Noun class, gender, and the workings of Agree:
Evidence from agreement with conjoined subjects in Xhosa[*]

Vicki Carstens
Southern Illinois University

Abstract. This paper begins as a reply to Taraldsen et al (2018), wherein it is argued that shared gender features do not underlie singular/plural noun class pairs in Xhosa. Taraldsen et al's claim is based on the fact that when singulars of a given noun class are conjoined, there is typically default subject agreement with the conjunct rather than agreement in the relevant plural class. My paper shows that similar phenomena are found in Slavic languages which have more canonical gender systems (masculine, feminine, neuter), and that an existing analysis (Boskovič 2009) easily explains the Xhosa facts that Taraldsen et al report. My paper then explores conjoined plurals, showing how a pattern of LCA (last conjunct agreement) with preverbal subjects reported in Mitchley (2015) parallels Serbo-Croatian and is also amenable to an analysis in Boskovič (2009). However, I also show that supplementary research of my own reveals a complex pattern of preferences determining agreement with conjoined plurals, in the speakers in my study, which would not be expected under Boskovič's approach, or under recent approaches of Marušič et al (2015), Nevins & Marušič (to appear), and Murphy & Puškar (2017). I argue for a novel analysis under which multiple gender values are copied from all conjuncts to T's uPhi, if &P is raising to preverbal position, and then those values are reduced to one by impoverishment, informed by interacting hierarchies of preference favoring (i) FCA > LCA > default, and (ii) agreement with least marked > most marked noun classes.

1. Introduction
1.1 The challenge of Xhosa conjoined singulars for a gender approach to noun class

It is standard practice in the Bantu linguistics literature to label singular and plural noun classes distinctly, by means of a numbering system dating to Bleek (1862) and Meinhoff (1906) (see the Swahili examples in (1)). [1]

[1] Glosses and abbreviations: Arabic numbers = noun classes (number + gender) unless followed by s or pl in which case they are person features. Many Xhosa nouns have an inner and outer prefix, both identified by class. CONJ= conjoint (non-final) verb form; DEF = definite; DISJ = disjoint verb form; fem = feminine; FCA = first conjunct agreement; LCA= last conjunct agreement; masc = masculine; neut = neuter; Prt = participle; FV = final vowel; LOC = locative marker; PRES = present tense, PAST = past tense; PL = plural; SA = subject agreement. In examples, DPs and agreement with them are matched up by underlining or bolding. Default is italicized, and indeterminate cases are in plain text. Examples are not marked for tone.

(1) a. m-toto/wa-toto   b. m-ti/mi-ti
         1-child/2-child   3-tree/4-tree
         'child/ren'   'tree/s'

     c. gari/ma-gari   d. ki-tabu/vi-tabu
         5car/6-car   7-book/8-book
         'car/s'   'book/s'

     e. n-dizi/n-dizi   etc.
         9-banana/10-banana
         'banana/s'

However, odd and even pairings of the Bleek/Meinhoff's classes 1-10+ are also commonly

viewed as the singulars and plurals for a smaller number of genders, as in (2) (Carstens 1991,

2008, Corbett 1991, Corbett & Mtenje 1987, Watkins 1937 among others).

(2) Bantu Genders (Carstens 1991)

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

Carstens (1991) proposes that gender is a lexical property of Bantu nouns. Noun class prefixes

are gender-specific spellings out of singular/plural features as shown in (3), fed by N combining

syntactically with the head of the functional category NumP.

(3) Sample Spell-Out rules yielding Swahili Noun Class Prefixes

     [Singular] $\longleftrightarrow$ /m-/   /__N[Gender A]   [Plural] $\longleftrightarrow$ /wa-/ /__N[Gender A]

     [Singular] $\longleftrightarrow$ /ki-/   /__N[Gender D]   [Plural] $\longleftrightarrow$ /vi-/ /__N[Gender D]

The viability of this view is challenged in the recent approach of Taraldsen et al (2018) to

agreement with conjuncts in Xhosa. Bantu conjunct agreement phenomena are also discussed

to varyng extents in Corbett (1983, 1991, 2006), Corbett & Mtenje (1987), De Vos & Mitchley

(2012), Diercks et al (2015), Givon (1970), Marten (2000, 2005), Roberts & Wolontis (1974),

Schadeberg (2001), Simango (2012), and Voeltz (1971), Mitchley (2015). These studies all show

that coordinated singular noun phrases (henceforth DPs) may and sometimes must be

accompanied by default subject agreement in Bantu languages, typically taken from plural noun

classes 8 and/or 10[2] for non-humans and class 2 for human-denoting nouns, regardless of their

intrinsic classes (see (4)) and (5)).[3]

(4) a. Mbale na   ka-temo   *v*-a-sow-a.   [ciNsenga; Simango 2012: 178]
         9.plate and   12-axe   8SA-PAST-miss-FV
         'The plate and the axe are missing.'

     b. U-m-nqathe   ne-qanda *zi*-se   tafile-ni.   [Xhosa; Mitchely 2015:115]
         3-3-carrot   and.5-egg 8SA/10SA-LOC   table-LOC
         'The carrot and the egg are on the table.'

     c. U-mu-bíírá ní-í-ri-gena   m-*bí*-síir:e   [Kuria; from Diercks et al 2015:31]
         3-3-ball   and-5-5-stone FOC-8SA-disappear.PAST.FV
         'The ball and the stone disappeared.'

(5) a. U-m-fundi   ne-polisa   *ba*-ya-balek-a   [Xhosa; Mitchley 2015:115]
         1-1-student   and.5-policeman 2SA-PRES-run-FV
         'The student and the policeman are running.'

     b. Li-doda na   m-simbi *w*-e-fwik-a   mailo   [ciNsenga; Simango 2012:179]
         5-man and   1-girl   2SA-PAST-arrive-FV yesterday
         'The man and the girl arrived yesterday.'

     c. A   xi-kelema   ni   buchara   *vo*   vulavula.   [Xitsonga; Mitchley 2015:65]
         DEF 7-scoundrel and 9.bucher   2SA-PRES talk
         'The scoundrel and the butcher are talking.'

That subject agreement should exhibit default values in such cases is not surprising since the

conjuncts involved do not have gender features in common. But this pattern has been reported

to hold even where conjuncts are drawn from the same singular noun class and thus each

conjunct, if pluralized, would control an identical plural agreement form (see Bosch 1988,

---

[2] Agreement for classes 8 and 10 is homophonous in Xhosa, hence the indeterminate gloss in (4)b. Hereafter for simplicity I gloss the prefix as class 8. In Bantu languages where the two are distinct, class 8 is a frequent default agreement with non-human-denoting nouns.
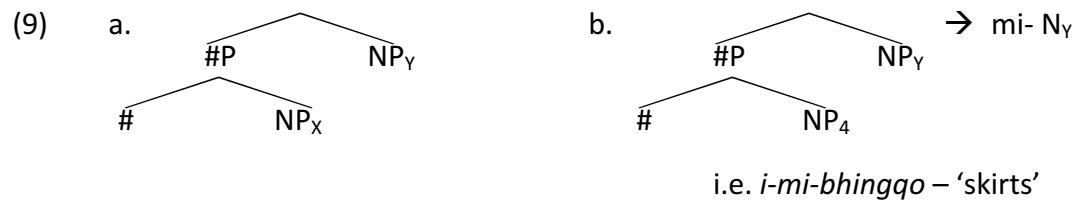
[3] The examples in (5) include singular human-denoting nouns drawn from classes 1, 5, 7, and 9. Conjoined plurals will be discussed in §3. Though classes 1/2 contain almost exclusively human-denoting nouns, many such nouns are also found in the other Xhosa classes. When not conjoined, they control the same class-specific agreement as non-human-denoting nouns of the same classes. See Corbett & Mtenje (1987) for a proposal that the class 2 vs. 8 gender resolution strategies are semantic. I discuss the semantic agreement idea briefly in §7.

Corbett 1991, 2006, Simango 2012, Mitchley 2015, and Taraldsen et al 2018 on these generalizations). The unexpected pattern is exemplified in the Xhosa (6)a, (7)a, and (8)a for coordinated singular nouns with matching genders. The contrasting pattern of agreement with individual (non-conjoined) plural nouns of the same putative gender is shown in (6)b-c, (7)b, and (8)b, where successful agreement and its controllers are underlined (all examples taken from Taraldsen et al 2018). Note especially (8)b, a representative example demonstrating that human-denoting nouns control the agreement that matches their noun class morphology and not that of Gender A, unless such nouns are conjoined as in (8)a.[4]

(6)   a.   u-m-bhingqo   no-m-nqathe   *zi*/*i-se   tafile-ni.
             3-3-skirt   and-3-3-carrot 8SA /*4SA-LOC table-LOC
             'A skirt and a carrot are on the table.'

       b.   <u>I-mi-bhingqo</u>   i-se   tafile-ni.
             4-4-skirt   4SA-LOC table-LOC
             'The skirts are on the table.'

       c.   <u>I-mi-nqathe</u>   i-se   tafile-ni.
             4-4-carrot   4SA-LOC table-LOC
             'The carrots are on the table.'

(7)   a.   I-li-tye   ne-qanda *zi*/*a-khataza   i-n-taka.
             5-5-stone   and.5-egg 8SA/*6SA -annoy 9-9-bird
             'The stone and the egg annoy the bird.'

       b.   <u>A-ma-tye</u>/<u>a-ma-qanda</u>   a-/*_zi_-khataza i-n-taka
             6-6-stone/6-6-egg   6SA/*8SA-annoy 9-9-bird
             'The stones/eggs annoy the bird'

(8)   a.   U-m-gewu   no-m-lwelwe *ba*/*i-sebenza ndawonye.
             3-3-criminal and.3-3-cripple 8SA/*4SA-work together
             'A criminal and a cripple are working together.'

       b.   <u>I-mi-gewu</u>   /<u>i-mi-lwelwe</u> i-sebenza ndawonye.
             4-4-criminal/4-4-cripple   4SA-work together
             'The criminals/cripples work together'

---

[4] Conjoined human-denoting nouns from singular classes 7 and 9 are exceptional in that speakers accept class 8/10 agreement with them in Xhosa, unlike most human-denoting singulars. More on this in §7.

Taraldsen et al (2018) argue that these facts cast doubt on the proposals in (1) and (2). They reason that if, for example, class 3 and class 4 are the singulars and plurals of nouns belonging to the same gender, that gender should be contributed by conjoined class 3 nouns. Given this, under the gender hypothesis, we should expect subject agreement with conjoined class 3 nouns to be drawn from class 4, they claim. Taraldsen et al (2018) propose instead that pairings of singular and plural noun classes have no shared gender features. The features of each Bleek/Meinhoff class is contributed by a silent classifier-like noun which is specifier to the overt noun. The general structure is shown in (9)a, where #P is a number projection dominating the silent noun NP_X in Spec of NP_Y which is headed by the overt noun. The representation of a class 4 noun is shown in (9)b (from Taraldsen et al 2018: 13).[5]

(9) a.
```
         /\
      #P    NP_Y
     /\
    #   NP_X
```
b.
```
         /\            → mi- N_Y
      #P    NP_Y
     /\
    #   NP_4
```
i.e. *i-mi-bhingqo* – 'skirts'

Summing up, class 3 nouns only have the class 3 features which are contributed by their specifiers, according to Taraldsen et al; class 4 nouns have only class 4 features, and so on, for nouns of all classes. Singular and plural classes do not have gender features in common. It follows that conjoined class 3 nouns cannot control class 4 agreement, nor can any singular nouns control agreement associated with their plural class. The schema in (2) is thus incorrect.

Taraldsen et al's approach does not reflect the consistent and predictable singular/plural correspondences in (1). In this paper, I propose an alternative that accomplishes

---

[5] Taraldsen et al (2018) develop this analysis for classes 4 and 6 and then generalize it to all classes including singulars, ultimately concluding that all class prefixes are classifiers.

this by maintaining the genders in (2). My approach has the additional advantage of relating the

Xhosa facts to similar phenomena outside of the Bantu language family. By adding an

exploration of conjoined plurals, I further the evidence that noun class and gender are one and

the same, and provide new insights into the mechanics of agreement. Lastly, my approach

yields some novel perspective on the relationship between grammatical and semantic gender.

1.2   Structure of the paper

In §2 I show that there are parallels to the problematical Xhosa data in Serbo-Croatian and

Slovenian -- languages with canonical gender systems -- and describe how prior research on

these languages accounts for the facts. §3 discusses agreement with conjoined Xhosa plurals as

reported in Mitchley (2015), showing that they also have parallels in Serbo-Croatian, and that a

successful existing account of them in Boskovič (2009) extends easily to the Xhosa data. §4

presents additional agreement patterns from my own research on conjoined plurals in Xhosa,

which argue that three hierarchies of preference are reflected in agreement with [+human]

preverbal conjuncts: (i) class 2> class 6, (ii) class 2>class 4, and (iii) First Conjunct Agreement

>Last Conjunct Agreement > default agreement. §5 presents an analysis of these facts based on

a modification of Boskovič (2009). I assume with Boskovič that in order for a conjunction of DPs

to raise to Spec, TP, uPhi of T must probe the whole, including each conjunct. But while

Boskovič argues that the gender of the first conjunct deletes when T probes the second

conjunct to yield LCA with preverbal conjuncts in Serbo-Croatian, I propose instead that T's uPhi

acquires multiple gender features. Since it can express only one, impoverishment rules delete

all but a single gender value on T, in accordance with language-particular preference

hierarchies. §5 also relates the preference hierarchies to markedness. §6 shows that

contrasting approaches to conjunct agreement advocated in Marušič et al (2015), Nevins &

Marušič (to appear), and Murphy & Puškar (2018) cannot be extended to the Xhosa facts in any

obvious way. §7 offers some reflections on the question of default and gender

(un)interpretability, and §8 concludes.

2. Explaining default agreement with matching singular conjuncts

Failures of expected plural agreements with conjunctions of singulars are not restricted to

Bantu; other languages with grammatical gender exhibit similar phenomena. Corbett (1983)

shows that in Slovenian, while conjoined feminine nouns take plural feminine agreement, and

conjoined masculine nouns take plural masculine agreement, conjoined singular neuter nouns

also take plural masculine agreement (see (10), from Corbett (1983: 188).

(10) to   drevo (neut) in   gnezdo (neut)   na njem mi   bosta ostala (masc dual) v spominu
     that tree   and nest   on it   to-me will   remain   in memory

Corbett (1983, 1987) and Boskovič (2009) report similar facts for Serbo-Croatian. As (11) (from

Boskovič 2009: 483) shows, coordinated neuter singulars cannot be accompanied by plural

neuter agreement on the verb.
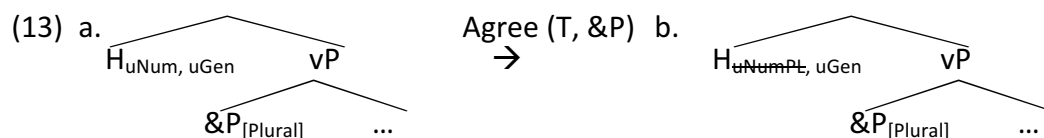
(11) *Jedno tele   i   jedno   pašče   su   juče   prodana
       one   calf.neut   and one   dog.neut are   yesterday   sold.pl.neut

In both Slovenian and Serbo-Croatian, conjoined singular neuter nouns pattern with conjoined

singular nouns whose gender mismatches. Only plural masculine agreement is allowed in such

cases, as shown in (12) (from Boskovič 2009: 451).

(12)   a. *Juče   su uništena   jedno selo   i   jedna varošica.
           yesterday   are destroyed.pl.neut one   village.neut and one   town.fem

        b. *Juče   su uništene   jedna varošica i   jedno selo.
           yesterday   are destroyed.pl.fem one   town.fem and one   village.neut

        c. Juče   su uništeni   jedna selo   i   jedno varošica.
           yesterday   are destroyed.pl.masc one   village.neut and one   town.fem

  d. Juče su *uništeni*   jedna varošica i jedno selo.
    yesterday are destroyed.pl.masc one town.fem and one village.neut

Marušič et al (2007) and Boskovič (2009) propose that Conjunction Phrase, henceforth &P, is generally specified for number features only. When a uPhi probe on a head H (such as Serbo-Croatian Participle) probes &P for number and gender values, it succeeds in obtaining the plural number value alone. Default resolution rules therefore come into play not just when the genders of conjuncts mismatch, but also when they match.[6]

(13) a.   Agree (T, &P) b.

$$H_{uNum, uGen} \quad vP \qquad \rightarrow \qquad H_{\text{uNumPL}, uGen} \quad vP$$
$$\&P_{[Plural]} \quad \ldots \qquad\qquad\qquad \&P_{[Plural]} \quad \ldots$$

This assumption extends nicely to the Bantu phenomena in (4)-(8). As expressions of number are gender-specific in Bantu languages, it is clear that Bantu T searches for both kinds of feature-values. Since the relation Agree ($T_{uNum,uGen}$, &P) can value only the uNumber feature of T, alternative strategies must provide a gender value.[7] The Bantu languages exemplified in (4) and (5) employ a default Gender D value for conjoined singular non-human-denoting nouns in this situation, and Gender A for humans (though see note 3 and §7).

   Summing up, an existing analysis of comparable phenomena in languages with canonical gender systems has no problem extending to the Bantu facts. There is no reason to throw out the baby with the bathwater by rejecting the useful hypothesis that shared genders underlie systematic pairings of singular and plural classes.

---

[6] §7 contains a speculation on how feminine agreement works in Serbo-Croatian.
[7] Under the assumptions of Chomsky (2000), this could leave an unvalued uninterpretable feature, leading the derivation to crash. In contrast, Preminger (2014) argues that default strategies and reduced agreement indicate that agreement may licitly fail – an approach consistent with the conjunct agreement facts.

3.   Adding plural conjuncts: partial agreement
3.1   Last conjunct agreement (LCA)

While Taraldsen et al (2010) discuss only agreement with conjoined singulars, conjoined plurals also exhibit relevant agreement asymmetries. Like conjoined singulars, conjoined plurals show parallels to Serbo-Croatian which support the account I have presented.

Mitchley (2015) shows that when Xhosa plurals of mismatching classes are conjoined, the dominant pattern for the four speakers in her study is for subject agreement to reflect the class of the last conjunct:

(14) a.   I-zi-caka   na-<u>ba-pheki</u>   <u>ba</u>-ya-pheka
            8-servant   and.2-2-cook   2SA-DISJ-cook
            'The servants and the cooks are cooking.'

       b.   A-ba-pheki ne-<u>zi-caka</u>   zi-ya-pheka
             2-2-cook   and.8-8-servants 2SA-DISJ-cook
             'The cooks and the servants are cooking.

(15) a.   A-ma-dada ne-<u>zi-khova</u>   zi-ya-bhabha
            6-6-duck   and.8-8-owl   8SA-DISJ-fly
            'The ducks and the owls are flying'

       b.   I-zi-khova na-<u>ma-dada</u>   a-ya-bhabha
             8-8-owl   and.6-6-duck   6SA-DISJ-fly
             'The owls and the ducks are flying.'

Mitchley points out that a last conjunct agreement (henceforth LCA) analysis extends to cases where both conjuncts are drawn from the same plural class, giving rise (misleadingly, she suggests) to the appearance that there is subject agreement with the whole (see (16), from Mitchley 2015: 116).

(16) a.   i-mi-pu ne-mi-bhobho i-se   rumi-ni
            4-gun   and.4-4-pipe 4SA-loc   room-LOC
            'The guns and the pipes are in the room.'

       b.   A-ma-sele   na-ma-dada   a-ya-qubha
             6-6-frog   and.6-6-duck 6SA-DISJ-swim
             'The frogs and the ducks are swimming.'

    c.   A-ma-polisa   na-ma-gqwetha   a-ya-sebenza
         6-6-policeman and.6-6-lawyer   6SA-DISJ-work
         'The policemen and the lawyers are working.'

    d.   I-zi-tyebi   ne-zi-bhanxa   zi-ya-funda
         8-8-rich.person and.8-8-fool   8SA-DISJ -study
         'The rich people and the fools are studying.'

Why, though, should subject agreement target the last conjunct in these cases? Though it is

linearly nearer to the agreement marker than is the first conjunct, there is much evidence that

linear order plays no role in syntactic processes. Further, Boskovič (2009) provides evidence

that the *head* of the last conjunct controls LCA in Serbo-Croatian, even if it is separated from

the verb by another nominal with contrasting gender and number features (see (17)).

(17) Sve varošica i   <u>sva sela</u>   **Poljice**   su   <u>lijepa</u>   /*<u>**lijepe**</u>
     all towns.femand all villages.neut Poljice.fem are   beautiful.pl.neut/beautiful.pl.fem
     'All towns and all villages named Poljice are beautiful.'

Xhosa data reveal the same pattern of LCA insensitivity to all but the head of the last conjunct,

even if a non-head is linearly closer (see (18)).

(18) a.   A-ma-qanda   ne<u>zi-tya</u>   z-**a-ba-fazi**   <u>zi</u>-/*<u>**ba**</u>-nyamelele
          6-6-eggs   and.8-8plates 8-of.2-2women 8SA-/2SA-be.missing
          'The eggs and the women's plates are gone.'

    b.   I-zi-tya   <u>na-ma-qanda</u> **a-ba-fazi**   <u>a</u>/*<u>**ba**</u>-nyamelele
         10-plates   and 6-6eggs   6.of.2-women 6SA /*2SA-be.missing
         'The plates and the women's eggs are gone.'

The evidence in (17) and (18) indicates that the controller of LCA is hierarchically determined.

The puzzle is to establish why the last conjunct is a licit controller, despite cross-linguistic

evidence that first conjuncts are structurally higher (Munn 1993, 1999 among others).

     Several recent studies address the phenomenon of closest conjunct agreement,

including Boskovič (2009), Marušič et al (2015), Nevins & Marušič (to appear), Murphy & Puškar

(2018) among others. In what follows I describe the approach of Boskovič (2009), showing how

it can account for the Xhosa facts described so far. I then introduce in §4 some additional
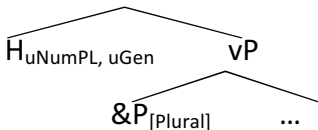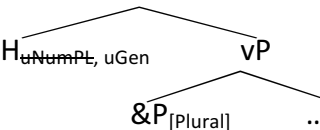
patterns of Xhosa conjunct agreement that my own research with eight Xhosa speakers has revealed. In §5 I propose modifications to Boskovič's approach to accommodate them. §6 shows why alternative approaches developed in Marušič et al (2015), Nevins & Marušič (to appear), Murphy & Puškar (2018) are less successful.

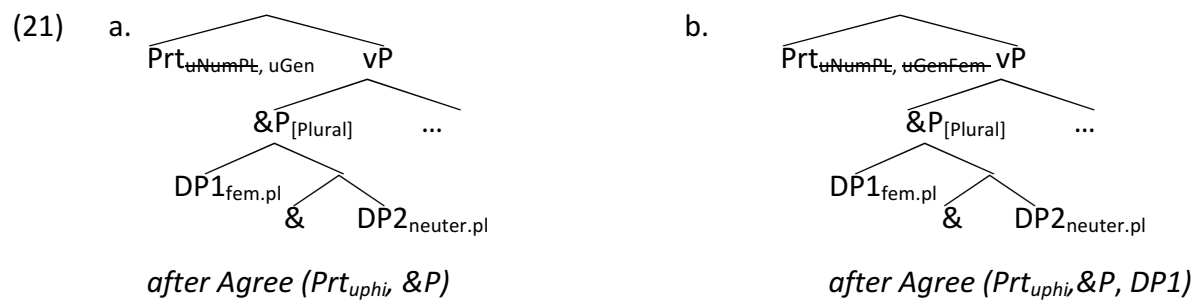## 3.2   Boskovič (2009) on LCA

Boskovič (2009:458-9) shows that both first and last conjunct agreement are possible with conjoined plurals in Serbo-Croatian, depending on the syntactic context. First conjunct agreement (FCA) is found with post-verbal subjects in [VS] contexts, and LCA in [SV] contexts:

(19)   a. Juče   su <u>uništena</u>   sva sela   i   sve varošice.
           yesterday   are destroyed.pl.neut all villages.neut and all towns.fem

        b. Juče   su <u>uništene</u>   <u>sve varošice</u> i   sva sela.
           yesterday   are destroyed.pl.fem all towns.fem and all   villages.neut

        c. *Juče   su <u>uništene</u>   sva sela   i   <u>sve varošice</u>.
            yesterday are destroyed.pl.fem all villages.neut and all towns.fem

        d. *Juče   su <u>uništena</u>   sve varošice i   <u>sva sela</u>.
           yesterday   are destroyed.pl.neut all towns.fem   and   all villages.neut

(20)   a. Sva sela   i   <u>sve varošice</u>   su (juče)   <u>uništene</u>.
           all villages.neut and all   towns.fem are yesterday destroyed.pl.fem

        b. Sve varošice   i   <u>sva sela</u>   su (juče)   <u>uništena</u>
           all towns.fem   and all villages.neut   are yesterday destroyed.pl.neut

        c. *<u>Sva sela</u>   i   sve varošice   su (juče)   <u>uništena</u>.
            all villages.neut and all   towns.fem are yesterday destroyed.pl.neut

        d. *<u>Sve varošice</u>   i   sva sela   su (juče)   <u>uništene</u>
           all towns.fem   and all villages.neut   are yesterday destroyed.pl.fem

Let us return to (13), repeated below, and see how it can extend to these cases under Boskovič's approach.

(13) a.   b.

11

Following Munn (1993, 1999) among others, the first conjunct is structurally higher than the second (see (21)a). Boskovič proposes that upon obtaining a value only for number from &P, the Serbo-Croatian participial head (Prt) can either exhibit the default gender value (masculine) or search further and obtain a gender value from the first conjunct, as shown in (21)b. This is a kind of Multiple Agree (Hiraiwa 2001), in Boskovič's account, and only succeeds if the number feature of DP1 is plural, since &P is plural and Prt will Agree with them both.[8]

(21)   a.

Prt$_{uNumPL, uGen}$ vP

&P$_{[Plural]}$ …

DP1$_{fem.pl}$

&   DP2$_{neuter.pl}$

after Agree (Prt$_{uphi}$, &P)

b.

Prt$_{uNumPL, uGenFem}$ vP

&P$_{[Plural]}$ …

DP1$_{fem.pl}$

&   DP2$_{neuter.pl}$

after Agree (Prt$_{uphi}$,&P, DP1)

This derivation yields successful FCA in Serbo-Croatian [VS] constructions as exemplified in (19). Turning now to [SV] constructions, Boskovič argues that FCA is incompatible with the circumstance in which the participle (Prt) has an EPP feature, raising &P. His explanation is based on the fact that first conjuncts are extractible in Serbo-Croatian, and on the assumption that valuators determine pied-piping. These factors gives rise to an ambiguity as to what can potentially undergo raising when the probe acquires values from two goals (in (21), &P and DP1): given that &P and DP1 are both valuators for agreement on Prt and each is capable of raising, both are in principle eligible to pied-pipe and satisfy an EPP feature of the probe. The ambiguity leads to a failure of either one to be able to raise, adapting McGinnis's (1998) lethal ambiguity idea.

---

[8] For Boskovič, the fact that DP1 must be plural is evidence that the relevant uPhi probe is not a "split" probe that can obtain a number value from one goal and a gender value from another.

Following a proposal of Bejar (2003) that inability to pied-pipe leads to a failure to value, the Prt head needs to probe for gender again. When the probe's uPhi is valued by the second conjunct, the gender value of the first conjunct does not conflict because it has undergone deletion -- an option that Boskovič proposes is both available and necessary because grammatical gender is uninterpretable, in Boskovič's view. But the number features of the first and second conjunct must be plural like that of &P for FCA to work, since this feature is interpretable and cannot delete. All the number features (DP1, DP2, &P) must match for LCA to succeed.

Upon probing of DP2 by Prt, valuation is successful, according to Boskovič, because no ambiguity exists regarding what can raise: only &P can do so, because DP2 of a conjunct cannot extract, and the deletion of DP1's gender feature renders it defective as a valuator. The upshot is that a preverbal &P is accompanied by either default/semantic agreement or LCA; never FCA.

I summarize these proposals that Boskovič makes for Serbo-Croatian (SC) FCA and LCA in (22).

(22) a. Multiple Agree with &P and DP1 yields FCA with post-verbal conjunct

$H_{uPhi,EPP}$ [&P DP1 [& DP2]]
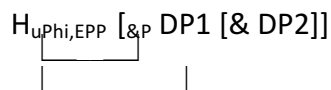
Agree (H, &P) yields plural agreement
H probes DP1: successful agreement in plural of both goals + first conjunct's gender

b. H with EPP-feature probes &P, DP1, DP2, yielding LCA.

$H_{uPhi,EPP}$ [&P DP1 [& DP2]]
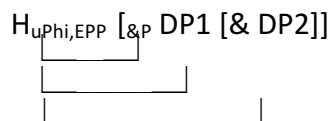
Plural agreement
H probes DP1. Lethal ambiguity arises for EPP-satisfaction
Deletion of DP1's gender feeding probe of DP2

c. DP2 cannot raise in SC. DP1 is ineligible after deletion of its gender, so &P raises.

[[&P DP1 [& DP2] [H~~uPhi,EPP~~ <&P>]

13

3.3   Applying Boskovič (2009) to Xhosa LCA

Unlike in Serbo-Croatian, there is no agreement with in situ subjects in Xhosa. As in many Bantu

languages, agreement and movement to preverbal subject position are strongly linked (Baker

2003, Collins 2004, Carstens 2005, and Baker 2008). Thus only default agreement is possible

with a vP-internal subject (see (23)a,b and Carstens & Mletshe 2015 for details, but see also

§4.2 on conjoined right-dislocated subjects).

(23) a.   I-ncwadi i-fik-ile.   [Xhosa; Carstens & Mletshe 2015:118-19]
            9-9letter 9SA-arrive-DISJ
            'A letter arrived.'

    b.   Ku-fik-e   i-ncwadi.
            17SA-arrive-CONJ   9-9letter
            'A letter arrived.'

Turning to LCA with Xhosa preverbal conjoined subjects, there is evidence that DP1 may raise

out of a conjunction in Xhosa, just as in Serbo-Croatian. On the basis of Lubukusu data, Safir,

Sikuku, & Baker (2013) argue that first conjunct raising is what underlies a very common Bantu

comitative construction illustrated in (24)b. The post-verbal expression in this construction

functions as if it were part of a conjoined subject in (24)a, in that a reciprocal morpheme on the

verb is interpreted as bound by a conjunction of the two DPs though they are separated in

surface syntax:

(24) a.   [O-mu-hayi ne   e-twika] bi-a-bon-an-a
            1-1-hunter with 9-giraffe 8SA-see-RECIP-FV
            'The hunter and the giraffe saw each other.'

    b.   [O-mu-hayi]   a-a-bon-an-a [ne   e-twika]
            1-1-hunter   1SA-see-RECIP-FV with 9-giraffe
            'The hunter and the giraffe saw each other.'

Safir, Sikuku, & Baker (2013) propose the representation in (25) for (24)b (adapting their (13a)):

(25) [$_{TP}$ [DP$_{sg}$ hunter] [T…[$_{vP}$ [DP$_{pl}$ <hunter> [ne giraffe]] [$_{v'}$ v [$_{VP}$ see each other]]]]]

Examples (26)a,b provide the crucial evidence that Xhosa is like Lubukusu in that a first conjunct may raise, stranding the second. On this basis, we saw that FCA with preverbal subjects is ruled out in Boskovič's approach to Serbo-Croatian; LCA surfaces instead.

(26) a. U-m-ntwana no-m-fundi   ba-bon-ene
        1-1-child   and.1-1student 2SA-see-RECIP
        'The child and the student saw each other.'

    b. U-m-ntwana u-bon-ene   no-m-ntwana
        1-1-child   1SA-see-RECIP   and.1-1-child
        'The child and the student saw each other.'

Summing up, the coordinate structure constraint is violable in that first conjuncts can be moved in Bantu languages where this has been studied, leaving the second conjunct behind. For speakers who accept only LCA for preverbal conjoined subjects in Xhosa, Boskovič's account nicely explains the facts under the assumption that when a probe (here uPhi of T) linked to an EPP-feature agrees with both &P and the first conjunct, ambiguity over which should move cancels the relation, and the probe moves on to agree with the second conjunct.

4   Other patterns
4.1   FCA, LCA, and preference hierarchies for conjoined preverbal [+human] subjects

Mitchley (2015) notes finding a few exceptions to the general pattern of LCA with plural conjuncts in preverbal position. In research that I conducted with eight Xhosa speakers using a fill-in-the-blank task, I encountered quite a lot of variation. In what follows I focus on plural human-denoting nouns, henceforth [+human], which afford the greatest range of possibile contrasts. This is because there are few [-human] nouns in classes 1/2 (and my data on them is currently sparse), and because there is syncretism between two plural classes (8 and 10) from which the default agreement for non-humans is also drawn, hence a three-way syncretism. In

contrast, [+human] nouns are spread among all of noun classes 1-10, and default agreement with them is homophonous only with class 2.

A first point of contrast with Mitchley's findings is that I found FCA to be a robust alternative to LCA, in preverbal contexts. [9] Examples (27)a-c are cases in which a single speaker offered both FCA and LCA as acceptable options. (28) shows the option of default class 2 agreement with mismatched [+human] preverbal conjoined subjects, from a different speaker who favored this option.

(27) a. A-ma-gqirha ne-**mi-gewu** a-/**i**-sebenza ndawonye.
6-6-doctor and.4-4-criminals 6SA/4SA-DISJ-work together
'The traditional doctors and the criminals are working together.'

b. I-mi-gewu **ne-z-anuse** i/**zi**-ya-cul-a.
4-4-criminals and.10-10-diviner 10SA/4SA-DISJ-sing-FV
'The criminals and the diviners are singing.'

c. A-ma-polisi ne**en-tombi** a-/**zi**-ya-cul-a
6-6-police and.10-girl 6SA/10SA-DISJ-sing-SA
'The police and the girls are singing.'

(28) a. A-ma-banjwa ne-zi-qwala *ba*-sebenz-a ndawonye.
6-6-prisoners and.10-10-cripples 2SA-work-FV together
'The prisoners and the cripples are working together.'

b. I-mi-gewu ne-za-nuse *ba*-ya-cul-a.
4-4-criminals and.10-10-diviners 2SA-DISJ-sing-FV
'The criminals and the diviners are singing.

Secondly, it is important to note that the choice between FCA and LCA seems in many cases to be driven by the noun classes of the conjuncts.

All eight speakers in my study chose class 2 agreement whenever the first conjunct was class 2.

---

[9] My speakers and Mitchley's all come from the Eastern Cape, and were of an age to be found in the student populations of Rhodes University and University of the Western Cape where our studies were conducted. I must leave open the reason for the differences we found. I also administered the same questionnaire to a native speaker of Shona, who consistently offered LCA with preverbal conjoined subjects, like Mitchley's Xhosa speakers.

(29) A-ba-ntwana nee-n-tombi   ba-ya-cula.   [FCA chosen by 8 out of 8 speakers]
      2-2-children and.10-10-girls 2SA-DISJ-sing-FV
      'The children and the girls are singing.'

Faced with a conjunction of a class 8 noun and a class 2 noun, six out of eight speakers chose

class 8 FCA over class 2 agreement. This is significant given that class 2 is both the class of the

second conjunct and the default agreement for [+human] nouns.

(30) I-za-nuse   na-ba-ntwana   zi-ya-cul-a.   [FCA chosen by 6 out of 8 speakers]
      8-8-mediums and.2-2-children 8SA-DISJ-sing-FV
      'The young ladies and the children are singing.'

Similarly, when a class 6 first conjunct was combined with a second conjunct of any class but 2

(thus 4, 8, or 10), class 6 FCA was preferred. Out of twenty-four possible combinations of this

kind (6+n ≠ 2), it was selected as the sole option in thirteen. In three more cases, it was offered

as an equal alternative to another option: LCA (twice) or default (once), totaling sixteen cases in

all where it was selected as the only choice or one of two options. LCA was offered by only

three speakers as the sole preference, and there were five choices of default class 2 indicated. I

exemplify the prevalent pattern of agreement with [6+8] and [6+10] combinations, below.

(31) a.   A-ma-gqirha ne-z-anuse   a-sebenz-a   ndawonye.   [FCA highly preferred]
           6-6-doctors and.8-8diviners 6SA-work-FV together
           'The traditional doctors and the diviners are working together.'

     b.   A-ma-polisa ne-en-tombi   a-ya-cul-a.
           6-6-police   and.10-10-girls 6SA-DISJ-sing-FV
           'The policemen and the young ladies are singing.'

But when a class 6 noun was the first conjunct and class 2 the second, class 2 agreement was

the choice of six out of eight speakers. First conjunct agreement was the choice of one speaker,

and an additional speaker offered both FCA and LCA options.

(32) A-ma-polisa na-ba-ntwana   ba-ya-cul-a.   [LCA chosen by 6 out of 8 speakers]
      6-6-polisa   and.2-2-children 2SA-DISJ-sing-FV
      'The policement and the children are singing.'

Of course, class 2 agreement in such a case could be interpreted as default agreement, as it can

in a case of apparent FCA like (29). However, examples in which neither conjunct is class 2

argue that default agreement is the least preferred option with conjoined [+human] nouns (see

for example discussion of (31), and (34)b,c). This makes a default account of examples including

class 2 conjuncts less likely than the FCA and LCA accounts (and see §5.2 for detailed discussion

of default).

     Class 2 agreement was also favored in the case of a class 4 first conjunct + a class 2

second conjunct: five speakers chose class 2 subject agreement, one chose class 4, one said

either was acceptable, and the eighth speaker suggested *zi-* (class 8/10/[-human] default).

(33) **I-mi-gewu**   na-ba-ntwana   ba- (**i**/*zi*)-ya-cul-a   [LCA>**FCA** & [-human] default 5:2:1]
     4-4-criminals and.2-2-children   2SA/4SA/8SA-DISJ-sing-FV
     'The criminals and the children are singing.'

For a conjunction of the form [class 10 +class 2], class 10 FCA was selected by five speakers, and

class 2 LCA by three speakers. When a class 10 first conjunct paired with a class 6 or

class 4 noun as second conjunct, FCA was strongly preferred. LCA was chosen by only a single

speaker in each case (not the same speaker), and just one speaker chose default class 2.

(34) a.   I-in-tombi n**a-ba-ntwana**   **zi**/**ba**-ya-cul-a.   [FCA>**LCA** 5:3]
        10-10-girls and.2-2-children 8SA/2SA-DISJ-sing-FV
        'The young ladies and the children are singing.'

    b.   I-in-tombi n**a-ma-polisa**   **zi**/**a**/*ba*-ya-cul-a.   [FCA>**LCA** & *default* 6:1:1]
        10-10-girls and.6-6-police   8SA/6SA/2SA-DISJ-sing-FV
        'the young ladies and the policemen are singing.'

    c.   I-in-tombi ne-mi-gewu   **zi**/*ba*/**i**-ya-cula.   [FCA>*default*>**LCA** 5:2:1]
        10-10-girls and.4-4-criminals 8SA/2SA/6SA-DISJ-sing-FV
        'the young ladies and the policemen are singing.'

Results for other combinations of classes were considerably more variable, especially where the

first conjunct was from class 4. For example, a conjunction of classes [4+6] nouns yielded two

instances of FCA, two instances of LCA, three of default class 2 agreement, and one speaker

who offered both FCA and default.

(35) I-mi-gewu   na-ma-gqirha   __ -sebenza ndawonye.   [*default* > FCA & LCA]
     4-4-criminals and.6-6-doctors   -work   together
     'The criminals and the traditional doctors are working together.'
     [Results: FCA x 2, LCA x 2, default x3, default and FCA equally good x 1]

Class [4+10] conjunctions yielded two instances of FCA, three of LCA, and three selections of

default *ba-.* Results for class [4+8] conjunctions were much the same.

(36) I-mi-gewu   ne-en-tombi   __ -ya-cul-a.   [*default* & LCA > FCA]
     4-4-criminals and.10-10-girls   DISJ-sing-FV
     'The criminals and the young ladies are singing.'
     [Results: FCA x 2, LCA x 3, default x3]

Over all, the speakers in my study of [+human] plural conjuncts from mismatching noun classes

preferred FCA. There were twenty combinations (2+4, 4+2, etc. through all possible

combinations), on which eight speakers gave judgments. Thus, speakers offered agreement

choices in one hundred and sixty cases. Since LCA and FCA are identical for [8+10] and [10+8], I

leave these sixteen cases out of my calculations, considering only the balance between LCA,

FCA, and default on 144 cases. Out of all cases of conjunct agreement, FCA was the sole choice

offered 77% of the time (77:31). Here is the full set of numbers in Table 1 below:

Table 1: Agreement choices for mismatching plural conjuncts ≠ [8+10] and [10+8]

FCA	LCA	FCA or LCA	Default	FCA or default	LCA or default
77	31	10	19	4	3

Even if we were to exclude from the tally twenty-eight instances in which speakers chose the

first conjunct when it was class 2 (given ambiguity as to whether FCA or default agreement was

involved), speakers chose FCA over LCA in 49:31 cases or 61% of the time. Only when the first

conjunct is from class 4 does LCA have an edge over FCA, as shown in Table 2.

Table 2: Agreement choices for [4+n]

FCA	LCA	FCA or LCA	Default	FCA or default	LCA or default
6	12	0	9	2	0

In contrast, when the first conjunct is class 6, LCA is only favored if the second conjunct is class 2 (see (31) versus (32)).

I conclude that the class features of both conjuncts play a role in determining the choice between FCA and LCA. This is a necessary conclusion, in order to allow the choice of LCA when the noun class features of the conjuncts are [6+2] or [4+2], versus FCA when the conjuncts are of classes [8+2], [10+2], and all other combinations.

I propose three hierarchies of preference (HoPs) that guide the choice of LCA, FCA, and default agreement for conjoined [+human] preverbal subjects, for the speakers in my study. If the conjuncts are [6+2] or [4+2], we have seen that the class 2 features of the second conjunct favor it as the source of gender value for the uPhi probe. Otherwise, FCA is preferred over LCA, and default is the least preferred option. Future research is needed to determine the extent to which these preferences are violable. I instructed speakers to inform me when there were multiple acceptable options, but I did not collect grammaticality judgments on choices that they did not select.

(37) Hierarchies of preference in Xhosa agreement with conjoined [+human] preverbal subjects:

    (i)   2>4
    (ii)   2>6
    (iii) FCA>LCA>default

Since (i) and (ii) bleed (iii), we could assume that they apply before (iii). An alternative would be to give markedness values to noun classes and their agreements, with class 4 the most highly

marked plural class (at least for [+humans]), followed by class 6, and class 2 the least marked.

Assuming LCA also has a higher markedness value than FCA for the speakers in my study, the

desired results can be obtained by assuming that both markedness scales inform the choice of

agreement, and that the class hierarchy trumps the FCA>LCA hierarchy. The decisive evidence

on this question will be drawn from a closer look at the distribution of default agreement, to be

discussed in §5.2.

In §5.1 I will propose a modification of Boskovič (2009) to accommodate the facts

described in this section including the HoPs in (37), and show that several other accounts of

closest conjunct agreement lack the ability to permit preferences of this kind. But first I

complete this profile of Xhosa conjunct agreement by describing agreement with conjoined

right-dislocated subjects.

4.2   FCA with post-verbal subjects

§3.2 reported that there is no agreement with in situ subjects in Xhosa comparable to what is

found in Serbo-Croatian. There is, however, agreement with right-dislocated conjoined

subjects. The choice is always FCA, as in (38)a and (38)b. (38)c and (38)d show that LCA is

impossible. (38)e and (38)f show that default class 2 agreement is also ruled out.

(38) a.   A-ya-cul-a   a-ma-polisa nee-n-tombi
          6SA-DISJ-sing-FV 6-6-police   and.10-10girls
          'The policemen and the girls are singing.'

    b.   Zi-ya-cul-a   i-in-tombi   na-ma-polisa
          10SA-DISJ-sing-FV 10-10-girls   and.6-6-police
          'The girls and the policemen are singing.'

    c. *Zi-ya-cul-a   a-ma-polisa nee-n-tombi
          10SA-DISJ-sing-FV 6-6-police   and.10-10girls
          'The policemen and the girls are singing.'

    d.   *<u>A</u>-ya-cul-a   i-in-tombi   <u>na</u>-ma-polisa
        6SA-DISJ-sing-FV 10-10-girls   and.6-6-police
        'The girls and the policemen are singing.'

    e.   *_Ba_-ya-cul-a   i-in-tombi na-ma-polisa
        2SA-DISJ-sing-FV   10-10-girls and.6-6-police
        'The girls and the policemen are singing.'

    f.   *_Ba_-ya-cul-a   a-ma-polisa nee-n-tombi
        2SA-DISJ-sing-FV 6-6-police   and.10-10girls
        'The policemen and the girls are singing.'

The verb in these examples is in the so-called disjoint form, meaning that nothing follows the verb within vP (Buell 2004); this is a well-established diagnostic that post-verbal subjects are right-dislocated. Were a conjoint (non-final) verb form to appear, it would necessarily bear default class 17 agreement as noted in §3.2 and exemplified in (39)a. The conjoint form indicates that the subject remains very low in the structure. Carstens & Mletshe (2015) analyze this construction as involving an empty Spec, TP and no probing by uPhi of T. I follow Julien (2002) in assuming the verb raises as high as the suffixal morphology it bears, in this case the indicative –_a_ head of MoodP. The result is (39)b.

(39) a.   Ku-cul-a   a-ba-fana   ne-en-tombi
           17SA-DISJ-sing-FV 2-2-boys   and.10-10girls
           'The boys and the girls are singing.'

      b.   [TP ku-T [MoodP cul-a_Mood_ [vP abafana nentombi <v> [VP <V>]]]]
          17SA   sing-FV.INDIC   2boys   and.10girls

It has been argued that the attachment site of right-dislocated subjects is vP-level (see Buell 2008, Cheng & Downing 2009, Zeller 2012); under this assumption, the raised verb in cases like (38) c-commands the post-verbal subject even though it is ex situ, as shown in (40).[10]

(40) a.   <u>A</u>-ya-cul-a   <u>a</u>-ma-polisa nee-n-tombi
          6SA-DISJ-sing-FV 6-6-police   and.10-10girls
          'The policemen and the girls are singing.'

---

[10] My thanks to Jochen Zeller (personal communication) for pointing this out to me.

b. [$_{TP}$ a-ya [$_{MoodP}$ cul-a$_{Mood}$ [$_{vP}$ [$_{vP}$ <SU <v> [$_{VP}$ <V>]]] amapolisa nentombi]]
    6SA-DISJ   sing-FV.INDIC   6police   &10girls

I will argue in §5.3 that the right-dislocated subject does not raise through Spec, TP. I leave

further discussion until then. What is relevant for the moment is that agreement is possible

with post-verbal conjoined subjects in Xhosa, and it can only be FCA. In this, Xhosa's right-

dislocated subjects align with in situ post-verbal subjects of Serbo-Croatian and Slovenian as

described in Boskovič (2009), Marušič et al (2007).

5   Analysis
5.1   Modifying Boskovič (2009) for preverbal subjects

Recall that three HoPs are involved in the choice between LCA and FCA in SV contexts, for the

speakers in my study:

(37) Hierarchies of preference in Xhosa agreement with conjoined, preverbal subjects:

(i)   2>4
(ii)   2>6
(iii)   FCA>LCA>default

For this to be the case, in the grammars of the speakers in my study, it cannot be correct that

the features of the first conjunct are deleted when &P raises to Spec, TP, as Boskovič (2009)

argues (see also Marušič et al 2015, Nevins & Marušič to appear, Murphy & Puškar 2018 for

evidence from FCA with preverbal subjects that the features of both first and last conjuncts

remain "active" in SV contexts in Slavic languages). I propose instead that in order for &P to

raise, as opposed to the first conjunct alone (recall that (26)b shows this to be an option),[11] the

probe involved must obtain values from all of &P, including both conjuncts; thus Xhosa T copies

---

[11] Given the conclusions of this section, it isn't clear to me whether a language needs to have the option of
first conjunct extraction in order to derive LCA; perhaps raising &P always and only requires Agree with all
conjuncts, and language- and speaker-particular variability reflects preferences/tendencies like (37) (see
above citations on Serbo-Croatian and Slovenian. I leave this question open to cross-linguistic exploration.

&P's number, and the number and gender features of both DP1 and DP2. The gender features' relative left-to-right positions in the uPhi bundles below crucially mirror the hierarchical relations among conjuncts.

(41) a.

$T_{\_\_uPhi, EPP}$ ...&P$_{[Plural]}$ →   b. $T_{uPhi, EPP}$ ...&P$_{[Plural]}$

DP1$_{\alpha gen.pl}$ & DP2$_{\beta gen.pl}$

Plural αgen.pl βgen.pl DP1$_{\alpha gen.pl}$ & DP2$_{\beta gen.pl}$

c.   TP

&P$_{[Plural]}$ T'

DP1$_{\alpha gen.pl}$ & DP2$_{\beta gen.pl}$ $T_{uPhi, EPP}$ <&P>

Plural αgen.pl βgen.pl
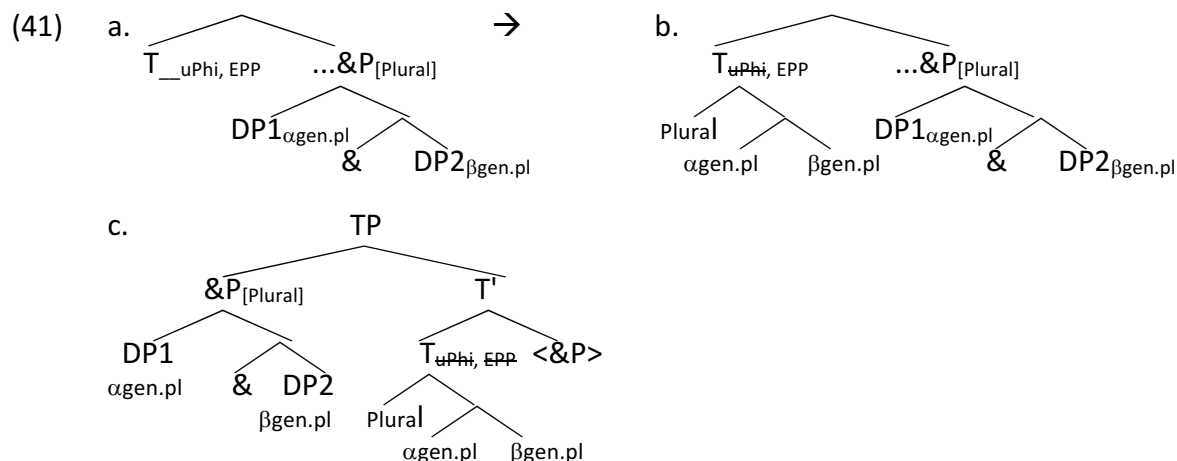
Because T can express only a single gender feature, an impoverishment operation (Bonet 1991) must delete one of them.[12,13] The Hierarchies of Preference determine which gender feature is retained, as shown in (42) (for simplicity I omit number, which is irrelevant to this process).

(42) a. T_{uPhi} T_{uPhi} by HoP (ii) 2>6

class 6 class 2 → class 6 class 2

b. T_{uPhi} T_{uPhi} by HoP (iii) FCA>LCA>default

class 8 class 2 → class 8 class 2
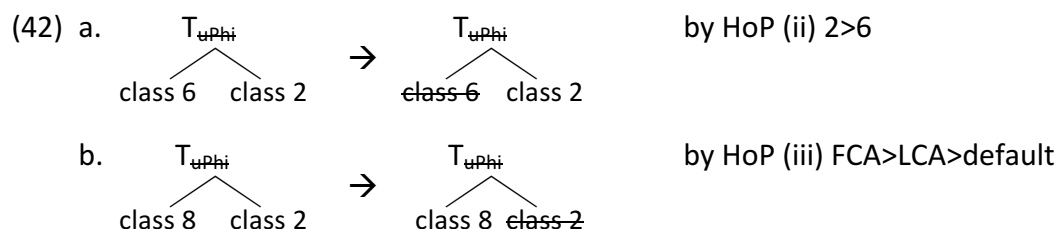
5.2   Default agreement with preverbal conjoined subjects

It remains to consider in detail the distribution of default class 2 agreement, matching neither conjunct.

---

[12] See also Murphy & Puškar (2018) for an applicaton of impoverishment to deriving the features of agreement with conjuncts. In their account, impoverishment reduces multiple gender values on &P itself, to arrive at the least marked.

[13] While I will not discuss conjunctions of more than two DPs and hence medial conjuncts, HoPs and impoverishment may simply eliminate their features, or perhaps they are inaccessible adjuncts to parts of &P. I leave this to future research.

There were twelve combinations on my questionnaire in which neither conjunct was class 2, and eight speakers offering agreement choices on them, yielding a total of 96 chances for default agreement to be chosen. Of my eight speakers, one offered default class 2 agreement in every single case of conjoined plurals. With this speaker included, default agreement with mismatching conjucts where neither one is class 2 occurred in 20 instances as either the only choice or an option, hence 21% of the time. I show the distribution in Table 3.

Table 3: Default agreement for combinations in which no conjunct = class 2

4+6	4+8	4+10	6+4	6+8	6+10	8+4	8+6	8+10	10+4	10+6	10+8
3	3	3	3	1	1	2	1	0	2	1	0

With this atypical speaker excluded from calculation, default class 2 agreement with mismatched conjuncts was offered in just 10 cases, either as the only option or as an alternative to FCA, by the remaining speakers (10.5% of the total), as shown in Table 4.

Table 4: Default agreement for combinations in which no conjunct = class 2, excluding the default-only speaker

4+6	4+8	4+10	6+4	6+8	6+10	8+4	8+6	8+10	10+4	10+6	10+8
2	2	2	2	0	0	1	0	0	1	0	0

A pattern clearly emerges here. Six of the cases in which default was chosen had a class 4 noun as the first conjunct: [4+6] x 2 speakers, [4+8] x 2, [4+10] x 2 (one speaker was consistent in choosing *ba*; the others involved different speakers across examples). Three more cases had class 4 as the second conjunct: [6+4] x 2 speakers, [8+4] x 1, [10+4] x 1.

It seems, then, that not only is FCA strongly avoided when a class 4 or 6 noun is the first conjunct and the second is class 2; it is also the case that, for all but one of my speakers, default

class 2 agreement is avoided in that it is a strategy that comes into play only as the choice of a minority of speakers, in conjunctions involving class 4 nouns. It seems reasonable to conclude that speakers offering default agreement were choosing to avoid agreeing with a class 4 conjunct, and in a couple of cases, perhaps also avoiding a class 6 alternative, since [4+6] and [6+4] together accounted for 4/10 cases, and all speakers otherwise preferred FCA or LCA (in that order of preference).

Given this pattern of facts I propose that, underlying HoPs (i) and (ii) and the pattern of default choice, there are markedness relations among the classes in which [+human] nouns appear and control agreement. Class 4 is the most marked, followed by class 6, then 8 and 10, and lastly class 2, which contains almost exclusively human-denoting nouns. Including the singular classes in the ranking, we arrive at (43).[14]

(43) Markedness hierarchy of classes of [+human] nouns:

Lowest   1/2   >   7/8, 9/10   > 5/6   >   3/4   Highest

Consistent with the high markedness of classes 3/4 for [+human] nouns is the low incidence of such nouns in these classes. I have found very few [+human] nouns in classes 3/4, far fewer than in classes 1/2, and they refer to what might be seen as low status individuals (apart from *umlonji/imilonji* - 'singer/s' familiar to few of my speakers, I know of only terms for criminals and cripples). On the other hand, there are many [+human] nouns in classes 5/6, just as there are in classes 9/10, and class 10 is not disfavored at all as a controller of conjunct agreement for [+human] nouns. It might be that class 5/6 [+human] nouns are somewhat special in both positive and negative directions. They include terms for heroes, warriors, clever people, wives,
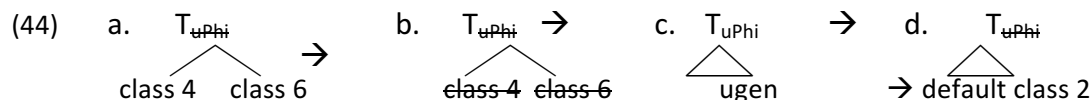
---

[14] See Ferrari (2005) for a markedness approach to Bantu class, along rather different lines.

and princesses, along with many profession names (lawyer, traditional doctor, police) and the names for ethnicities such as *amaXhosa* - 'the Xhosa nation', but also words for prisoners, thieves, and twins. The semantics of noun classes is a disputed and perennially vexing question; I leave such issues aside.

Summing up, for the Xhosa speakers in my study there seem to be several broad tendencies operating and sometimes competing, in the choice of conjunct agreement: (i) avoid agreement with a conjunct of a highly-marked noun class, (ii) avoid agreement with the second conjunct, and (iii) avoid default. We have seen that LCA is the majority choice for conjunctions [4+2] and [6+2], FCA is the only choice for seven out of eight speakers when the first conjunct is class 2, 8 or 10, and FCA is the majority choice when the first conjunct is class 6. The mixed and most random-looking results occur when when a noun of class 4 pairs with any second conjunct other than class 2 (class 6, 8, or 10 (see e.g. (35) and , repeated below).

(35) I-mi-gewu   na-ma-gqirha   __ -sebenza ndawonye.   [*default* > FCA & LCA]
     4-4-criminals and.6-6-doctors   -work   together
     'The criminals and the traditional doctors are working together.'
     [Results: FCA x 2, LCA x 2, default x3, default and FCA equally good x 1]

(36) I-mi-gewu   ne-en-tombi   __ -ya-cul-a.
     4-4-criminals and.10-10-girls   DISJ-sing-FV
     'The criminals and the young ladies are singing.'
     [Results: FCA x 2, LCA x 3, default x3]

I propose that if a speaker selects default agreement, it means that there is deletion of both gender values, rendering ugender unvalued. This leads to insertion of class 2:

(44)   a.   T~uPhi~   b.   T~uPhi~ →   c.   T~uPhi~   →   d.   T~uPhi~
            ╱╲   ╱╲   △   △
            →
       class 4   class 6   ~class 4~ ~class 6~   __ugen   → default class 2

This paper will not attempt to lay out precisely the interactive alternative rankings among preferences for the eight speakers in my study. My goal in this section has been a more

restricted one -- to identify the factors informing choices among LCA, FCA, and default, in order to construct a viable account of their general distribution and of where in the structure the features are located when those choices are made. The evidence supports impoverishment applying to all conjuncts' features after they are transferred onto the probe itself, with HoPs based upon markedness motivating the choices.

I turn now to to the account of FCA with post-verbal subjects, on which judgments are consistent, across examples and speakers.

5.3   FCA with post-verbal subjects

Recall that while the HoPs are predictive of agreement patterns where preverbal conjuncts are concerned, only FCA is possible with right-dislocated post-verbal subjects in Xhosa (see (38), repeated below). Following Boskovič (2009), I propose that this is because only an EPP feature causes T to probe beyond DP1, and right-dislocated subjects never raise to Spec, TP. Given that T can obtain a number value from &P and a gender value from DP1 of a post-verbal subject, there is no morpho-syntactic motivation for it continue to probe when an EPP feature is absent, and I assume that this is therefore blocked by economy considerations.

(38) a.   <u>A-ya-cul-a</u>   <u>a-ma-polisa</u> nee-n-tombi
            6SA-DISJ-sing-FV 6-6-police   and.10-10girls
            'The policemen and the girls are singing.'

      b.   <u>Zi-ya-cul-a</u>   <u>i-in-tombi</u>   na-ma-polisa
            10SA-DISJ-sing-FV 10-10-girls   and.6-6-police
            'The girls and the policemen are singing.'

      c.   *<u>Zi-ya-cul-a</u>   a-ma-polisa <u>nee-n-tombi</u>
            6SA-DISJ-sing-FV 6-6-police   and.10-10girls
            'The policemen and the girls are singing.'

      d.   *<u>A-ya-cul-a</u>   i-in-tombi   <u>na-ma-polisa</u>
            6SA-DISJ-sing-FV 10-10-girls   and.6-6-police
            'The girls and the policemen are singing.'

28

e. *Ba-ya-cul-a   i-in-tombi   na-ma-polisa
   2SA-DISJ-sing-FV   10-10-girls and.6-6-police
   'The girls and the policemen are singing.'

f. *Ba-ya-cul-a   a-ma-polisa   nee-n-tombi
   6SA-DISJ-sing-FV   6-6-police   and.10-10girls
   'The policemen and the girls are singing.'

If instead Xhosa post-verbal subjects were hypothesized to raise to Spec, TP before right-dislocating, we would expect T to Agree with both conjuncts, and undergo impoverishment in accordance with the HoPs. The same patterns of agreement would be predicted as for preverbal subjects, including LCA with [4+2] and [6+2] conjunctions, and a mixture of results when a class 4 noun is conjoined with nouns of other classes, including some instances of default class 2. I assume instead with Carstens & Mletshe (2015) that Xhosa Spec, TP may be empty.

In line with proposals of Baker (2003), Carstens (2005) among others, Carstens & Mletshe (2015) link EPP and phi-agreement to one another as properties of "robust" Xhosa T, the alternative being a radically defective T which lacks both of these features and moreover cannot value uCase; this defective T pairs with a similarly defective v, yielding a particular constellation of properties in active VS(OO) constructions. The facts of agreement with right-dislocated conjoined subjects in Xhosa argue for the novel conclusion that even the robust agreeing T may lack EPP and a specifier.[15] This is a conclusion that has rarely emerged from studies of other agreement and movement phenomena in Bantu, though see Van der Wal (2015) for discussion of what she calls Agreeing Inversion constructions, featuring subject agreement with in situ subjects in Makhuwa and Matengo.

---

[15] See Zeller (in progress) for a similar conclusion based on agreement with conjuncts in Zulu.

5.4   Plural [-human] conjuncts

For the sake of completeness, this subsection provides a brief description of agreement with

plural [-human] DPs based on the same eight speakers' judgments. Regretably, I have little data

on conjunctions involving the few [-human] nouns in class 2 (or more precisely 2a, which has all

the same agreements but different nominal prefixes). For this reason, I must restrict my

description to what happens in conjunctions involving classes 4,6,8, and 10.

As was true of [+human] nouns, the speakers in my study permitted only FCA with right-

dislocated [-human] nouns:

(45) a.   I-phel-ile   i-mi-funo   na-ma-qanda.
           4SA-be.finished-DISJ   4-4-greens and.6-6-eggs
           'The greens and the eggs are finished.'

     b.   A-phel-ile   a-ma-qanda   ne-mi-funo.
           6SA-be.finished-DISJ   6-6-eggs   and.4-4-greens
           'The eggs and the greens are finished.'

     c.   *I-phel-ile a-ma-qanda ne-mi-funo.

     d.   *A-phel-ile i-mi-funo   na-ma-qanda.

     e.   *Zi-phel-ile a-ma-qanda ne-mi-funo

The eight speakers selected *zi-* agreement for most preverbal mismatched conjunctions

(see (46)), and this is not too surprising since *zi-* serves as the subject agreement marker for

classes 8 and 10 as well as default agreement for conjunctions of [-human] nouns.

(46) a.   I-zi-tulo   ne-e-tafile   zi-phandle.
           8-8-chair and.10-10table   8/10SA-outside
           'The chairs and the tables are outside.'

     b.   I-in-gwe   ne-em-vubu   zi-phandle
           10-10-leopard and.10-10hippo   8/10SA-outside
           'Leopards and hippos are outside.'

The speaker who chose default *ba-* agreement for all conjunctions of mismatched [+human]

nouns chose *zi-* agreement for all conjunctions of [-human] nouns.

For preverbal conjunctions [4+6], two speakers chose FCA, one chose LCA, four chose

default *zi-*, and one offered both FCA and *zi-* as options (see (47)). For conjunctions of [6+4], the

numbers were identical and the speakers offering them were nearly the same, though there

was a flip in the judgment patterns between two of the eight speakers.

(47) a. <u>I-mi-nqathe</u> na-ma-qanda <u>i</u>-se tafile-ni.   (<u>FCA</u>: two speakers)
          4-4-carrot and.6-6-egg 4SA-be 9-table-LOC

     b. I-mi-nqathe **na-ma-qanda a**-se tafile-ni.   (**LCA**: one speaker)
          4-4-carrot and.6-6-egg 4SA-be 9-table-LOC

     c. I-mi-nqathe na-ma-qanda *zi*-se tafile-ni.   (*default*: four speakers + one as an
          4-4-carrot and.6-6-egg 8SA-be 9-table-LOC   option)

          'The carrots and the eggs are on the table.'

The pattern is interesting because it suggests that default *zi-* is the preferred option for

conjoined [-human] nouns, unlike default *ba-,* which seemed to be the least preferred option

for [+humans]. This makes it more difficult to judge whether an instance of *zi-* is actually

agreement in cases where one of the conjuncts is class 8 or 10, or agreement for some speakers

and default for others. In the interests of consistency, I will treat *zi-* as agreement and underline

it in such cases if it is selected by more than half of the speakers, though my margin notes will

serve as a reminder of this ambiguity.

For conjunctions of the form [4+8], two speakers chose FCA and the rest *zi-* (see (48)). In

the case of [6+8], every speaker chose *zi-,* though two indicated that FCA would be an

acceptable alternative.

(48) a. I-mi-nqathe **ne-zi-tya**   **zi**-se tafile-ni.   (LCA/default: six speakers)
          4-4-carrot and.10-10-plate 8SA-be 9-table-LOC

     b. <u>I-mi-nqathe</u> ne-zi-tya   <u>i</u>-se tafileni.   (<u>FCA</u>: two speakers)
          4-4-carrot and.10-10-plate 4SA-be 9-table-LOC

          'The carrots and the plates are on the table.'

Conjunctions of [4+10] and [6+10] also resulted in *zi-* agreement (see (49)) for all but the same two speakers who chose FCA for [4+8] and [6+8] combinations.

(49) a. <u>I-mi-funo</u>   ne-em-botyi   <u>i</u>-phel-ile.   (FCA: two speakers)
   4-4-greens and.10-10-beans 4SA-be.finished-DISJ

  b. I-mi-funo   **ne-em-botyi**   **zi**-phel-ile.   (LCA/default: six speakers)
   4-4-greens and.10-10-beans 8/10SA-be.finished-DISJ

   'The greens and the beans are finished.'

Where the first conjunct was taken from class 8 or 10 and the second from class 6 or 4, two out of eight speakers chose LCA in class 6 or 4 (see (50)). The remaining six speakers chose *zi-.* The two speakers choosing LCA were not the same in the two cases.

(50) a. I-zi-tya   n **e-mi-nqathe**   **i**-se   tafile-ni   (**LCA**: two speakers)
   8-8-plates and.4-4-carrots 4SA-be   9-table-LOC

  b. <u>I-zi-tya</u>   ne-mi-nqathe   <u>zi</u>-se   tafile-ni   (FCA/default: six speakers)
   8-8-plates   and.4-4-carrots 8SA-be   9-table-LOC
   'The plates and the carrots are on the table.'

These results show us that FCA, LCA, and default agreement are available options for preverbal conjunctions of [-human] nouns. The plurality choice of default *zi-* with [4+6] and [6+4] conjunctions is interesting as I noted above, because where [+human] nouns of these two classes are conjoined, FCA, LCA, and default were about equally preferred.

   Because the number of examples in my study of [-human] nouns was quite small, future research is needed to confirm the results and to explore whether the preferences found for [-human] nouns are significantly different from what we discerned for [+human] nouns. It also remains to explore the interactions between [-human] nouns of classes 1a/2a and the full range of other classes.

6   Other accounts of closest conjunct agreement: a comparison
6.1   Introduction

Several recent approaches to conjunct agreement are designed in such a way that they can capture variation between FCA and LCA for conjoined subjects in preverbal position, and the restriction to FCA for postverbal subjects. Like the approach of Boskovič (2009) that I have adopted with modification, these approaches also follow Munn (1993, 1999) in assuming that the first conjunct is structurally higher than the second (see (51)). Though the details of implementation vary, all assume that &P is plural (or in some cases dual), but lacking in intrinsic gender features. All assume that for a probe to agree with the gender of a conjunct, that conjunct must match &P in plurality.

(51) $\&P_{[Plural]}$ ...

$DP1_{\alpha gen.pl}$

& $DP2_{\beta gen.pl}$
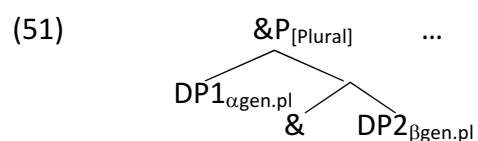
6.2   Distributed Agree

Marušič et al (2015), Nevins & Marušič (to appear) adopt the *Distributed Agree* approach of Arregi & Nevins (2012) under which agreement occurs in two stages. Agree-Link establishes a probe-goal relationship, and it is always syntactic, thus sensitive only to hierarchical relations. On the other hand, Agree-Copy, which transfers values from the goal to the probe, can take place in PF, and may precede or follow linearization.

Where agreement with conjuncts is concerned, Marušič et al (2015) argue that Agree-Link establishes a probe-goal relation between an agreeing head H and &P (their BoolP). The Agree-Copy operation, upon obtaining only a number value from &P, may either adopt a default gender value (the No-Peeking option) or avoid default agreement by looking into &P to obtain a gender value from a conjunct.

The timing of Agree-Copy plays a critical role in the case of preverbal conjuncts, in Marušič et al's account. If Agree-Copy takes place before linearization, the highest and thus first conjunct will supply the gender value (see (52)). On the other hand, post-linearization Agree-Copy reaching into &P for a gender value will find the head of the closest preverbal conjunct. For preverbal subjects, Agree Copy applying after linearization will find the head of the last conjunct, yielding LCA as shown in (53)a. For post-verbal subjects, the highest and the closest conjunct are always the same, so the result will be FCA whether Agree Copy is pre- or post-linearization (53)b.

(52)   Agree-Copy before linearization: default gender or agreement with DP1, regardless of word order, because what's visible to syntax is hierarchical structure

a.   HP

H_{uPhi} ...&P$_{[Plural]}$ ...

DP1$_{\alpha gen.pl}$

&   DP2$_{\beta gen.pl}$

b.   HP

&P$_{[Plural]}$ H′

DP1$_{\alpha gen.pl}$ H   ...

&   DP2$_{\beta gen.pl}$

(53)   Agree-Copy after linearization: default gender or closest conjunct agreement, because hierarchical structure ceases to be visible

a. H_{uPhi} DP1 & DP2   FCA with post-verbal subject

b.   DP1 & DP2 H_{uPhi} LCA with post-verbal subject

This approach is flexible enough to derive LCA and FCA in Xhosa preverbal conjuncts, and correctly predicts that only FCA is possible with post-verbal &P. However, the role played by comparison of the two sets of features in determining whether there is LCA or FCA with preverbal subjects is not easily accommodated by Distributed Agree. It would require an unusual and I think implausible kind of look-ahead to ensure that, for example, Agree Copy never applies after linearization in the case of a class 2 first conjunct with a class 10 second conjunct; but applies after linearization for six out of eight speakers when there is a class six

first conjunct and class 2 second conjunct. An alternative might be to generate all options and have the HoPs filter out the less desirable combinations, but this seems far less economical than the approach I have advocated.

6.3   Murphy & Puškar (2018)

Murphy & Puškar (2018) propose that the head & can in principle obtain multiple gender values from its conjuncts by Agreeing with them, but which values it acquires depends on the order of application among the operations Merge, Agree Up, and Agree Down. If the order is Agree Up>Merge>Agree Down, Agree Up will apply vacuously before the first conjunct is present, but Agree Down will successfully give &P the gender feature of its second (lower) conjunct. Hence a head that agrees with &P will exhibit LCA. If, on the other hand, the order of operations is Agree Down>Merge>Agree Up, Agree Down will be vacuous, but Agree Up will be successful. &P in this case will bear only the gender feature of its first conjunct, and FCA is predicted for a head that agrees with &P. If Merge applies before both Agree operations, &P will have the features of both conjuncts. If these mismatch, the Impoverishment operation will reduce them to the least marked (which in Serbo-Croatian is masculine). Lastly if both Agree Up and Agree Down apply before Merge, &P will have no gender features. A probe will have to agree with the highest conjunct.[16]

Under this approach, arbitrary differences in the order of operations within &P eliminate the gender of one or the other conjunct from consideration, forcing LCA or FCA in many instances. It is difficult to imagine any way for the Xhosa HoPs to impact the result.

---

[16] The order of operations within &P has consequences for the way that agreement with and movement of &P are ordered, because of a derivational consistency requirement. This is largely irrelevant to the Xhosa concerns at hand, so I leave it aside.

If we were to assume with Murphy & Puškar that & agrees with both conjuncts, and the impoverishment operations that I proposed affect & rather than T, it is not clear how to force the result that the hierarchies of preference are not manifested for post-verbal subjects.

7.   Default agreement and the question of semantics

In light of evidence from competing agreement strategies with [+human] nouns, I have argued that there is a markedness continuum in their relationship to noun classes, on which 3/4 is most marked and 1/2 the least marked. For [-human] nouns, since class 8 or the homophonous class 10 is the most frequent agreement choice with conjuncts, we can surmise that 7/8 and/or 9/10 are the least marked.

Given that the defaults for [+human] and [-human] nouns are distinct, [+/-human] must be a visible and active feature of each noun in Xhosa regardless of the noun's intrinsic noun class (as reflected in the agreement it controls when not conjoined). [17] One way of implementing this would be to think of it as a morphosyntactic as well as a semantic feature of nouns, rather like number, gender, and person values. We might suppose that it transfers to a probe the same as the other phi-values:

(54)

---
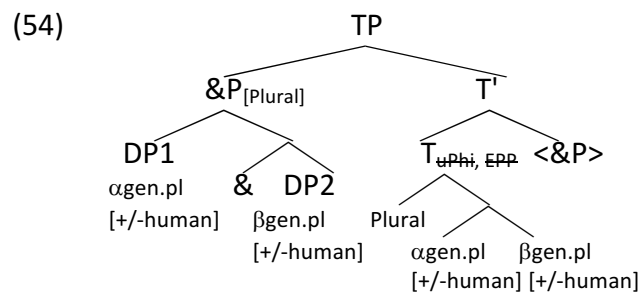
[17] More economically we could posit that there is only [+human] and its absence. For expository convenience, I leave this aside.

When there is conjunct agreement and impoverishment of both gender features on T, a default

is chosen that has lowest markedness for [+/-human] nouns.

This approach is compatible with the claim that agreement with conjuncts is semantic

(Corbett & Mtenje 1987), construed as a mapping from e.g. [+human] to the *ba-* default in the

absence of an accessible grammatical gender feature.

The relationship my approach posits between [+human] and class 2 is weaker than

under Mitchley's (2015) proposal that Class 2 agreement has a [+human] feature.

This weakness seems warranted, given some curious patterns of exceptions to the

general default strategies.

Mitchley (2015) demonstrates that a few Xhosa nouns denoting non-humans are of class

1a/2a including 'train', 'machine', 'scorpion', 'crab', and 'jackal'. Class 1a/2a nouns behave

identically to ordinary class 1/2 nouns apart from having *u-/oo-* prefixes in lieu of *umu-/aba-*).

When these singulars are conjoined, the preferred agreement is class 2, just like for human-

denoting nouns:

(55) a. U-loliwe no-matshini   ba-/*zi-se   galaji-ni   [Xhosa]
          1a-train and.1a-machine 2SA-/*8SA-LOC   garage-LOC
          'The train and the machine are in the garage.'

     b. U-nomadukudwane no-nokala   ba-/*zi-ya-tya.
          1a-scorpion   and.1a-crab 2SA/*8SA-DISJ-eat-FV
          'The scorpion and the crab are eating.'

     c. U-dyakalashe no-matshini   ba-/*zi-se   gadi-ni
          1a-jackal   and.1a-machine 2SA-/*8SA-LOC   garden-LOC
           'The jackal and the machine are in the garden.'

Taraldsen et al (2018) show that letters of the alphabet are Class 1a as well, so a Scrabble

player might utter (56)a. Significantly, conjoined letters must control Class 2 agreement when

pluralized, or when conjoined (56)b,c.

(56) a. U-L om-nye   u-se   tafile-ni   [Xhosa]
         1a-L 1-one   1SA-LOC   table-LOC
         'One L is on the table.'

    b. Oo-L   a-ba-bini   ba-/*zi-se   tafile-ni
        2a-L   2-2-two   2SA/*8SA-LOC   table-LOC
        'Two Ls are on the table.'

    c. U-L no-M   ba-/*zi-se   tafile-ni
        1a-L and.1a-M   2SA/*8SA-LOC   table-LOC
        'The L and the M are on the table.'

The facts of (55) and (56) argue that class 2 agreement itself has no intrinsic semantic features despite its high level of predictability as the default for [+human].

Another anomaly exists in that for conjunctions of two singular class 7 or two singular class 9 [+human] nouns, speakers often choose the *zi*-agreement that goes with their plurals. This despite the fact that default agreement is typical with conjoined singulars, and as we have seen, for Xhosa [+human] singulars this default is class 2 *ba-.* While *ba-* is an option some of my speakers chose, it was not especially preferred:

(57) a. I-s-anuse   ne-s-angoma   zi-/*ba*-sebenz-a   ndawonye.
         7-7-diviner and.7-7-healer   8SA-/2SA-work-FV   together
         'The diviner and the healer work together.'

    b. I-si-tyebi ne-si-bhanxa zi-/*ba*-ya-sebenz-a.
        7-7-rich   and.7-7-fool 8SA-/2SA-DISJ-work-FV
        'The rich man and the fool are working.'

         [*zi-* x 3, either/or x 3, *ba-* x 2]

(58) I-n-dadi   ne-n-tlebi   zi-/*ba*-ya-cula.
     9-9-swimmer   and.9-9-gossip 8SA-/2SA-DISJ-sing-FV
     'The swimmer and the gossip are singing.'

     [either/or x 4, *ba-* x 2, *zi-* x 1]

It is interesting to note that while *zi-* is the agreement prefix for both classes 8 and 10, for mismatched conjunctions of singulars [7+9] and [9+7] *zi-* agreement was not generally offered:

(59) I-n-tombi ne-s-anuse   *ba*/zi-ya-sebenza   [default *ba-* > zi- 6:1:1]
     9-9-girl   and.7-7-medium   2SA-DISJ-work-FV
     'The girl and the medium are working.'

(60) I-s-anuse   ne-n-tombi ba-ya-sebenza   [default *ba* > zi- 7:1]
      7-7-medium and.9-9-girl 2SA-DISJ-work-FV
      'The medium and the girl are working.'

The genders of the nouns thus seem to be distinguished despite syncretism in the agreement

that accompanies their plurals. Agreement with singulars of classes 7 and 9 is not syncretic

(class 7 *si-* vs. class 9 *i-*); this is probably an important factor in keeping nouns of these classes

from patterning together when it comes to conjunct agreement.[18]

The sets of Xhosa exceptions exemplified in (57) and (58) have a parallel in Serbo-

Croatian, where conjoined feminine singulars usually control feminine plural agreement. In this

they contrast with singular neuters, which take default masculine plural. The pattern holds

whether the nouns in question denote female individuals or not (see (61) from Murphy &

Puškar 2018); hence feminine plural in such instances cannot be semantic agreement, contra

Boskovič 2009).

(61) [&P Zavesa   i   biljka]   su ukrasavale   /*ukrasavala   prozor
          curtain.f.sg and plantf.sg. are decorate.prt.f.pl /*decorate.prt.f.sg window
      'A curtain and a plant decorate the window.'

While I leave a full account of these puzzles to future research, they suggest that the genders of

conjoined singular nouns are visible to the grammar even when they cannot be expressed as a

value on the probe. It might be that the genders of singular conjuncts actually do copy to uPhi

of T, but then most singular values are deleted through impoverishment due to number

mismatch (see (62)). Xhosa genders 1/2, 7/8, and 9/10 resist deletion as does Serbo-Croatian

feminine; I encode this property with the diachritic * lacking any more explanatory insight.

---

[18] See Msaka (2019) for arguments that syncretism in Chichewa agreement is a superior identifier of noun
classes than are dfferences in the nominal prefixes that traditionally inform the way classes are identified.

(62)   a.   TP   Xhosa genders 3/4, 5/6; Serbo-Croatian neuter

&P[Plural]   T'

DP1   &   DP2   T~~uPhi, EPP~~   <&P>

αgen.sing   βgen.sing   Plural
[+/-human]   [+/-human]   ~~αgen.sing~~ ~~βgen.sing~~
                                                        [+/-human] [+/-human]
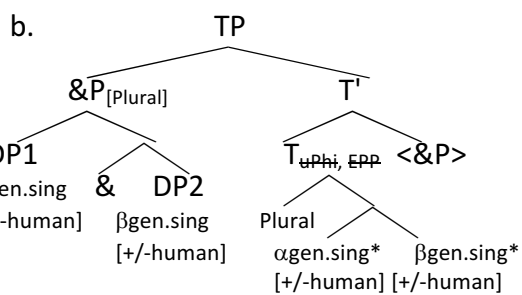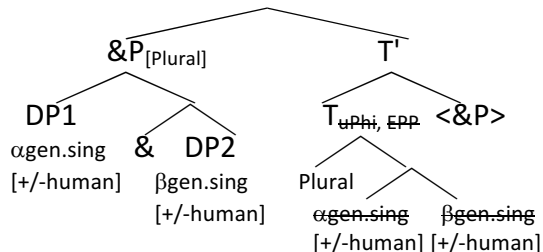
       b.   TP   *Xhosa genders 1/2, 7/8, 9/10 and Serbo-
                                                 Croatian feminine need not delete if
&P[Plural]   T'   singulars match in these genders.

DP1   &   DP2   T~~uPhi, EPP~~   <&P>

αgen.sing   βgen.sing   Plural
[+/-human]   [+/-human]   αgen.sing*   βgen.sing*
                                                        [+/-human] [+/-human]

The reader will probably notice that the Xhosa pattern of selective deletion targets the most

highly-marked genders, for which §4.1 and §5.2 showed that agreement is dispreferred even in

conjunctions of plurals. The question arises as to whether markedness provides a predictor of

what genders are replaced by default values, when conjuncts' features do not match; though

for Serbo-Croatian, feminine is argued to be the most marked gender; see discussion and

references in Murphy & Puškar (2018).

       The phenomena of default agreement with conjoined singulars is pervasive, having been

documented for quite a number of languages. Examples in the literature feature a range of

classes (see (4) and (5), repeated below).

(4)a.   Mbale   na   ka-temo   *v*-a-sow-a.   [ciNsenga; Simango 2012: 178]
         9.plate and   12-axe   8SA-PAST-miss-FV
         'The plate and the axe are missing.'

   b.   U-m-nqathe   ne-qanda *zi*-se   tafile-ni.   [Xhosa; Mitchely 2015:115]
         3-3-carrot   and.5-egg 8SA/10SA-LOC   table-LOC
         'The carrot and the egg are on the table.'

   c.   U-mu-bíírá ní-í-ri-gena   m-*bí*-síir:e   [Kuria; from Diercks et al 2015:31]
         3-3-ball   and-5-5-stone FOC-8SA-disappear.PAST.FV
         'The ball and the stone disappeared.'

(5) a. U-m-fundi   ne-polisa   *ba*-ya-balek-a   [Xhosa; Mitchley 2015:115]
         1-1-student   and.5-policeman 2SA-PRES-run-FV
         'The student and the policeman are running.'

     b. Li-doda na   m-simbi *w*-e-fwik-a   mailo   [ciNsenga; Simango 2012:179]
         5-man   and   1-girl   2SA-PAST-arrive-FV   yesterday
         'The man and the girl arrived yesterday.'

     c. A   xi-kelema   ni   buchara   *vo*   vulavula.   [Xitsonga; Mitchley 2015:65]
         DEF 7-scoundrel and   9.bucher   2SA-PRES   talk
         'The scoundrel and the butcher are talking.'

Whether there is a more fine-grained and markedness-related set of factors involved such

that (62) instantiates some general pattern of markedness-sensitivity, or even instatiates a kind

and degree of idiosyncracy that we can expect to find across languages, remains to be

determined.

8.   Conclusions and questions for future research

Patterns of agreement with conjuncts show consistencies across languages with grammatical

gender and noun class, supporting the conclusion that they are one and the same.

Agreement with conjuncts offers insights on the nature of agreement, and should help

us find the best theory of how agreement works. I have argued that it reveals that probes can

obtain multiple values for a given feature. These are reduced by impoverishment to a single

value, on the basis of language-particular preferences such as FCA>LCA and/or markedness of

particular genders.

I have also argued that nominal expressions in Bantu have [+/-human] features that are

morpho-syntactically visible and active, the same as phi-features are. These are associated with

nominals regardless of their noun class. While classes 1/2 include primarily human-denoting

nouns, and class 2 is the default accompanying [+human] nouns, the fact that there are

[+human] nouns in other classes and class 2 is the default for these nouns of other classes

shows that [+human] is not an exclusively a property of this class.

An approach along the lines of Kramer (2015) might view these facts as follows. Each

root that will become a human-denoting noun combines with an interpretable [+human] *n* of

the class (gender) 1/2. Nouns like 'jackal' and 'machine' combine with an uninterpretable

version of this *n*.[19]

(63) Hypothetical little *n* approach to Bantu classes 1/2 (Gender A of Carstens 1991)

Varieties of *n* for this gender: *i*n[+human] and *u*n

In Xhosa, we would assume that in noun classes other than 1/2, [+human] nouns have a stacked

structure. Markedness effects might originate in greatest to least canonicity in the association

of [+human] meaning to the class feature of the highest *n*.

(64) a.   i-butho/a-ma-butho   b.   [$n_{5/6}$ [i$n_{1/2}$ √butho]]
            5-warrior/6-6-warrior
            'warrior/s'

Kramer (2015) makes a related proposal for Somali masculine singular nouns that are feminine

in the plural despite referring to male individuals: the gender of the higher, feminine plural *n* is

the one visible for agreement, but the semantic content of the masculine lower *n* percolates, as

there is no conflicting interpretable semantic value to the higher *n*.

(65)   a. ínan   'son, boy (m.)'
        b. inammó   'sons, boys (f.)'

(66)   *n*P
                    ⟋   ⟍
              *n*P   *n* [+PL] *u*[+FEM]
          ⟋   ⟍
      RP   *n* *i*[-FEM]
       |
     INAN

---

[19] See Fuchs & Van der Wal (2018) for a little n approach to Bantu gender.

In the gender systems that are the primary focus in Kramer (2015), this provides a way of disassociating male/female semantic content from roots, and a means of changing grammatical gender independently of interpretable gender features. Once roots finish pairing with *n*s, the meaning of the resulting construction can be found in the encyclopedia.

Kramer (2015) suggests that the diagnostic for interpretable gender is a correlation with meaning. On the other hand, Carstens (1991), (2008) argues that the existence of strands of semantic coherence in Bantu classes points to some semantic criteria serving as mapping principles in the assignment of nouns to genders; phonological mapping principles also exist, functioning to assign loan words ('mosque(s)' → m/mi-sikiti, etc.).

Formal diagnostics for interpretability would be useful to have. If we take default agreement with conjuncts to provide such a diagnostic, [human] is the only interpretable content that is motivated for the class system in Xhosa, although there are many classes which have strands of associated meaning (trees in classes 3/4, language names in classes 7/8, etc).

Even conjoined diminutives, in a language like Shona which has a dedicated class for these, take default agreement consistent with their [+/-human] content:

(67) Ka-sikana   ne   ka-komana *va-*/*ka/*twa-nyangadik-a.   [Shona]
      12-girl   and   12-boy   2SA/*12SA/*13SA-disappear-FV
      'The tiny girl and the tiny boy have disappeared.'

(68) Ka-mba   ne   ka-motokari *zva-*/*ka/*twa-nyangadik-a.
      12-house and 12-car   8SA/*12SA/*13SA-disappear-FV
      'The tiny house and the tiny car have disappeared.'

This converges with morpho-syntactic arguments in Carstens (1991) that diminutive nominal morphology *ki/vi* in Swahili is simply the singular and plural for a null affix with diminutive semantics, and a gender feature of class 7/8 (her gender D).

Summing up, if default agreement is semantic agreement, then it is not clear that any strands of shared meaning in Bantu noun classes other than [+human] for 1/2 are attributable to interpretable flavors of *n.* Assuming this approach to gender, we face two options. Either the semantic approach to default agreement is incorrect, and other diagnostics for interpretability are needed, or noun class is by and large a purely formal feature. It is moreover not clear to me that attributing [+human] to an interpretable *n* is motivated by strict conceptual necessity, but that is a theory-particular issue.

I end feeling that this paper has raised at least as many questions as it has answered, leaving much to future research.

References

Boskovič, Zelko. 2009. Unifying first and last conjunct agreement. *Natural Language and Linguistic Theory* 27: 455-496.

Carstens, Vicki. 1991. *The morphology and syntax of Determiner Phrases in Kiswahili*. UCLA PhD dissertation.

Carstens, Vicki. 2008. DP in Bantu and Romance. In *The Bantu-Romance Connection*, K. Demuth & C. De Cat (eds.). 131-166. Amsterdam: John Benjamins.

Corbett G. 1983. Resolution rules: Agreement in person, number, and gender. In Gazdar G, Klein, E & Pullum G (eds) *Order, concord and constituency*. Dordrecht: Foris Publications, pp 174–206.

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

Corbett G & Fraser N. 2000. Default genders. In Unterbeck B & Rissanen M (eds) *Gender in grammar and cognition*, *Vol. 1. Approaches to gender*. Berlin: Mouton de Gruyter, pp 55–97.

Corbett, G. & A. Mtenje. 1987. Gender agreement in Chichewa. *Studies in African Linguistics* 18.1:1-38.

De Vos, M. & H. Mitchley. 2012. Subject marking and preverbal coordination in Sesotho: a perspective from Optimality Theory. *South African Linguistics and Applied Language Studies* 30.2: 166-170.

Diercks, M., L. Meyer, & M. Paster. 2015. Agreement with conjoined arguments in Kuria. *Studies in African Linguistics* 44.1: 27-46.

Ferrari, F. 2005. A syntactic analysis of the nominal systems of Italian and Luganda. NYU PhD dissertation.

Fuchs, S. & J. Van der Wal. 2018. Bantu DP structure: A *n* analysis of gender. Paper presented at the workshop *Theoretical and Experimental Approaches to Gender*, ZAS, Berlin.

Givon, T. 1970. The resolution of gender conflicts in Bantu conjunction: when syntax and semantics clash. *Papers from the sixth regional meeting, Chicago Linguistic Society,* pp. 250-261. Chicago: Chicago Linguistic Society, University of Chicago.

Kihm, A. 2005. Noun class, gender and the lexicon–syntax–morphology interfaces: a comparative study of Niger-Congo and Romance languages. In Guglielmo Cinque and Richard S. Kayne (eds), *The Oxford Handbook of Comparative Syntax*. Oxford: Oxford University Press, 459–512.

Kramer, R. 2015. *The morphosyntax of gender.* Oxford: Oxford University Press.

Marten L. 2000. Agreement with conjoined noun phrases in Swahili. *Afrikanistische Arbeitspapiere: Swahili Forum VII* 64: 75–96.

Marten L. 2005. The dynamics of agreement and conjunction. *Lingua* 115: 527–547.

Marušič, F., A. Nevins, & W. Badeker. 2015. The grammars of conjunction agreement in Slovenian. *Syntax* 18.1: 39-77.

Marušič, F. & Nevins, A. 2018. Distributed agreement in participial sandwiching constructions. To appear in Smith, P., J. Mursell & K. Hartmann, *Agreement in the Minimalist Programme,* Language Science Press.

Meinhof, Carl. 1906. Grundzüge einer vergleichenden Grammatik der Bantusprachen, Berlin: Dietrich Reimer. Revised edn. 1948, Hamburg: von Eckardt and Messtorff.

Mitchley, Hazel. 2015. Agreement and coordination in Xitsonga, Sesotho, and IsiXhosa: an Optimality theoretic perspective. Rhodes University MA thesis.

Msaka, Peter. 2019. Nominal classification in Bantu revisited: the perspective from Chichewa. Stellenbosch University PhD dissertation.

Munn A. 1999. First conjunct agreement: Against a clausal analysis. *Linguistic Inquiry* 30: 643–668.

Murphy, A. & Z. Puškar. 2018. Closest conjunct agreement is an illusion. *Natural Language and Linguistic Theory* https://doi.org/10.1007/s11049-017-9396-6.

Roberts. L. & M. Wolontis. 1974. Conjunction and concord in Bantu. In E. Voeltz (ed.) *Third Annual Conference on African Linguistics*, pp. 231-242. Bloomington: Indiana University Publications, African Series, 7.

Safir, K., J. Sikuku, & M. Baker. 2013. Complex anaphora in Lubukusu. In Orie, O. and K. Sanders (eds.) *Selected Proceedings of the 43rd Annual Conference on African Linguistics.* Somerville, MA: Cascadilla Press.

Schadeberg, T. 2001. Number in Swahili gramar. In *AAP 68: Swahili Forum VIII,* pp. 7-16.

Simango, R. 2012. Subject marking, coordination and noun classes in ciNsenga. *Southern African Linguistics and Applied Language Studies* 30.2: 171-183.

Taraldsen, K. T., Taraldsen Medova, L. & Langa, D. 2018. Class prefixes as specifiers in Southern Bantu *Natural Language and Linguistic Theory* https://doi.org/10.1007/s11049-017-9394-8.

van der Wal, Jenneke. 2015. Evidence for abstract Case in Bantu. *Lingua* 165: 109-132.

Voeltz E. 1971. Surface constraints and agreement resolution: Some evidence from Xhosa. *Studies in African Linguistics* 21: 37–60.

Watkins, M.H. 1937. *A grammar of Chichewa: a Bantu Language of British Central Africa.* Philadelphia: Linguistic Society of America.

Zeller, Jochen. In preparation. Agreement with conjoined noun phrases in Nguni. Ms., University of KwaZulu-Natal