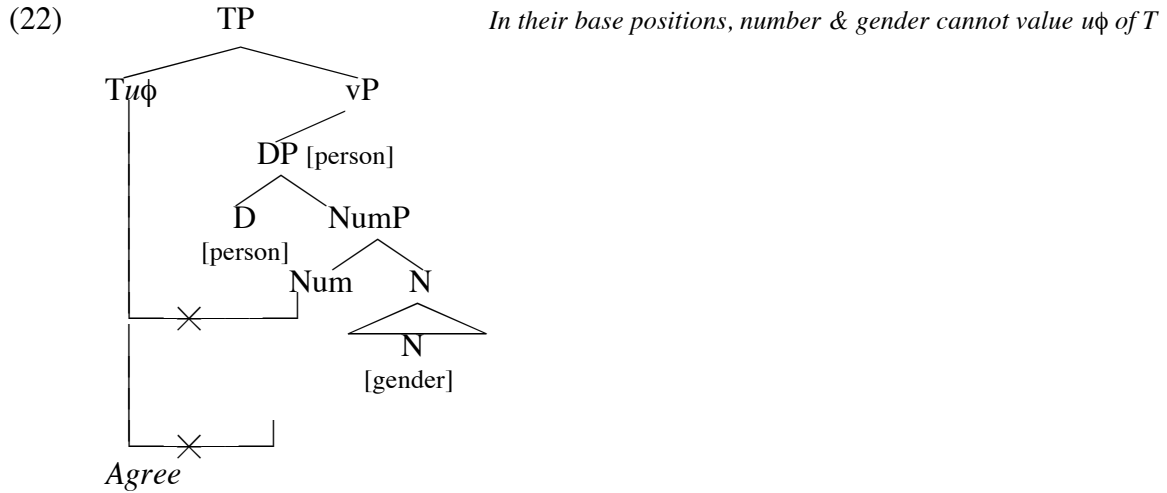
Agree

It is therefore somewhat curious that syntactic theory has tended to treat DP as an opaque

unit whose ϕ-features belong to the whole and are thus all equally available in clausal

agreement relations.[11] Minimalism seems to predict instead, albeit accidentally, that

features of the DP will vary in their accessibility to the outside, based on the interaction

between their structural positions and locality constraints on the agreement relation. I

argue here that this is correct: only ϕ-features of D are able to value $u\phi$ of T. In Bantu,

SA includes gender features because N adjoins to D.

---

[11] Rezac (2004:16) proposes *Specifier Compression*, a process that makes a DP function as if it were only its head, or label. The primary purpose is to resolve a problem in how c-command works under Bare Phrase Structure, but Rezac suggests that ϕ-features inside lower projections that DP contains should in principle be inaccessible. The contrast between Bantu and Romance vis-à-vis gender agreement supports this view.

(23)

TP

T*u*ϕ   vP

DP [person, gender, number]

D [person, gender, number] …

Num D
      [person]
N Num
[gender] [Sing/Pl]

Agree

The role of locality in determining agreement features has escaped general notice because it is partially obscured by two factors.

First, number is widely available as a component of agreement on T and every other agreement-bearing category, and this seems to indicate that each DP has all the ϕ-features of its subparts. Assuming this is true, a highly pessimistic conclusion is suggested: that cross-linguistic variation in the features of agreement can only be treated as idiosyncrasies for which a principled account is impossible.

Second, agreement on participles and predicate adjectives routinely includes gender features and ignores person (see 24a vs. b), regardless of the internal syntax of DPs in a given language. This fact also makes it seem (misleadingly, I claim) that all the ϕ-features of DPs are uniformly available, though probes may pick and choose which features they reflect in agreement.

(24) a. la   casa è   completata   [Italian]
          the.f house be.3rdS complete.f
          'the house is completed'

      b. il   libro è   completato
          the.m book be. 3rdS complete.m
          'the book is completed'

I propose that the consistent availability of number in agreement is due to the fact that it is a quantificational element, and therefore subject to a form of QR, raising it to take scope over its containing DP. Following Matushansky (2006, and see P&T), this is likely

16

accomplished without overt word order correlates in many languages because it can proceed via head-head feature-sharing which, Matushansky argues persuasively, is preferred to overt head movement wherever possible (head movement itself is preferred to phrasal movement, blocking raising of a complement to Spec of its selecting head; see note 10). I adopt this view (see 25), and treat DP-internal QR of interpretable number as a copying mechanism applying only to the features.

(25)   a.   DP   b.   DP
              ╱╲   ╱╲
            D   NumP   D   NumP
                  ╱╲   Sing/PL   ╱╲
               Num   Num
                │   │
              Sing/PL   ↑   Sing/PL

Interpretable number, a quantificational element, always raises from Num to D

Summarizing, the ubiquity of number among agreement features is related to its membership in the natural class of quantifiers, and therefore obscures locality effects in agreement.

Turning to participles and predicate adjectives, there seems to be no avoiding the conclusion that these items are insensitive to person features as a lexical property.[12] In this they differ from T, whose agreement can in principle be valued by any or all of the three φ-features. This argues that while T has non-specific $u\phi$, a participle or adjective has $u$gender and $u$number. For this reason D(P) and its person feature does not enter into the determination of locality for valuation of the participle or adjective's agreement.

---

[12] Baker (2008) attributes this to a requirement that anything controlling person agreement must raise to a local Spec, and argues that there is no suitable Spec in the adjectival domain. I agree with him that there is scant functional material relevant to agreement surrounding the adjective, but I don't adopt his view that [+/-person] comes down to presence versus absence of Spec; rather, the "bareness" of adjectives reveals that roots have only number and gender receptors. Further development lies outside this paper's scope.

4. Why Bantu agreement is independent of Case

4.1 *The proposal: Gender is never deactivated*

SA phenomena in Bantu and Indo-European languages differ in more than just the presence vs. absence of gender features: Indo-European (IE) SA correlates rigidly with the valuation of Nominative Case, while SA in Bantu is freer (cf. Baker 2003, Carstens 2005, Henderson 2006, among others). Bantu SA iterates on every verbal element of a clause (see the Kilega 26 and 27), and in many Bantu languages it is fairly indifferent to the identity of its valuer, which can be the logical subject (28a), or the fronted category in an inversion construction (see 27 and 28b from Kilega: Kinyalolo 1991). (27) shows that locatives can invert in many Bantu languages, even in transitive clauses. (28) shows that direct objects in transitive clauses can raise to the surface subject position. Carstens (to appear) dubs the phenomenon of iterating SA *hyperagreement,* and calls the availability of unusual A-movement phenomena like (27) and (28b) *hyperactivity*.

(26) Masungá *má*-kilí   *m*-á-yik-u-á.   [Kilega]
    6yam   6SA-be.still 6SA-A-cook-PASS-FV
    'The yams are still being cooked.'   *Multiple SA in a compound tense construction*

(27) Ku-Lúgushwá *kú*-kili   *ku*-á-twag-a   nzogu   maswá.
    17-   17SA-be.still 17SA-ASP-stampede-FV 10elephant 6farm
    At Lugushwa elephants are still stampeding (over the) farms. *Locative inversion*

(28) a. Mutu   t-*á*-ku-sol-ág-á   maku wéneéne.
        1person NEG-1SA-PROG-drink-HAB-FV 6beer alone
        A person does not usually drink beer alone.

    b. Maku ta-*má*-ku-sol-ág-á   mutu   wéneéné.
        6beer NEG-6SA-PROG-drink-HAB-FV 1person alone
        No one usually drinks beer alone.   *Object inversion*

Recall that in the framework of Chomsky (2001), only a category with an unchecked uninterpretable feature is a licit goal in Agree. In A-relations, Case is generally the only relevant *u*F. But a DP in a language with a gender system contains another feature that can potentially satisfy the Activity Condition (see 4, repeated below):

(4)   **The Activity Condition:** a licit goal in Agree has an unchecked uF.

I propose that the independence of agreement and A-movement from Case in Bantu is closely related to the inclusion of gender features in SA discussed in section 3, because as an extra uninterpretable feature, the gender of a DP potentially keeps it "active" in A-relations. If a language with gender also has adjunction of nouns to D, making nominal gender accessible to external probes, *hyperagreement* and *hyperactivity* follow rather naturally. The gender feature that makes a Bantu DP active is never valued by a probe ("checked", in the terminology of 4), and hence DP is never rendered inactive through Agree. This follows from the Goal Deactivation Principle in (5) (repeated below).

(5)   **Goal Deactivation Principle:** Only syntactic valuation via the Agree relation deactivates uF.

Section 7 presents a proposal to derive deactivation from Sensory-Motor Interface properties. For purposes of this discussion, though, (5) suffices.

(29) shows schematically how Bantu multiple SA works. The uninterpretable gender feature of the subject makes it active in successive Agree relations valuing $u\phi$, on (one or more) Asp and on T.[13] A Bantu linkage between $u\phi$ and EPP features leads to Spec-to-Spec subject raising (Baker 2003; Carstens 2005).

(29)   [TP Sub$_{uGender}$ T$_{u\#}$ [AspP t$_{sub}$ Asp$_{u\#}$ [vP t$_{sub}$ V [VP V…]]]]
           Number |_____| |_____|
           Person
           ~~uCase~~

Assuming grammatical gender on Bantu DPs satisfies the Activity Condition, it is also natural that SA can be valued by something other than the nominative element, hence (27) and (28b).[14]
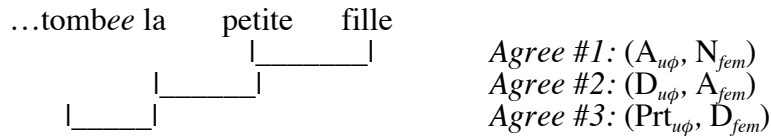
---

[13] Carstens (2008b) proposes that a variety of Feature Inheritance from T to Asp gives rise to multiple $u\phi$ and multiple Edge features in a Bantu Compound Tense construction (for this reason T and Asp always have to agree with the same DP, which raises Spec to Spec). But each $u\phi$ generated by FI must nonetheless have a licit Agree relation with the DP that values it; see the cited work for discussion.

[14] Baker (2003) and Carstens (2005) assume that abstract Case functions differently in Bantu than in Indo-European languages, in being delinked from agreement, but see Diercks (to appear) for arguments that Case is altogether absent in Bantu.

In fact there is evidence much closer to home that conclusively demonstrates the reusability of gender in successive Agree relations. The widespread phenomenon of concord within DP argues that nominal gender is always a reusable goal feature, able to value multiple concord-bearing categories (see 30a, and Carstens 2000, 2001 for arguments that concord should be analyzed in terms of Agree). And Agree relations yielding concord do not render the nominal gender feature inactive for sentence-level Agree relations with a past participle (see 30b, and recall from section 3 that participles are lexically insensitive to person features; hence person creates no intervention effects for gender agreement on participles).[15]

(30) a. la petite fille   [French]
          D_{fem} small$_{fem}$ girl(Fem)
                    |_____| *Agree #1*
          |_____| *Agree #2*
          'the little girl'

      b. la petite fille   est   tomb*ee*
          D_{fem} small$_{fem}$ girl(Fem) be.3rdS fall$_{fem}$
          'the little girl fell'

4.2   Against an Agree-with-Agreement approach; support from Semitic

One can readily imagine a potential alternative analysis of the facts in (30) and those of Bantu multiple SA, based on the assumption that any uF, once valued, can value a higher uF. Thus in (30b) only *petite* would in fact obtain its gender value from the noun *fille;* the D *la* would obtain the value [feminine] from *petite;* and the participle would subsequently obtain its value from *la*, as illustrated in (31) (such an account is reminiscent of feature-sharing approaches to agreement like those of P&T and Frampton & Gutmann 2000). I will call this account Agree-with-Agreement, though in the literature it is sometimes described as the establishment of a series of chain links.

---

[15] For simplicity's sake I ignore number and number agreement here, but the conclusions generalize to it.

(31) **Agree-with-Agreement account**:

…tomb*ee* la   petite   fille

|_____| *Agree #1:* $(A_{u\phi}, N_{fem})$
|_____| *Agree #2:* $(D_{u\phi}, A_{fem})$
|_____| *Agree #3:* $(Prt_{u\phi}, D_{fem})$

The approach has a crucial and fatal shortcoming: it eliminates all hope of any principled account of the systematic differences between Bantu and Romance. Recall that under my analysis, the undifferentiated *uϕ* bundles of T and Asp can obtain values for grammatical gender from D providing locality suffices; and this means ***just in case*** N adjoins to D as it does in Bantu. SA can iterate under precisely the same circumstance because nominal gender in D provides an extra "activity" feature not deactivated by syntactic valuation. If it were possible in principle for the agreeing D in Romance to share with heads outside of DP the gender value it obtains through DP-internal concord, no account of this pervasive and consistent cross-linguistic contrast would be possible.

   In this connection it is worth pointing out that Semitic languages exhibit the same constellation of properties: (i) left-edge nouns in DP (see 32a and 33a); (ii) inclusion of grammatical gender in SA (see 34); and (iii) iteration of SA on all verbal heads in a clause (35).[16] I illustrate with Standard Arabic; and see the N-to-D analysis of Fassi Fehri (1993) depicted in (32b) and (33b):[17]

---

[16] To the best of my knowledge, while Arabic fulfills my predictions by exhibiting *hyperagreement*, it does not exhibit *hyperactivity*, that is, the exotic A-movements found in Bantu which include the so-called Subject Object Reversal construction (28b), transitive locative inversions like (27), and hyper-raising (see Carstens to appear, and Carstens & Diercks to appear). Diercks (to appear) argues that Bantu lacks abstract Case altogether, and Carstens & Diercks (to appear) propose that this is a component of Bantu *hyperactivity*. The presence of Case morphology in Arabic reveals a crucial contrast: Case is functional in Arabic, unlike in Bantu. Thus while the left-edge position of nouns within Arabic DP gives it the extra Activity feature of gender needed for *hyperagreement*, T cannot squander its capacity to value Nominative Case by raising/agreeing with something other than the logical subject which would then lack a Case value.

[17] Once again the legitimacy of head-movement arises, especially in light of phrasal movement accounts of mirror order in the Semitic DP (cf. Shlonsky 2004). In work in progress I argue that to capture the Bantu-like cluster of properties in Semitic including its usual left-edge placement of the noun in DP, it is well-motivated to assume there is morphological amalgamation with D involved; though phrasal movements within DP may also affect word order (in Bantu mirror image and other modifier orders alternate, though N is consistently left-edge within DP). I acknowledge also that some items may precede the noun in D, by occupying Spec, DP; and that certain Semitic quantifiers raise special issues (see Shlonsky op cit) outside the scope of this paper. Representations in (32b) and (33b) will require enrichment in future work.

(32) a.　daxal-tu daar-a　　　r-rajul-i-n　　waasiᶜat-a-n　[Standard Arabic]
　　　　entered-I house-ACC the-man-GEN-n large-ACC-n
　　　　'I entered a large house of a man'　　　　(Fassi Fehri 1993:219)

　　b.　[$_{DP}$　　daar-a　[$_{GenP}$ r-rajul-i-n　t$_{Gen}$ [$_{NP}$ waasiᶜat-a-n　t$_N$]]
　　　　Ø$_D$-Ø$_{Gen}$-house-ACC　　　the-man-GEN-n　　　　large-ACC-n

(33) a.　daxal-tu d-daar-a
　　　　entered-I the-house-ACC
　　　　'I entered the house'　　　　　　　　　　(Fassi Fehri 1993:215)

　　b.　[$_{DP}$ d-daar-a　　[$_{NP}$ t$_N$]]
　　　　the-house-ACC

(34) a.　al-?awlaadu qadim-*uu*
　　　　the-boys　　came-3 MASC.PL
　　　　'The boys came'

　　b.　al-bint-aani　　qadim-*ataa*
　　　　the-girls-3.DUAL came-3. FEM.DUAL
　　　　'The girls came'

(35)　al-bint-aani　　kaan-*ataa*　　*ta*-ktub-*aani* darsa-humaa
　　　the girls(F)-3D be+past-*3FD 3F*-write-*D*　lesson-FD　(D = dual)
　　　'the two girls were writing their lesson'

From the standpoint of syntactic theory, it is highly desirable to explain why Semitic and

Bantu pattern together in sharing these properties. My analysis provides the necessary

account; Agree-with-Agreement simply cannot.

　　　　Why should Agree-with-Agreement be unavailable? The conclusion fits the facts

at hand, but I have not yet offered any conceptual motivation for it. Adapting a proposal

from EKS, I suggest that valuation of *u*Fs is driven by the phonological component,

which must have feature-values for spelling out. The systematic impossibility of Agree-

with-Agreement argues for (36):

(36)　**Phonological Theory of Valuation**: the conversion of *u*F from [-value] →
　　　[+value] is phonological in nature, providing information on how *u*F will be
　　　pronounced. Hence probe features do not become potential goal features upon
　　　valuation in Agree.

5.   Activity: A closer look

5.1   *Strengthening the Activity Requirement*

In preceding sections I have argued that SA can iterate in Bantu because nominal gender
is not valued in Agree relations, and hence remains an active goal feature throughout the
derivation. Notice, however, that the system I have proposed over-generates in a crucial
way: nothing in principle restricts IE SA to a single occurrence on T. This is because, if
IE aspectual heads could in principle enter into Agree with a subject DP **prior** to
valuation of that DP's Case feature, we might expect licit SA on lower auxiliaries,
perhaps with SA iterating higher, or perhaps not, depending on whether we take Case-
checking to be a property of just certain Case-"assigning" heads (Chomsky 1981, and see
Carstens 2001) or a consequence of every φ-complete Agree relation (Chomsky 2000).
But neither pattern is possible. Rather, it is generally true that IE SA appears only on the
verbal head most local to T:

(37)   a.   Jessica ha*s* been skating.
         b.   *Jessica have *is* skating.
         c.   *Jessica ha*s is* skating.

In other words, an unvalued Case feature of the subject DP could in principle allow it to
serve as goal for agreement on low aspectual heads that do not value its Case feature, if
the combination of the Activity Requirement and Goal Deactivation were all that
constrained agreement relations (see 4 and 5, repeated below).

(4)   **The Activity Condition**: a licit goal in Agree has an unchecked *u*F.

(5)   **Goal Deactivation Principle:** Only syntactic valuation through the Agree
        relation deactivates *u*F.

To complete the account of this crucial difference between Bantu and Indo-European SA,

let us adopt (4') – a tight, symmetrical version of the Activity requirement.

(4')   **The Strong Activity Condition:** probe and goal in a licit Agree relation have
        matching *u*Fs, one of which can value the other.

23

Chomsky (2001:6) proposes that probe and goal must both be active for Agree to apply, and in this sense the Activity requirement is already symmetrical. But Chomsky assumes uFs of the probe and goal in A-relations are different in kind: $u$phi for the probe; uCase for the goal. In contrast under (4'), a (probe, goal) relation is always well-formed if both have $u\phi$ (unvalued for the probe; valued gender for the goal). As for Case, (4') must be coupled with a version of the traditional assumption that Case-"assigners" are lexically specified; in particular, I propose that Nominative is a kind of valued uCase of T, and in this property T differs from any aspectual head. Then in IE languages, SA is restricted to T alone, since T and DP both have a uF Case, and that of T can value that of DP. $U\phi$ on T can be valued by the intrinsic ϕ- features of a DP only if it can "piggy-back" on Case or gender Agree relations, since these meet the more symmetrical Strong Activity Condition (4') (see 38).

(38)   have+T$_{\langle u\phi, uNom\rangle}$ been$_{\langle \text{no } uCase; \text{ hence no } uF \text{ match}\rangle}$ Jessica$_{i\phi, uCase}$been skating

These ideas suffice to permit multiple SA in one set of languages, Bantu, and to disallow it in another, IE. A stronger and thus more interesting hypothesis is that multiple SA is automatic where conditions allow it. Under this view, multiple SA (*hyperagreement*) can be predicted for a language that is [+gender] and has N adjoined to D. The principle in (39) forces iterating SA and inclusion of the largest possible feature-set in any instance of agreement:

(39)   Agree$_{\text{Max}}$: Include $u\phi$ wherever they can be valued, and value them
        with all available features.

6.   A problem for Feature Inheritance

I have shown that Agree relations do not deactivate the grammatical gender feature of nouns—a uF that functions as iterative goal for DP-internal concord in all languages with grammatical gender; and in iterating SA in Bantu and Arabic, since adjunction of N to D makes nominal gender accessible to clause-level probes in these languages. In this

respect nominal gender differs significantly from Case, which ceases to be active as soon as it has participated in an Agree relation. I have attributed this difference to a direct relationship between deactivation and valuation via Agree.

Assuming deactivation of a goal is diagnostic of deletion-marking, as discussion of Case in Chomsky (2001) suggests, it seems to follow that grammatical gender escapes deletion from the syntactic object bound for the C-I interface – a state of affairs at odds with Minimalist theory.

There is a more recent idea on how deletion of uF works that merits exploring before this case is closed. This is the theory of Feature Inheritance and cyclic transfer developed in Chomsky (2007, 2008) and Richards (2007). These works argue that all uF probes enter the syntax on phase heads. A potential difficulty arises, since after uFs are valued they become indistinguishable from intrinsically valued features. Transfer operating on the phase in which uFs are valued recognizes them as uninterpretable since phase-internal processes are simultaneous, and therefore "knows" to remove them from the C-I bound syntactic object, making licit the presence of valued uFs in the phase head's complement. But if uFs remain on a phase head after its complement (including the valuer) is transferred to the C-I interface, subsequent Transfer will not know to remove them, and a C-I crash will result. For this reason, C's ɸ-features are necessarily passed down to T and surface there as SA (see EKS for helpful discussion).

Facts of Bantu operator constructions cast considerable doubt on this hypothesis. As (40) demonstrates, Bantu operators have gender and number features; and in many languages, there is agreement with them on an independent C (as in the Kinande 40a) or encliticized to the verb (see the Luganda 40b, and Kilega 40c).[18] Long extraction contexts like (41) show subject agreement and operator agreement in each clause.

---

[18] Kinande data from Scheider-Zioga (2007); Luganda data from Pak (2008).

(40) a.   Ekihi **kyo**   Kambale **a**-langira   [Kinande]
            what **7CA-C** Kambale 3rdSing**-**saw
            'What did Kambale see?'

      b.   emikeeka abawala **gye-ba**-a-luka   [Luganda]
            4mat   2girl   **4CA-2SA**-PST-plait
            'the mats that the girls plaited'

      c.   Bikí   **bi- b**- éte   **bá**-ku-lyá?   [Kilega]
            8what **8CA-2SA**-ASP1 **2SA**-ASP2-eat
            'What are they eating?'

(41)   [$_{CP}$ Bikí   **bi**- [$_{TP}$ pro **b**-á-ténd-ílé   [$_{CP}$ t **bi**- [$_{TP}$ pro **b**-á-gúl-ílé   <bikí>]]]]
            8what 8 CA-   2SA -ASP-say-PERF   8CA -   2SA-ASP-buy- PERF
            'What did they say they had bought?'

These examples illustrate that C and T can agree with different DPs in Bantu, and hence
are not consistent with the view that *u*F of T originate on C and must be passed down to
T to avoid a C-I Interface crash. The agreement-rich morpho-syntax of Bantu is an
excellent testing grounds for theories of *u*F; they provide no support for the Feature
Inheritance approach, or for the broader idea that *u*F must be deletion-marked and
removed from the C-I-bound syntactic object.

7.   Deriving Goal Deactivation

This section considers the conceptual motivation for Goal Deactivation and its
relationship to the Phonological Theory of Valuation in (36). I advanced the proposal in
(36) to explain the apparent impossibility of Agree-with-Agreement in section 4.2. Recall
that Agree-with-Agreement would permit gender concord on D to value SA. This move
gives rise to over-generation: Grammatical gender features are erroneously predicted to
be part of SA in languages which lack N-to-D adjunction, such as Spanish and French.

(36)   **Phonological Theory of Valuation**: the conversion of *u*F from [-value] →
       [+value] is phonological in nature, providing information on how *u*F will be
       pronounced. Hence probe features do not become potential goal features upon
       valuation in Agree.

I have also argued for (5), based on the fact that nominal gender is a reusable goal feature
while Case is not. Since the *u*Case of a DP gets valued through Agree and nominal
gender doesn't, (5) draws the right distinction. Its conceptual underpinnings have yet to

be explored, however. Why should (5) be true? And does it not suggest that once valued, a feature's status in the syntax is altered in a way at odds with (36)?

(5)   **Goal Deactivation Principle:** Only syntactic valuation via the Agree relation deactivates uF.

Notice first that the Strong Activity Condition derives many of the results of the Goal Deactivation Principle by restricting IE Agree relations to those in which both probe and goal have uCase: unvalued for the goal, and valued for the Case-"assigning" probe. But what of a hypothetical instance in which two probes have uCase-"assigning" features, and take the same DP as goal? One can imagine, for example, a new flavor of v having the ability to value Accusative Case, but no external argument (EA). There are several kinds of v: [-Acc, -EA] (unaccusatives like *die*); [+Acc, +EA] (transitives like *destroy*); and [-Acc, +EA] (unergatives like *talk*). Why not [+Acc, -EA], with a theme argument obtaining Case values of Accusative from v and subsequently Nominative from T? And why, if Chomsky's (2007) C-T Feature Inheritance proposal is incorrect as I argued in section 6, can there not be raising from English tensed TP complements, whose subjects value Nominative Case in both embedded and matrix clauses (see 42)?

(42)   *[John seems [<John> is sleeping]]

To account for these residual effects of (5), I suggest that Goal Deactivation should be re-conceptualized as a problem for phonological implementation of multiple feature values:

(5')   **Goal Deactivation Principle** (phonological version)**:** Multiple values for a single formal feature are not legible at the S-M interface.

Assuming valuation consists of filling in some previously underspecified information on how an F is to be pronounced, participation of a single unvalued uF in more than one Agree relation would arguably require adding new values to the old ones (or destroying the existing values and replacing them; a potential violation of EKS's Law of the Conservation of Features, on which see section 8). This is disallowed, under (5'); even the acquisition of two Nominative values in (42) is reasonably viewed as deviant, there being just a single uF to value.

8.   Conclusion

I have argued in this paper that the grammatical gender features of nouns are intrinsically valued but uninterpretable and, following Carstens (to appear), that adjunction of N to D makes gender accessible to clausal probes like T and Asp in Bantu. An important insight emerges: All things being equal, DP has only the ϕ-features of D. Thus there is no percolation-like mechanism giving DP the ϕ-features of Num and N; D(P) only acquires number and gender features by movement (featural QR for number, and head-adjunction of N to D, for gender), and the internal syntax of DP therefore impacts clause-level agreement and Activity.

Comparing Bantu inversion constructions and their accompanying SA properties in (26-28) with IE, Baker (2003), Carstens (2005), and Henderson (2006) suggest that SA parametrically is/is not linked to Nominative Case, with Bantu adopting the latter parameter value. The approach I advocate here explains why this difference exists: Case is not the (only) feature that makes a goal "active" in Bantu.[19] Nominal gender is also uF.

Since Chomsky (2001) it has been common to suppose that valuation and deletion of uF necessarily go hand in hand, but my exploration of gender unearths a problem for this approach. As a uF, gender has no role at the Conceptual-Intentional Interface, but as an intrinsically valued feature, gender never undergoes syntactic valuation. We might suppose that Agree accomplishes deletion independently of valuation, but this hypothesis is falsified by the fact that a single DP successfully values agreement over and over, on distinct heads. There is also no compelling motivation for positing that nominal gender forces DPs to enter into Agree relations the way a DPs uCase does. The relevant relations are amply motivated by unvalued uFs on probes.

---

[19]As I noted in note 16, Diercks (to appear) provides a range of arguments that abstract Case is simply not present in Bantu grammar.

More recent work of Chomsky (2007, 2008) and Richards (2007) addresses the deletion of *u*F somewhat differently, arguing that only phase heads C and *v* have *u*F and must pass them down into their complements for valuation. This is because if a *u*F is Transferred in the same phase where it is valued, its status as *u*F is visible and it can be deleted from the C-I bound syntactic object. But the co-occurrence of operator agreement on C and SA on T in Bantu are inconsistent with this view.

I conclude with EKS that *u*Fs Transferred to the C-I interface do not cause crashes. EKS argue that this is because, contra Chomsky (2007, 2008) and Richards (2007), *u*Fs never become indistinguishable from interpretable features; a state of affairs that EKS attribute to (43). The proposal accounts in a natural way for the licitness of grammatical gender: After Transfer to the C-I interface, it just ceases to be relevant.

(43)   The Law of the Conservation of Features: In Narrow Syntax, features cannot be created or destroyed throughout a derivation.

Notice that (36, repeated below) is quite consistent with (43):

(36)   **Phonological Theory of Valuation**: the conversion of *u*F from [-value] $\rightarrow$ [+value] is phonological in nature, providing information on how *u*F will be pronounced. Hence probe features do not become potential goal features upon valuation in Agree.

In fact, it can be argued that (43) predicts (36). If the syntax were able to make use of features after they are valued in a way that it cannot use them before they are valued, the valuation process would be quite difficult to distinguish conceptually from one that creates features. Thus if Agree had the effect that [*u*F $\rightarrow$ *u*masculine] in a way significant to narrow syntax, and hence this information could determine the outcome of subsequent Agree relations, the spirit of (43) would seem to be violated.

Summing up, I have provided principled explanations for the syntactic properties of nominal gender and gender agreement, and derived the phenomenon of goal deactivation and the failure of Agree-with-Agreement from properties of the S-M Interface. My proposals advance Minimalist theory towards the goal of relating the properties of language to the requirements of the interfaces that it feeds.

References

Abels, K. and Neeleman, A. 2006. "Universal 20 without the LCA." Ms., University of Tromso and University College London.

Abney, S. 1987. "The English noun phrase in its sentential aspect." Ph.D. diss., MIT.

Baker, M. 2003. "Agreement, dislocation, and partial configurationality." In *Formal Approaches to Function,* A. Carnie, H. Harley and M. Willie (eds), 107-134. Amsterdam: John Benjamins.

Baker, M. 2008. *The Syntax of Agreement and Concord.* Cambridge, MA: Cambridge University Press.

Bernstein, J. 1991. "DPs in French and Walloon: Evidence for parametric variation in nominal head-movement." *Probus* 3 (2): 101-126.

Bresnan, J. and Mchombo, S. 1995. "The lexical integrity hypothesis: Evidence from Bantu." *Natural Language and Linguistic Theory* 13: 181-254.

Brody, M. 1997. "Perfect chains." In *Elements of Grammar*, Liliane Haegeman (ed), 139-167. Dordrecht: Kluwer Academic Publishers.

Carstens, V. 1991. "The morphology and syntax of determiner phrases in Kiswahili." Ph.D. thesis, UCLA.

Carstens, V. 1997. "Empty nouns in Bantu locatives." *Linguistic Review* 14 (4): 361-410.

Carstens, V. 2000. "Concord in Minimalist theory." *Linguistic Inquiry* 31 (2): 319-355.

Carstens, V. 2001. "Multiple agreement and Case deletion." *Syntax* 4 (3): 147-163.

Carstens, V. 2003. "Rethinking complementizer agreement: Agree with a Case-checked goal." *Linguistic Inquiry* 34 (3): 393-412.

Carstens, V. 2005. "Agree and EPP in Bantu." *Natural Language and Linguistic Theory* 23: 219-279.

Carstens, V. 2008a. "DP in Bantu and Romance." In *The Bantu-Romance Connection: A Comparative Investigation of Verbal Agreement, DPs, and Information Structure*, Cécile De Cat and Katherine Demuth (eds), 131-166. Amsterdam: John Benjamins (Linguistik Actuel/Linguistics Today 131).

Carstens, V. 2008b. "Feature inheritance in Bantu." Ms., University of Missouri.

Carstens, V. To appear. "Hyperactivity and hyperagreement in Bantu." Forthcoming in *Lingua*.

Carstens, V. and Diercks, M. To appear. Parameterizing Case and Activity: Hyper-raising in Bantu. Forthcoming in *Proceedings of the 40th meeting of the North Eastern Linguistics Society;* and paper presented at NELS 40, MIT, Cambridge, MA.

Chomsky, N. 2000. "Minimalist inquiries: The framework." In *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik,* H. Lasnik, R. Martin, D. Michaels and J. Uriagereka (eds), 89-156. Cambridge, MA: MIT Press.

Chomsky, N. 2001. "Derivation by phase." In *Ken Hale: A Life in Language*, M. Kenstowicz (ed), 1-52. Cambridge, MA: MIT Press.

Chomsky, N. 2007. "Approaching UG from below." In *Interfaces + Recursion = Language?* U. Sauerland and H.-M. Gartner (ed), 1-29. Berlin: Mouton de Gruyter.

Chomsky, N. 2008. "On phases." In *Foundational Issues in Linguistic Theory*, C. P. Otero, et al. (eds). Cambridge, MA: MIT Press.

Cinque, G. 1994. "On the evidence for partial N-movement in the Romance DP." In
    Paths towards Universal Grammar: Studies in Honor of Richard S. Kayne, G.
    Cinque, et al. (eds), 85-110. Washington, DC: Georgetown University Press.

Cinque, G. 2005. "On deriving Greenberg's Universal 20." *Linguistic Inquiry* 36 (3):
    315-332.

Corbett, G. 1991. *Gender*. Cambridge, MA: Cambridge University Press.

Dehé, N. and Samek-Lodovici, V. 2007. "N-raising in DPs: Evidence from prosodic
    phrasing." Paper presented at the Workshop on Nominalizations across
    Languages, University of Stuttgart.

Diercks, M. To appear. Parameterizing Case. Forthcoming in *Syntax*.

Epstein, S., Kitahara, H. and Seely, D. This volume. Uninterpretable features: what are
    they, and what do they do?

Fassi Fehri, A. 1993. *Issues in the Structure of Arabic Clauses and Words*. Dordrecht;
    Boston, MA: Kluwer Academic Press.

Ferrari, F. 2005. "A syntactic analysis of the nominal system of Italian and Luganda:
    How nouns can be formed in the syntax." Ph.D. diss., New York University.

Frampton, John and Gutmann, Sam. 2000. "Agreement is feature sharing." Ms.,
    Northeastern University. Boston. www.math.neu.edu/ling/pdffiles/agrisfs.pdf.

Halle, M. and Marantz, A. 1993. "Distributed morphology and the pieces of inflection."
    In *The View from Building 20,* K. Hale and S. J. Keyser (eds), 111-176.
    Cambridge, MA: MIT Press.

Harris, J. 1991. "The exponence of gender in Spanish." *Linguistic Inquiry* 22 (1): 27-62.

Henderson, B. 2007. "Anti-agreement and [person] in Bantu." In *Proceedings of the 38ᵗʰ Annual Conference on African Linguistics*, M. Matondo, F. McLaughlin and E. Potsdam (eds), 173-181. Somerville, MA: Cascadilla Proceedings Project.

Kinyalolo, K.K.W. 1991. "Syntactic dependencies and the Spec-head agreement hypothesis in Kilega." Ph.D. diss., UCLA.

Longobardi, G. 1994. "Reference and proper names: A theory of N-movement in syntax and logical form." *Linguistic Inquiry* 25 (4): 609-665.

Matushansky, O. 2006. "Head movement in linguistic theory." *Linguistic Inquiry* 37 (1): 69-109.

Mufwene, S. 1980. "Bantu class prefixes: Inflectional or derivational?" In *Papers from the 16ᵗʰ Regional Meeting of the Chicago Linguistic Society*, J. Kreiman (ed), 246-258. Chicago: Chicago Linguistics Society.

Myers, S. 1987. "Tone and the structure of words in Shona." Ph.D. diss., University of Massachusetts–Amherst.

Pak, M. 2008. "Relativization and clause size in Luganda." Paper presented at the Movement and Word Order Conference, Universiteit Leiden.

Pesetsky, D. and Torrego, E. 2001. "T-to-C movement: Causes and consequences." In *Ken Hale: A Life in Language*, M. Kenstowicz (ed), 355-426. Cambridge, MA: MIT Press.

Pesetsky, D. and Torrego, E. 2007. "The syntax of valuation and the interpretability of features." In *Phrasal and Clausal Architecture*, S. Karimi, V. Samiian and W. Wilkins (eds), 262-294. Amsterdam: John Benjamins.

Postal, Paul. 1969. On so-called pronouns in English. In *Modern Studies in English*, ed.

By Reibel, D. and Shane, S.A. 201-24. Englewood Cliffs, NJ: Prentice Hall.

Rezac, M. 2004. Elements of cyclic syntax: Agree and Merge. University of Toronto PhD

dissertation.

Richards, M. 2007. "On feature inheritance: An argument from the phase impenetrability

condition." *Linguistic Inquiry* 38: 563-572.

Ritter, E. 1992. "Cross-linguistic evidence for Number Phrase." *Canadian Journal of

Linguistics* 37 (2): 197-218.

Schneider-Zioga, P. 2007. "Anti-agreement, anti-locality and minimality: The syntax of

dislocated subjects." *Natural Language and Linguistic Theory* 25: 403-446.

Shlonsky, Ur. 2004. "The form of Semitic nominals." *Lingua* 114 (12): 1465-1526.