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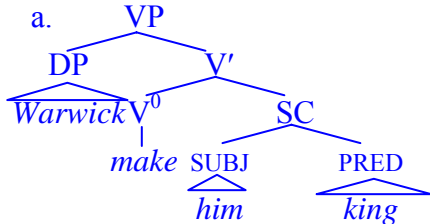
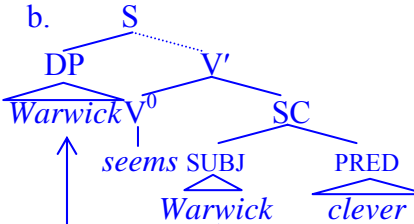
## SOME NOTES ON NON-VERBAL PREDICATION IN BANTU

### 1. INTRO: HOW SMALL CAN A CLAUSE BE?

Stowell 1981, 1983: not only verbs have subjects. Predication is also possible in the absence of a verb:

- (1) a. Alice became [<sub>SC</sub> t<sub>i</sub> president/the head of the association]. NP/DP predicate  
       b. This proposition is/seems [<sub>SC</sub> t<sub>i</sub> preposterous/out of the question]. AP/PP predicate  
       c. [<sub>CP</sub> That Jessie should fight] **was considered** [<sub>CP</sub> t<sub>i</sub> obvious]. CP subject/ECM verb

**Small clause:** a minimal unit of non-verbal predication:

- (2) a.  b. 

Small clauses need not be complements of intensional verbs (cf. Moro 1995, Rothstein 2000):

- (3) a. [With John sick], we'll never get the job done on time.  
       b. John left the room [PRO angry].  
       c. [Me mad]?! Ridiculous!  
       d. They hammered [the metal flat].

Stowell 1981, 1983: small clauses are maximal projections of the predicate:

Evidence from subcategorization: different verbs require different lexical categories:

- (4) a. I expect [that sailor off the ship (by midnight)].  
       b. \*I expect [that sailor very stupid].  
       c. \*I expect [that sailor killed by the enemy].

#### 1.1. Functional structure of a small clause

Bowers 1993, 2001 relying on Chierchia 1985, Chierchia and Turner 1988: predication must be mediated by a functional head, which has a semantic as well as a syntactic function.

**Room for maneuver:** There are small clauses with predicates containing a possessive, which is generally assumed to occupy [Spec, DP] – a position that would be reserved for a subject in Stowell's approach. Likewise, [Spec, AP] is often filled by DegP (Bowers 1975, Jackendoff 1977, Heim 2000, Bhatt and Pancheva 2004, etc.), which would leave no room for the subject. If small clauses contain a functional projection, its specifier can host the subject.

- (5) a. I consider [Josiah **my best friend**].  
       b. Ayelet<sub>i</sub> seems [t<sub>i</sub> **much smarter than her friends**].

**Acknowledgments:** We are very grateful to Leston Buell and Jochen Zeller for helping us with Zulu grammar, data, and native speakers. Unless marked otherwise, Zulu examples come from various online sources (mostly the online newspaper "*Isolezwe*"), Xhosa examples are due to Louw and Jubase 1978, Venda data come from Poulos 1990, and Swahili examples are from the Kamusi project (<http://kamusiproject.org/grammar>).

**Coordination** of small clause predicates of apparently different lexical categories is possible:

- (6) a. I consider Fred **crazy and a fool**.  
b. I consider Mary both **shrewd and in the know**.

It is impossible to assign a label to the constituent formed by the coordination of X' and Y' which suggests that they should belong to the same category – hence a functional head should be present in the small clause (Bowers 1993, 2001).

NB: The status of the prohibition is unclear. It could be semantic: in other cases of coordination attempts there is also a clash in semantic type.

Svenonius 1994: the small clause **predicate can move**, which makes it a maximal projection:

- (7) a. What does John consider Bill?  
b. How do you want your eggs?  
c. How famous did the incident make the criminal?

Possible alternative solution: raising-to-object (Postal 1974, see Runner 2006 for discussion) followed by movement of the entire SC

NB: It is likewise unclear whether the prohibition to move segments has any empirical support

The predicate of a small clause may receive a **special predicative case** (accusative in Arabic, dative in Hungarian, instrumental in Russian...):

- (8) a. salma fayyanat walad-a-ha wazir-an. Arabic  
salma nominate.CAUS-PRF child-ACC-her **minister-ACC**  
*Salma nominated her child to be a minister.*  
b. walad-u-ha fayyina wazir-an.  
child-NOM-her nominate.PASS-PRF **minister-ACC**  
*Her child was nominated to be a minister.*  
(9) a. Senat izbral Cezar'a konsulom. Russian  
Senate-NOM chose-M Caesar-ACC **consul-INSTR**  
*The Senate elected Caesar consul.*  
b. Cezar' byl izbran konsulom.  
Caesar-NOM was-M chosen-M **consul-INSTR**  
*Caesar was elected consul.*

A functional head is assumed to be necessary to assign that case (Bailyn 2001, 2002, Bailyn and Citko 1999, Bailyn and Rubin 1991, etc.).

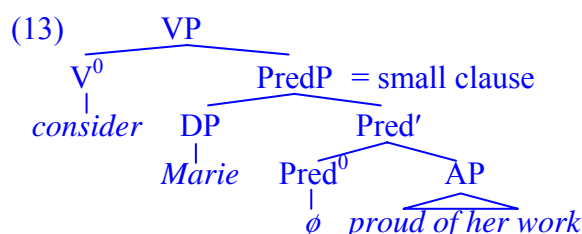
Alternative: might be a lexicalization of [eventive] or some other feature in the context of the interpretable feature [PRED] (work in progress).

In many languages a **functional element** appears between the subject and (some categories of) the predicate (Bowers 1993, 2001):

- (10) a. Mae Siôn \*(yn) ddedwydd. Welsh (Rouveret 1996:128)  
is Siôn PRT happy  
*Siôn is happy.*  
b. Y mae Siôn yn feddyg.  
PRT is Siôn PRT doctor  
*Siôn is a doctor.*  
(11) a. Èmèrí \*(yé) mòsèmòsè. Edo (Baker 2003)  
Mary PRED beautiful.A  
*Mary is beautiful.*

- b. Úyì \*(rè) òkhaèmwèn.  
Uyi PRED chief.N  
*Uyi is a chief.*
- (12) a. M-kango \*(ndi) w-a u-kali. Chichewa (Baker 2003)  
3-lion PRED 3-Assoc 3-fierce  
*The lion is fierce.*
- b. M-kango \*(ndi) m-lenje.  
3-lion PRED 1-hunter  
*The lion is a hunter.*

The syntactic theory of **mediated predication** (Bowers 1993, 2001): Non-verbal predication must be mediated by a functional head  $\text{Pred}^0$ . The small clause is a projection of this head (PredP).



Bowers' proposal: APs, NPs and PPs do not denote predicates, but rather must be converted into predicates. The semantic function of Pred is therefore to create a predicate that could be combined with the subject.

NB: Both Bowers 1993, 2001 and den Dikken 2006 take the extreme position, though for different reasons: **every** kind of predication must be mediated by a functional head. We will not address this complication here.

## 1.2. Lexicalization of $\text{Pred}^0$

Copular particles do not behave the same cross-linguistically (Pustet 2005, Stassen 1997).

Welsh: the particle *yn* 'in' appears **only with NP and AP predicates**, but not with PP (or VP) ones (Jones and Thomas 1977:47):

In Scottish Gaelic (Adger and Ramchand 2003) and Irish (Chung and McCloskey 1987), **only NP predicates** appear with the copular particle:

- (14) a. Tha Calum 'na thidsear. Scottish Gaelic, Adger and Ramchand 2003  
be-PRES Calum in-3MSG teacher  
*Calum is a teacher.*
- b. Chunnaic mi Calum agus [e 'na thidsear].  
see-PAST I Calum and [him in-3MSG teacher]  
*I saw Calum while he was a teacher.*
- c. Tha Calum faiceallach.  
be-PRES Calum careful  
*Calum is (being) careful.*

The particle 'na corresponds to the preposition *ann* 'in' incorporating a possessive pronoun that agrees in  $\phi$ -feature specification with the subject.

Adger and Ramchand 2003: NPs denote properties of individual entities, whereas APs, PPs and verbal constructions denote properties of individuals with respect to an eventuality.

The Scottish Gaelic pattern also occurs in Bantu languages, modulo some fine details.

If VPs, APs, NPs and PPs were all saturated properties that require combination with  $\text{Pred}^0$  to function as predicates, we would have expected either no differences with lexicalization of  $\text{Pred}^0$  or more or less random lexicalization (in some languages with VPs, in some with PPs and NPs, etc.).

### 1.3. $\text{Pred}^0$ in DPs

Montague semantics presupposes that NPs (at least) underlyingly denote properties.

If, following Bowers, non-verbal categories create phrases that (before the introduction of the subject) correspond to the semantic type  $\pi$ , then an NP has the semantic type  $\pi$ . How do NPs combine with determiners and number inflection?

Likewise, if an AP is a property in Bowers' sense, how can it become attributive? How does a PP become attributive? Obviously, some type conversion is necessary, and for APs and PPs it should be different from the one for NPs (to explain that the former but not the latter can function as modifiers, but only the latter combines with determiners).

This very much looks like putting the cart before the horse to me. We artificially give NPs, APs, PPs, etc., a semantic type that precludes their linguistic use and then convert them to a usable type

NB: Chierchia 1985, Chierchia and Turner 1988: a property is a propositional function (semantic type  $\langle e, p \rangle$ ), which can be nominalized, i.e., turned into an individual. While in Chierchia's story, properties (type  $\langle e, t \rangle$ ) can become individuals (type  $e$ ), in Bowers' story they belong to a new type or sort  $\pi$ , which, presumably cannot function as an argument of standard predication

### 1.4. Summary

There is some syntactic evidence for the presence of a functional head inside small clauses. It is difficult to evaluate though what semantic function it has, whether its semantic function is always the same and whether it really has anything to do with converting lexical projections to semantic type of unsaturated properties ( $\langle e, t \rangle$ ).

## 2. BANTU NON-VERBAL PREDICATION 1.01

Zulu and several related Bantu languages (Swahili, Venda and Xhosa) have an overt particle in primary non-verbal predication (i.e., copular sentences). Finer syntax of copular sentences in these languages raises interesting questions about the role of the copula.

### 3. THE COPULAR PARTICLE

The four languages studied differ with respect to which lexical categories require the copular particle:

- Zulu and Xhosa NP predicates appear with a copular particle; AP, PP and locative predicate appear without a copular particle
- Venda appears to require the copular particle with AP and NP predicates; PPs and locatives seem to be able to combine with the verb directly
- Swahili has an optional copular particle with AP and NP predicates. Locative and PP predicates disallow the copular particle

The morphology of the copular particle differs slightly across these languages.

### 3.1. Zulu copular particle and the predicate case

The copular particle *ngi* (Posthumus 1978, 1988, 2006) appears only with NP predicates.

NB: As Zulu does not appear to have small clauses outside the copular constructions, no independent support for treating *ng-* as the copular particle could be found.

- (15) a. Ngi- mu- hle. AP predicate: Zulu  
 AGR<sub>S</sub>1SG- AA<sub>1</sub>- beautiful  
*I am beautiful.*
- b. Ngi- ngcono. AP predicate: Zulu  
 AGR<sub>S</sub>1SG- improved  
*I am better.*
- c. Ngi ng- u- mfana. NP predicate: Zulu  
 AGR<sub>S</sub>1SG- PRED- AUG- boy  
*I am a boy.*

In colloquial registers the copular particle may be omitted. However, the predicative status of the NP is marked by the downstep (and accompanying it breathy voice) realized on the noun class marker/augment (see, e.g., Cheng and Downing 2007):

NB: All nouns contain the nominal root and the so-called *noun prefix* (NPX). In addition they may be preceded by a noun class marker/augment (AUG), on which see von Staden 1973, de Dreu 2008. We set this complication aside here.

- (16) a. u-mú-ntu  
 AUG<sub>1</sub>-NPX<sub>1</sub>-person<sub>1</sub>  
*a person*
- b. ↓U-mú-ntu.  
 AUG<sub>1</sub>-NPX<sub>1</sub>-person<sub>1</sub>  
*It is a person.*

NB: The default tone in Zulu is low (Buell 2005:80); the presence of an additional low tone in the copular construction is detectable as a downstep. According to van Eeden 1956, the vowel of the augment also lengthens

This is known as the **tonal case** (Welmers 1973:323, Schadeberg 1986).

Welmers 1973:323: **Shona** noun prefixes normally bear low tone, but acquire a high tone in the predicative position:

- (17) a. mùnhù Shona  
 person
- b. múnhù  
 person.PRED

Schadeberg 1986: in Umbundu, tone distinguishes three cases: nominative, accusative and predicative (with some syncretism depending on the presence of the augment). In particular, predicative case is characterized by a uniform high tone.

In spoken Zulu the copular particle is often omitted, leaving just the autosegmental low tone as a marker of predication.

AP, locative and PP predicates appear without a copular particle (see sections 6 and 7 below).

### 3.2. Xhosa copular particle

NP predicates are introduced by a particle agreeing with the predicate in noun class. If what follows the particle is a 1<sup>st</sup> or 2<sup>nd</sup> person pronoun, the particle shows person agreement with it. If the subject is a 1<sup>st</sup> or 2<sup>nd</sup> person pronoun, subject agreement is present:

- (18) a. Ndi- ngu- mfundisintsapho. Xhosa  
AGR<sub>S</sub>1SG-PRED<sub>1</sub>- teacher<sub>1</sub>  
*I am a teacher.*
- b. Ndi- m.  
PRED<sub>1SG</sub>- 1SG  
*It's me.*
- c. Si- thi.  
PRED<sub>1PL</sub>- 1PL  
*It's us.*
- (19) m- na ndi- ndi- m, a- ndi- nga- wo, a- mantombazana  
1SG- EMPH AGR<sub>S</sub>1SG-PRED<sub>1SG</sub>- 1SG NEG- AGR<sub>S</sub>1SG-PRED<sub>6</sub>- PRN<sub>6</sub> AUG<sub>6</sub>-daughters  
*Me, I am me, I am not them, the daughters.*

NB: From [http://www.ncedu.gov.za/index.php?option=com\\_docman&task=doc\\_view&gid=283](http://www.ncedu.gov.za/index.php?option=com_docman&task=doc_view&gid=283) (consulted on March 1, 2009). Note the double occurrence of *ndi* – the subject agreement marker and the copular particle.

AP, locative and PP predicates appear without a copular particle (see sections 6 and 7 below).

### 3.3. Venda copular particle

Descriptively, in matrix clauses in the present tense 1<sup>st</sup> and 2<sup>nd</sup> person subjects combine with the predicate preceded by prefixal subject agreement. The invariable particle *ndi* is used with 3<sup>rd</sup> person subjects when the predicate is an AP or an NP:

- (20) a. Ni vhafunzi. Venda  
AGR<sub>S</sub>2PL missionaries<sub>2</sub>  
*You are missionaries.*
- b. Mutukana **ndi** mu- vhuya.  
boy<sub>1</sub> PRED AA<sub>1</sub>- good-natured  
*The boy is good-natured.*
- c. Mufunzi **ndi** tshihole.  
missionary<sub>1</sub> PRED cripple<sub>7</sub>  
*The missionary is a cripple.*

The particle *ndi* disappears in all other tenses.

The simplest analysis would seem to be that there is no copular particle in Venda; rather the third person agreement is impoverished and does not show noun class agreement. However, when the predicate is a locative or a PP, subject agreement is not deficient, and the same is true when negation is introduced.

- (21) Vhana vha tshikolo -ni. Venda  
children<sub>2</sub> AGR<sub>S</sub>2 school -LOC  
*The children are at school.*

Furthermore, in object-associated depictives no particle may be present (Pylkkänen 2002:34-35), suggesting that whatever *ndi* is, it does not correspond to Bowers' Pred<sup>0</sup>:

- (22) Nd- o- la nama mbisi. Pylkkänen 2002:34-35: Venda  
AGR<sub>S</sub>1SG- PST-eat meat AA<sub>9</sub>-raw  
*I ate the meat raw.*

This conclusion is confirmed by the absence of *ndi* in tenses other than the present (below).

### 3.4. Swahili copular particle

Swahili has three ways of constructing primary predication in the present tense:

- with the particle *ni* (except with PP and locative predicates)
- with subject agreement
- without anything (except with PP and locative predicates)

NB: The discussion is based on Steere 1884/1930, Loogman 1965, Brauner and Herms 1986, and Marshad and Suleiman 1991, unless otherwise noted.

- (23) a. Shati **ni** ø- chafu. Swahili  
 shirt<sub>5</sub> PRED AA<sub>5</sub>- dirty  
*The shirt is dirty.*
- b. Nguo **zi** safi.  
 clothes<sub>10</sub> AGR<sub>5</sub>10 clean  
*The clothes are clean.*
- c. Ali m- réfu. Marshad and Suleiman 1991:30  
 Ali AA<sub>1</sub>- tall  
*Ali is tall.*

In other words, Swahili has an **optionally overt** copular particle with AP and NP predicates, which blocks the appearance of agreement on the null copula

In all other tenses only the last strategy is used, which means that the function of *ni* is not comparable to that of a copular particle in Celtic languages, in Zulu or in Xhosa.

### 3.5. Summary

Only Zulu and Xhosa seem to have a real copular particle, appearing only with NP predicates and remaining obligatory in all tenses.

The fact that the copular particle can appear with NP predicates only suggests that it does not correspond to Bowers' Pred<sup>0</sup>.

Adger and Ramchand 2003: the copular particle in Scottish Gaelic introduces an **eventuality argument slot**, which is required to enable predication. APs and PPs have such an argument slot underlyingly.

This analysis can be extended to all languages where NP predicates (and NP predicates only) require a copular particle.

Thus Zulu and Xhosa provide no evidence in favor of PredP or against it.

## 4. THE COPULAR VERB

The standard descriptions of the four languages concur on the following points:

- The copula is null or absent in the present tense, both independent and participial
- In the past and future tenses the verb *be/ba* in Zulu (*wa* in Swahili, *vha* in Venda and *ba* in Xhosa) is used
- It denotes “be” or “become” in function of its syntactic environment (the presence or absence, respectively, of participial agreement on the predicate) or pragmatic factors (in Swahili, where there's no syntactic alternation)
- In at least two of these languages (Swahili and Venda) negation can appear above or below it
- Complex tenses use it as an auxiliary

We will show that the “copula” here is a pure auxiliary whose function is to support tense and mood affixes.

#### 4.1. The present tense

Like many other languages (e.g., Russian or Arabic), in the present tense no overt copula can be seen in Zulu or in the related Bantu language Xhosa:

NB: We use AP predicates to illustrate the point; NP predicates appear with a copular particle

- (24) a. Ngi- mu- hle. Zulu  
 AGR<sub>S</sub>1SG- AA<sub>1</sub>- beautiful  
*I am beautiful.*
- b. Ngi- ngcono.  
 AGR<sub>S</sub>1SG- improved  
*I am better.*
- (25) a. Ndi- m- khulu kodwa nina ni- ba- ncinane. Xhosa  
 AGR<sub>S</sub>1SG- AA<sub>1</sub>- big but 2PL AGR<sub>S</sub>2PL- AA<sub>2</sub>- small  
*I am big but you are small.*
- b. Ndi- ntsundu.  
 AGR<sub>S</sub>1SG- brown  
*I am brown.*

NB: Examples (a) above involve “agreeing adjectives”, showing that subject agreement is clearly distinct from agreement marking on the predicate itself. Examples (b) involve “non-agreeing adjectives”. In Swahili and in Venda agreement patterns are more complex, but point in the same direction.

Unlike with more familiar languages, the null present tense copula can serve as a support for person and number agreement. The subject agreement is distinct from the subject pronouns and is identical to the subject agreement marking appearing on lexical verbs.

In the present tense used in independent clauses (henceforth, **independent present tense**) in 3<sup>rd</sup> person subject agreement may be absent altogether (depending on the language).

In the participial present tense and/or under negation subject agreement is present throughout the paradigm (Buell 2005:105):

- (26) e- ngu- muntu ongenalungelo Zulu  
 PRT.AGR<sub>S</sub>1- PRED- person without.a.privilege  
*her being unprivileged*

The copular verb remains null.

Besides in adjuncts, participial tenses are used in **complex tenses** (continuous or pluperfect).

#### 4.2. Tenses other than the present

Zulu, where the surface form of the main verb (*ba* or *be*) depends on a variety of factors, only confuses the issue, so we start with Xhosa.

- (27) a. U- za ku- ba e- ngu- mfundisi. participial: *be*: Xhosa  
 AGR<sub>S</sub>1-FUT- KU- COP PRT.AGR<sub>S</sub>1- PRED<sub>1</sub>- teacher<sub>1</sub>  
*S/he will be a teacher.*
- b. U- za ku- ba e- m- hle  
 AGR<sub>S</sub>1-FUT- KU- COP PRT.AGR<sub>S</sub>1- AA<sub>1</sub>- beautiful  
*S/he will be beautiful.*



- (28) a. Ndi- za ku- ba ngu- mfundisi. independent: *become*: Xhosa  
AGR<sub>S</sub>1SG- FUT- KU- COP PRED<sub>1</sub>- teacher<sub>1</sub>  
*I will become a teacher.*
- b. U- za ku- ba m- hle  
AGR<sub>S</sub>1-FUT- KU- COP AA<sub>1</sub>- beautiful  
*S/he will become beautiful.*

When the post-copular constituent is prefixed with participial agreement, the interpretation is stative; otherwise it is inchoative. Exactly the same pattern obtains in the past tense.

In Venda likewise, participial agreement prefixed to the non-verbal predicate gives rise to the stative interpretation, and its absence, to change-of-state one:

- (29) a. Vele u do vha e mudededzi. Venda  
Vele AGR<sub>S</sub>1 FUT COP PRT.AGR<sub>S</sub>1 teacher<sub>1</sub>  
*Vele will be a teacher.*
- b. Ndi do vha dokotela duvha linwe.  
AGR<sub>S</sub>1SG FUT COP doctor day one  
*I will become a doctor one day.*

**Swahili** is different in that the interpretation of a past/future tense copular clause as dynamic (*become*) or stative (*be*) seems to be determined only by the context.

Finally, in Zulu the interpretation of the main verb as *be* or *become* also depends on the form of the agreement prefixed to the non-verbal predicate, but in addition, the surface form of the main verb distinguishes between the two cases:

- (30) a. Lo mthetho u- zo- be u- ng- owuqala. Zulu  
this law<sub>3</sub> AGR<sub>S</sub>3-FUT- COP AGR<sub>S</sub>3-PRED-first.one  
*This law will be the first one.*
- b. U- Pierre Mbarga u- zo- ba ng- umqeqeshi.  
AUG- Pierre Mbarga<sub>1</sub> AGR<sub>S</sub>1- FUT- COP PRED-coach  
*Pierre Mbarga will become a coach.*
- (31) a. U- zo- be u- m- khulu. Zulu  
AGR<sub>S</sub>3-FUT- COP AGR<sub>S</sub>3- AA<sub>3</sub>- big  
*It will be big.*
- b. U- zo- ba m- khulu.  
AGR<sub>S</sub>3-FUT- COP AA<sub>3</sub>- big  
*It will become big.*

NB: The verb surfaces as [be] also in environments where the *be/become* distinction is irrelevant, which renders the matter more complicated. In addition, the truth conditions of *be* and *become* copulas in the past and future tenses are so similar that Zulu native speakers tend to confuse them in translation.

In the present tense the presence of *ba* is unambiguously interpreted as *become*. There is no agreement prefixed to the predicate:

- (32) U- Latoya u- ba ng- owuqala u- ku- phum -a Zulu  
AUG<sub>1</sub>- Latoya AGR<sub>S</sub>1S- COP PRED- first AUG- INF-exit -FV  
*Latoya is becoming the first to leave.*

To summarize, descriptively, we obtain the following pattern:

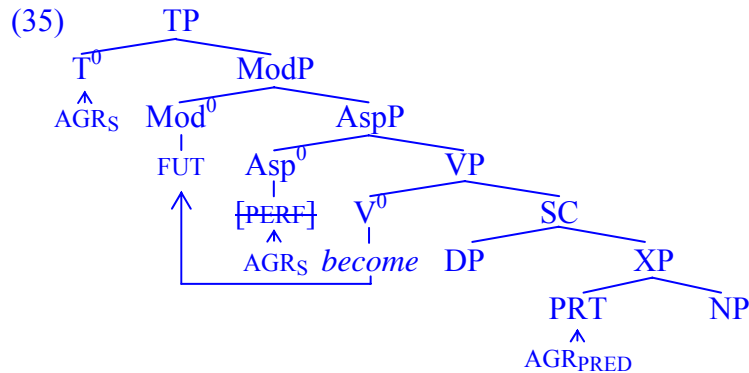
- (33) a. ba/vha/wa + PRT.AGR<sub>S</sub> + SC → *be*  
b. ba/vha/wa + SC → *become*

How do we interpret this pattern?

- ✓ Transition in meaning from ‘become’ to ‘be’ is less easy but possible if a perfect head is assumed to be invisibly present somewhere in the structure
- ✓ In the present tense the small clause combines directly with tense ( $T^0$ ) as has been proposed for Russian by Bailyn and Rubin 1991
- ✗ There might be some evidence for the existence of a perfect head in the relevant languages, as they have a remote part (presumably corresponding to the real past tense operator) and a recent past (possibly corresponding to present perfect), but see Buell 2005 (arguing against this hypothesis), and copular clauses can appear in both recent and remote past
- ✓ Paslowska and von Stechow 2003 assume the presence of a null perfect head in Russian

- ✗ The position of additional subject agreement marking prefixed to the predicate is inexplicable: if it were associated with the perfect head in the structure, it should have appeared *above* *ba/vha/wa*. Attempts to fix the problem while avoiding the violation of the head-movement constraint (Travis 1984) do not look encouraging

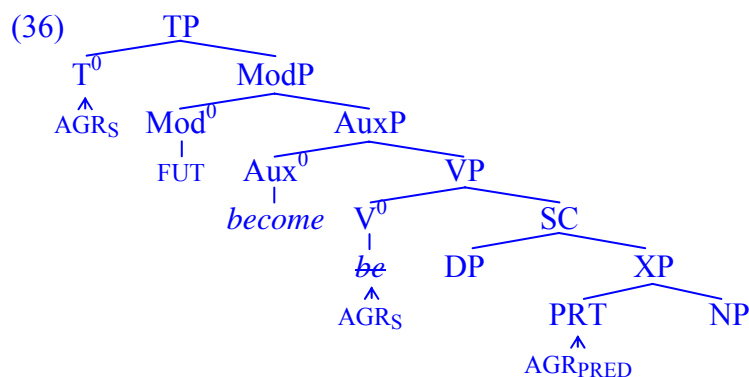
The relevant structure would look like this:



The proposal is tempting, but a better one is available.

**Suppose the verb *ba/vha/wa* is used as an auxiliary to support overt tense morphology:**

- ✓ The verb ‘become’ functions as a passive auxiliary in Dutch
- ✓ Its use as an auxiliary is independently attested in the Bantu languages considered
- ✓ Its appearance with non-verbal predication is predicted to be ambiguous between its lexical meaning (‘become’) and no meaning at all (when used as an auxiliary)
- ✓ Agreement marking is naturally explained if it combines with the null verb ‘be’
- ✗ We have to assume the existence of a null verb ‘be’, whose function is unclear, as it obviously doesn’t provide a **phonological** host for agreement marking. It might have been argued to introduce an eventuality argument needed to combine a small clause with tense, but then a different explanation must be sought for the function of the copular particle required with NP predicates (contra Adger and Ramchand 2003)



The question then arises why the null *be* can support agreement morphology but not tense and modality, and we observe that there appears to be cross-linguistic variation as to whether *be* is null throughout the present tense paradigm (e.g., Russian, Arabic or Maltese) or only in the 3<sup>rd</sup> person of the present tense (e.g., Hungarian).

A possible answer may come from the hypothesis (Zwart 1997) that tense suffixes in Swahili (and possibly other Bantu languages) are actually auxiliary verbs.

## 5. SOME CONCLUSIONS

Data from Swahili, Venda, Xhosa and Zulu provide support for some theories of non-verbal predication but not for others:

- No evidence for (or against) PredP can be detected.
- The existence of two syntactically different classes of adjectives (see section 6) lends support to their treatment as a separate lexical category beyond lacking features [N] and [V] (contra Baker 2003).
- NPs appear to require some functional category to function as predicates, which APs and PPs do not seem to need.
- Apparent distinction between the copular verb and tense/mood support casts some doubts on the usual treatment of the copula as a lexically empty element needed only to support inflection.
- Given the connection between “subject agreement” and topicalization, many new questions arise with respect to what happens in less usual copular sentences
- The role of the copular particle appearing with NP predicates remains unclear.

## 6. ADJECTIVE AGREEMENT

In three out of the four languages considered here adjectives fall in two different categories: agreeing and non-agreeing adjectives:

### 6.1. Zulu adjectives

Just like NPs, Zulu AP predicates take a null copula in the indicative present tense. Subject agreement appears only in the 1<sup>st</sup> and 2<sup>nd</sup> person (Buell 2005:104):

- |  |  |
|--|--|
| <p>(37) a. Ngi- m- ncane.<br/>AGR<sub>S</sub>1SG- AA<sub>1</sub>- small<br/><i>I am small.</i></p> <p>b. Si- ba- ncane.<br/>AGR<sub>S</sub>1PL- AA<sub>2</sub>- small<br/><i>We are small.</i></p> | <p>c. U- m- ncane. Zulu<br/>AGR<sub>S</sub>2SG- AA<sub>1</sub>- small<br/><i>You (sg.) are small.</i></p> <p>d. Ni- ba- ncane.<br/>AGR<sub>S</sub>2PL- AA<sub>2</sub>- small<br/><i>You (pl.) are small.</i></p> |
| <p>(38) a. M- ncane.<br/>AA<sub>1</sub>- small<br/><i>S/he is small.</i></p> <p>b. Ba- ncane.<br/>AA<sub>2</sub>- small<br/><i>They are small.</i></p>   | <p>c. M- ncane. Zulu<br/>AA<sub>3</sub>- small<br/><i>It is small.</i></p> <p>d. Mi- ncane.<br/>AA<sub>4</sub>- small<br/><i>They are small.</i></p>   |

Zulu adjectives are commonly divided into two different categories: **agreeing adjectives** (or verbal adjectives, or adjectives per se) and **non-agreeing adjectives** (or relative adjectives, or nominal adjectives) (Doke 1927, Posthumus 2000, Stassen 1997:168)

“Agreeing adjectives” form a closed class.

Only “agreeing adjectives” appear with an agreement marker beyond that of the null copula:

- (39) a. Ngi- mu- hle. “agreeing adjective”  
AGR<sub>S</sub>1SG- AA<sub>1</sub>- beautiful  
*I am beautiful.*

- b. Ngi- ngcono. “non-agreeing adjective”  
AGR<sub>S</sub>1SG- improved  
*I am better.*

“Non-agreeing” adjectives appear with subject marking (on the null copula) in the 3<sup>rd</sup> person, “agreeing adjectives” do not:

- (40) a. M- khulu umsebenzi.  
AA<sub>3</sub>- big job<sub>3</sub>  
*The job is big.*  
b. I- ndlu i- mnyama.  
AUG<sub>9</sub>- house<sub>9</sub> AGR<sub>S</sub>9-black  
*The house is black.*

In attributive positions the two classes of adjectives show the same systematic difference:

- (41) a. i- khadi e- li- bomvu  
AUG<sub>5</sub> card REL- AGR<sub>S</sub>5-red  
*a red card*  
b. u- thisha o- mu- sha  
AUG<sub>1</sub> teacher REL- AA<sub>1</sub>- new  
*the new teacher*

Strikingly, in other tenses agreeing adjectives can appear with both adjectival agreement and subject agreement:

- (42) nga- unyaka ozayo a- zo- be e- ma- khulu kakhulu.  
during-year next IND.AGR<sub>S</sub>6- FUT- COP PRT.AGR<sub>S</sub>6- AA<sub>6</sub>- big very  
*Next year they will be much bigger.*

With inchoative interpretation, subject agreement is absent:

- (43) a. i- kusasa li- zo- ba ngcono.  
AUG- future<sub>5</sub> AGR<sub>S</sub>5-FUT- COP improved  
*The future will become better.*  
b. u- zo- ba m- khulu.  
AGR<sub>S</sub>3-FUT- COP AA<sub>3</sub>- big  
*It (the job) will become big.*

Importantly, both classes of adjectives differ from nouns in that they do not combine with the copular particle *ngi*.

## 6.2. Xhosa adjectives

Xhosa, like Zulu, has two types of adjectives: “agreeing” (real) adjectives and “non-agreeing” (nominal) adjectives. Agreeing adjectives appear with an additional agreement marker in the 1<sup>st</sup> and 2<sup>nd</sup> persons:

- (44) a. Ndi- m- khulu kodwa nina ni- ba- ncinane. Xhosa  
AGR<sub>S</sub>1SG-AA<sub>1</sub>- big but 2PL AGR<sub>S</sub>2PL- AA<sub>2</sub>- small  
*I am big but you are small.*  
b. Ndi- ntsundu.  
AGR<sub>S</sub>1SG-brown  
*I am brown.*

In the third person, agreeing adjectives appear with no subject agreement:

- (45) a. i- nkosi ya- a- bantu in- kulu. Xhosa  
AUG<sub>9</sub>- king<sub>9</sub> POSS<sub>9</sub> AUG<sub>2</sub>- people<sub>2</sub> AA<sub>9</sub>- big  
*The king of the people is big.*
- b. Eli nxeba li- buhlungu.  
this<sub>5</sub> wound<sub>5</sub> AGR<sub>5</sub>-painful  
*This wound is painful.*

Xhosa pattern coincides with the Zulu one: in the third person of the present tense, depending on whether AP predicates are adjectival or nominal only one agreement marker is chosen.

In the future tense, both agreement markers are present on agreeing adjectives, only subject agreement appears on non-agreeing ones:

- (46) a. U- za ku- ba e- m- hle. Xhosa  
AGR<sub>5</sub>1-FUT- KU- COP PRT.AGR<sub>5</sub>1-AA<sub>1</sub>- beautiful  
*S/he will be beautiful.*
- b. U- mthi u- be u- hlulaza.  
aug<sub>3</sub> tree<sub>3</sub> AGR<sub>5</sub>3-COP.RCTPST PRT.AGR<sub>5</sub>3- green  
*The tree was green.*

With inchoative interpretation, subject agreement is absent:

- (47) U- za ku- ba m- hle. Xhosa  
AGR<sub>5</sub>1-FUT- KU- COP AA<sub>1</sub>- beautiful  
*S/he will become beautiful.*

To summarize, in Xhosa as in Zulu, in the present tense only one agreement marker is used. In other tenses the presence of the adjectival agreement marker depends on the type of the adjective (“agreeing” vs. “non-agreeing”) and the presence of the subject agreement marker depends on whether the adjectival small clause is stative (yes) or dynamic (no). This strongly suggests that subject agreement marking in fact appears on the null copula *be* used to create stative predication (see above).

The question remains why present tense is different.

### 6.3. Venda adjectives

Dixon 1982:4-5: Venda only has twenty agreeing adjectives and no non-agreeing ones:

- (48) a. Mutukana ndi mu- vhuya.  
boy<sub>1</sub> PRED AA<sub>1</sub>- good-natured  
*The boy is good-natured.*
- b. Vele u do vha e mu- lapfu linwe duvha.  
Vele AGR<sub>5</sub>1 FUT COP PRT.AGR<sub>5</sub>1 AA<sub>1</sub>- tall one day  
*Vele will be tall one day.*

It would seem that “subject agreement” appears both in the present tense and in other tenses, but in the present tense it is invariable.

### 6.4. Swahili adjectives

Swahili AP and NP predicates can appear in a variety of constructions:

- (49) a. Shati ni ø- chafu. Swahili: particle *ni*  
shirt<sub>5</sub> PRED AA<sub>5</sub>- dirty  
*The shirt is dirty.*

- b. Nguo zi safi. subject agreement  
clothes<sub>10</sub> AGR<sub>S</sub>10 clean  
*The clothes are clean.*
- c. Yeye m- gonjwa. nothing  
s/he AA<sub>1</sub>- ill  
*S/he is ill.*

Marshad and Suleiman 1991: in the past and future tenses *ni* is replaced by the copular verb *wa* taking the regular verbal subject agreement:

- (50) a. Ali a- li- ku- wa tajiri.  
Ali AGR<sub>S</sub>1-PST- INF- COP rich  
*Ali was rich.*
- b. Ali a- ta- ku- wa m- refu.  
Ali AGR<sub>S</sub>1-FUT- INF- COP AA<sub>1</sub>- tall  
*Ali will be tall.*

Once again we see a division of adjectives into “agreeing” and “non-agreeing” ones, though we do not have the data to determine whether Swahili agreeing adjectives behave like in Zulu and in Xhosa.

With negation and in dynamic primary predication (*become*) subject agreement is impossible:

- (51) a. a- ka- wa m- refu.  
AGR<sub>S</sub>1-CONS- COP AA<sub>1</sub>- tall  
*...and s/he became tall.*
- b. Mti si m- refu.  
tree<sub>3</sub> NEGPREP AA<sub>3</sub>- tall  
*The tree is not tall.*

It would seem that subject agreement without overt verbs is only possible in the present tense – *ni* can be used in other tenses for further emphasis (Marshad and Suleiman 1991:36), suggesting that it might have a similar function in the present tense as well.

Krifka 1995, Zwart 1997: “subject agreement” in Swahili is actually related to topicalization (cf. Bresnan and Mchombo 1987 on Chichewa and Buell 2007 on Zulu).

NB: It might be difficult to extend this analysis to Venda, Xhosa or Zulu because of multiple instances of subject agreement in copular clauses in tenses other than the present tense.

## 6.5. Two types of adjectives

The class of “agreeing” (or “real”) adjectives is closed in all four languages.

Non-agreeing adjectives seem more similar to verbs or PP predicates than to nouns, unlike in Japanese, where adjectives are subdivided into “verbal” and “nominal” (Kageyama 1982, Miyagawa 1987, Kubo 1992, Nishiyama 1999, etc.), of which only the latter appear with an overt copula:

- (52) Canonical (“verbal”) adjectives Japanese
- a. yama-ga takai.  
mountain-NOM high.PRES  
*The mountain is high.*
- b. yama-ga takakatta.  
mountain-NOM high.PAST  
*The mountain was high.*

(53) Nominal adjectives

- a. yoru-ga sizuka-da.  
night-NOM quiet-COP.PRES  
*The night is quiet.*
- b. yoru-ga sizuka-datta.  
night-NOM quiet-COP.PAST  
*The night was quiet.*

Unlike in Japanese, in Bantu languages non-agreeing adjectives do not behave like nouns in that they do not require a copular particle.

7. LOCATIVES AND PPs

In none of the four languages examined do locative and PP predicates appear with a copular particle, in any tense:

- (54) a. Ngi- s- e- Mpumalanga. Zulu: locative  
AGRS1SG- SEPTH- LOC- Mpumalanga/east<sub>9</sub>  
*I am from Mpumalanga/from the east.*
- b. Ng- a- ba s- e- Thekwini.  
AGRS1SG- REMPT- be SEPTH- LOC- Durban<sub>5</sub>  
*I was in Durban.*
- (55) a. Ngi- na- i- nja. Zulu: PP  
AGRS1SG- with- AUG- dog<sub>9</sub>  
*I am with the dog/ I have a dog.*
- b. Ngi- be na- u- mfana.  
AGRS1SG- COP.RCTPST with- AUG- boy<sub>1</sub>  
*I was with a boy/I had a boy.*

NB: Certain pronominal locatives (e.g., *there*) and adverbials (e.g., *outside*) trigger subject agreement, behaving like NP predicates

- (56) a. U- s- emlanjeni. Xhosa: locatives  
AGRS1- SEPTH- LOC-river-LOC  
*S/he is in the river.*
- b. Intaka i- nga- ba s- e- mthi -NI lona.  
bird<sub>9</sub> AGRS9- POT- COP SEPTH- LOC- tree<sub>3</sub> -LOC this<sub>3</sub>  
*The bird may be in this tree.*
- (57) a. Vhana vha tshikolo -ni. Venda: locatives  
children<sub>2</sub> AGRS2 school -LOC  
*The children are at school.*
- b. Ri do vha ri mutangano -ni.  
AGRS1PL FUT COP AGRS1PL meeting -LOC  
*We will be at the meeting tomorrow.*
- (58) a. Vita vi- na mito. Swahili: locatives  
chairs<sub>8</sub> AGRS8- with pillows  
*The chairs have pillows.*
- b. Nguo zi- mo sanduku- ni.  
clothes<sub>10</sub> AGRS10- LOC suitcase- LOC  
*The clothes are in the suitcase.*



In sum, all four languages behave the same in combining locatives with the copula directly.

**Puzzle:**

NB: The data and judgments are courtesy of a native speaker consulted by Jochen Zeller.

- (59) a. U-        zo-    ba s-    e-    Thekwini.  
          AGR<sub>S</sub>2SG- FUT- COP S<sub>EP</sub>TH- LOC- Durban  
          *You will be in Durban (until you have enough money to pay for a taxi to Umlazi).*
- b. U-        zo-    be u-        s-    e-    Thekwini.  
          AGR<sub>S</sub>2SG- FUT- COP PRT.AGR<sub>S</sub>2SG- S<sub>EP</sub>TH- LOC- Durban  
          *You will be in Durban (by 10 o'clock).*
- (60) a. Wa-                ba s-    e-    Thekwini.  
          AGR<sub>S</sub>2SG.REMPST- COP S<sub>EP</sub>TH- LOC- Durban  
          *You were (stayed) in Durban (during that time).*
- b. Wa-                be u-        s-    e-    Thekwini.  
          AGR<sub>S</sub>2SG.REMPST- COP PRT.AGR<sub>S</sub>2SG- S<sub>EP</sub>TH- LOC- Durban  
          *You were in Durban (at a certain time).*

The *ba/be* distinction correlating with the presence of participial subject agreement “on the predicate” does not correspond to the difference between dynamic and stative predication.

Possible hypothesis: these are compound tenses. To be tested.

## 8. APPENDIX: ABBREVIATIONS USED

1/2/3	first/second/third person	NEG	negation
AA	adjectival agreement marker	NEGPRED	negative copular particle
ACC	accusative	NOM	nominative
AGR <sub>S</sub>	subject agreement marker	NPX	noun prefix
ASSOC	associative marker	PASS	passive
AUG	augment	PAST	past
CONS	consecutive (mood)	PERF	perfective
COP	copular verb	POSS	possessive
EMPH	emphatic	POT	potential (mood)
EPTH	epenthetic	PRED	predicative element/copular particle
F/M	feminine/masculine	PRES	present
FUT	future	PRF	perfective
FV	final vowel	PRT	particle
IND.AGR <sub>S</sub>	independent agreement	PRT.AGR <sub>S</sub>	participial agreement
INF	infinitive	RECPST	recent past
INSTR	instrumental	REL	relative pronoun or complementizer
LOC	locative	REMPST	remote past
LQC	locative quasi-copula	SG/PL	singular/plural

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