Multiple Agreement, Concord and Case Checking in Bantu

Brent Henderson
University of Illinois at Urbana-Champaign

Chomsky (2000) assumes that the checking of agreement (φ-)features on a head such as a verb results in simultaneous checking of case features on the NP that triggers the agreement. Since it is often the case that a single NP triggers agreement on more than one verb, however, some conditions are required. Chomsky proposes that it is only φ-complete agreement (the checking of a full set of agreement features) that results in case checking. This captures the broad cross-linguistic generalization that participial verbs show only partial agreement when compared with the auxiliary verbs that select them. However, Carstens (2001) points out that Bantu compound tense (CT) structures are a serious problem for Chomsky's approach. In these constructions, each verb in a complex tense sequence displays full agreement with the subject. Data is from Carstens (2001):

(1) a.   Juma   **a** – li – kuwa   **a** – me – pika   chakula   *Swahili*
      Juma **3SG**-PST-be   **3SG**-PERF-cook   food
      'Juma had cooked food.'

   b.   (Mimi) **ni**-li-kuwa   **ni** – ngali   **ni** – ki – fanya kazi.   *Swahili*
      (I)   **1SG**-PST-be   **1SG**-still   **1SG**-PROG-do   work
   'I am still working.'

Carstens follows Carstens and Kinyalolo (2001; henceforth C&K) in analyzing CT constructions as raising structures. The subject, they argue, moves first through the specifiers of the lower verbs before reaching its final landing site in the specifier of the highest verb in the sequence. Given that an NP becomes inert for agreement once its case is checked, it must be that the highest auxiliary in the CT sequence is responsible for checking the case of the subject. The derivation of (1) that C&K argue for is given in (2) with the operations of Agree(ment) and Move(ment) given in the order they occur:

(2)   Juma   **a**likuwa   <Juma>   **a**mepika   <Juma> chakula

     (iii) Agree   (i) Agree

     (iv) Move   (ii) Move
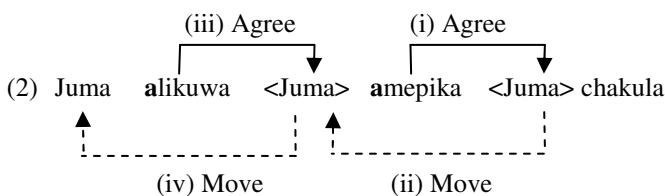
'Juma had cooked the food.'

Given the strong generalization that Bantu agreement always results in a spec-head configuration (see Kinyalolo 1991, Baker 2002, among others), (2) explains why each of the verbs carries full agreement with the subject. However, (2) is also a serious problem for Chomsky's theory of φ-complete case checking. If indeed a full set of φ-features is responsible for checking the case of an argument, the subject in (2) should have its case checked by the lowest verb in the sequence. In that case, however, the subject would cease to be visible for further syntactic operations and could not check the φ-features of the highest verb. Given this argument, Carstens (2001) proposes that φ-

complete case checking be abandoned in favor of a theory in which case and φ-feature checking operations are distinct in the syntax. In this paper, however, I will argue that the analysis in (2) is flawed. Rather, I will argue that a more accurate analysis is that in (3):

(3)
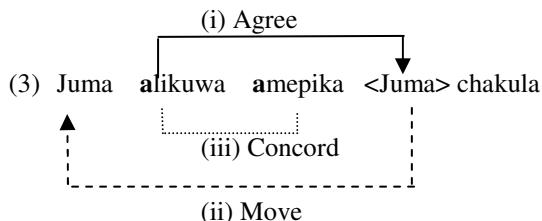
In (3) only one agreement relation is present, that between the highest verb in the sequence and the subject. The participial verb does not agree with the subject. Rather, it acquires its agreement features through a concord relation with the highest verb.[1] Traditionally, the term 'concord' has referred simply to agreement within the nominal domain, while the term 'agreement' has referred to agreement within the verbal domain, or as a general term. In this paper, however, I take the position (also taken by Uriagereka 2004) that concord and agreement involve two fundamentally different relations in the grammar. Specifically, while the relation Agree is a context-sensitive relation that can take place at a distance and requires the notion of c-command, the relation Concord is a context-free relation that can only hold in a strictly local fashion. Thus, while Agree involves a probe-goal relation and a subsequent feature valuation procedure, Concord does not involve either of those things. Rather, the agreement morphology of an element in a Concord relation will always be parasitic on the φ-features of another element it holds in a local relation.

One of the implications of this view of concord and agreement is that neither type of relation should be limited to any particular categorial domain as traditionally assumed. As is well-known, Bantu languages employ the Agree relation (as well as Concord) within the noun phrase. While items such as demonstratives show agreement morphological identical to that used between a subject and verb, adjectives display different morphology, identical to the nominal prefix of the noun.

(4) **U**-le mti *m*-zuri *m*-moja **u** – li – anguka *Swahili*
3DEM 3tree *3AGR*-good *3AGR*-one **3AGR**-PST-fall
'That one good tree fell.'

Just as agreement and concord may both be employed within the noun phrase, this paper argues that the concord relation can hold between elements outside the noun phrase in the main clause structure, specifically between verbs in CT structures.

There are two empirical arguments against the analysis in (2) and in favor of the proposed analysis in (3). Both involve relative clauses. First, it is well-known that many Bantu languages require inversion in non-subject relatives. Standard analyses have taken these inversion constructions to be derived via T-to-C movement (see Demuth and Harford 1999 and references therein). Inversion changes the SVO clause in (5a) to the OVS order in (5b).

(5) a. Juma a – li – pika chakula *Swahili*
Juma 3SG-PST-cook food
'Juma cooked food.'

b. chakula a – li – cho – pika Juma
7food 3SG-PST-7REL-cook Juma
'the food that Juma cooked'

Recall that in Carstens' analysis in (2) the occurrence of multiple agreement in CT constructions is the result of successive movement of the vP-internal subject through the specifiers of each verb to its final position. Given that these successive subject-verb Agree relations are in principle independent of

one another, we expect that in relatives with compound tense sequences, only the highest verb will undergo T-to-C movement. This is not the case, however. An overt subject must follow *all* of the verbs in a compound tense structure and cannot intervene between verbs.

(6) a.　chakula a – li – cho – kuwa 　a – me – pika Juma　　　　　*Swahili*
　　　　7food　3SG-PST-7REL-be　3SG-PERF-cook Juma
　　　　'the food which Juma had cooked'

　　b.　*chakula alichokuwa Juma amepika

I propose that this adjacency restriction is due to a concord relation between the two verbs in (6a) and that this relation is responsible for the multiple agreement displayed by the clause. This claim makes two predictions. First, the adjacency requirement should not hold in languages that do not display multiple agreement in such constructions. This prediction is born out in Bantu languages like Dzamba (data from Bokamba 1976:102). Dzamba shows agreement only on the first verb in a CT construction. The secondary verb appears as an infinitive:

(7) oPoso **a** – ba – aki olo - maa etobo waabo.　　　　　　　*Dzamba*
　　Poso　**3SG**-be-PST　INF-sow　dress　here.
　　'Poso was sowing a dress here.'

Like Swahili, Dzamba also displays relative inversion. Unlike Swahili, however, Dzamba allows the topmost verb to invert on its own, resulting in a structure where a subject intervenes between the two verbs of the CT sequence:[2, 3]

(8) etobo　**é** – ba – aki　oPoso olo-maa　　waabo　　　　　*Dzamba*
　　5dress　**5AGR**-be-PST　Poso INF-sow　　here
　　'the dress that Poso was sowing here'

The second prediction is that the adjacency requirement should not hold in Swahili constructions that do not display multiple agreement morphology. One such context is control structures. In (9a) a finite verb is followed by an infinitive that does not bear agreement. (9b) demonstrates that the selecting verb may invert on its own in relative constructions, bearing out our prediction.[4]

(9) a.　Juma　a – li – taka　　ku-soma kitabu　　　　　　　*Swahili*
　　　　Juma 3SG-PST-want INF-read　7kitabu
　　　　'Juma wanted to read the book.'

　　b.　?kitabu　a – li – cho – taka　　Juma ku – soma
　　　　7book　3SG-PST-7REL-want Juma INF-read
　　　　'the book that Juma wanted to read'

The data in (8-9), taken together with the Swahili examples in (6), demonstrate that the ability for only the highest verb in a CTs structure to undergo inversion correlates with the absence of identical agreement on each verb of the CT sequence. This is evidence that multiple agreement in Swahili CTs is an expression of a local relation between the verbs in these constructions and not multiple agreement relations with the subject as Carstens proposes.

The second empirical argument against (2) and in favor of (3) comes from relatives in languages like Kirundi. Kirundi relatives display optional inversion. Unlike Swahili-type languages, however, an inverted verb must agree with the relativized NP rather than with the subject. (10a) and (10b) are semantically equivalent:

(10) a. Ibitabo Yohani **a** – a – somyé   *Kirundi*
        8books   John **3SG**-PST-read:PERF
        'the books that John read'

   b. Ibitabo **bi** – a – somyé   Yohani
       8books **8AGR**-PST-read:PERF John
       'the books that John read'

This "agreement shift" phenomenon in (10) occurs as a result of T-to-C movement in (10b). Since Kirundi verbs must agree with whatever is in their specifier (see Baker 2002), a verb in C must agree with a relative head noun in Spec-CP. Like Swahili, Kirundi also displays CT constructions with multiple agreement:

(11)   igitabo   abana   **ba** – a – rikó **ba**-soma   *Kirundi*
        7book   children **3PL**-PST-be **3PL**-read:IMP   (Ndayiragije 1999)
        'the book the children were reading'

The analysis of (11) as a raising construction involving two independent Agree relations predicts that in an inversion context only the topmost verb should invert. Furthermore, given the agreement shift phenomenon seen in (10), we would also expect the inverted verb to agree with the relativized noun phrase while the lower verb would agree with the subject. This prediction is not born out. Rather, an adjacency restriction between the two verbs is in place, exactly like the one observed for Swahili. Furthermore, both of the verbs must agree with the relativized NP:

(12) a. igitabo **ki** – a – riko **ki** - soma   abana   *Kirundi*
        7book **7AGR**-PST-be **7AGR**-read:IMP children
        'the book that children were reading'

   b. *igitabo **ki**-a-riko abana **ki**-soma

   c. *igitabo **ki**-a-riko abana **ba**-soma

(12) demonstrates that multiple agreement CT constructions not only require adjacency between the verbs in sequence, but also require that every verb carry identical agreement morphology. This is further evidence that multiple agreement on verbs in CTs does not arise from independent Agree relations and successive A-movement (the raising analysis of C&K). Assuming standard assumptions about movement are correct, relativization involves A-bar movement to the CP domain and a relativized NP would not stop in intervening A-positions on its way.[5] Therefore, there is no way the relativized NP in (12a) could come into the required spec-head relation with the participial verb in order to trigger agreement. Given that this derivation is impossible, the only alternative seems to be that agreement on participial verbs in such structures is acquired through a relation with the selecting verb through a Concord relation. This explains why all verbs in such sequences must carry identical agreement, no matter what the goal of that agreement may be.

In conclusion, I have argued that CT structures in Bantu languages, to the extent that they display multiple agreement, should not be taken to involve multiple Agree relations. Rather, I have argued that the identical agreement on secondary verbs in such constructions arises from a concord relation with the selecting auxiliary. It is this finite auxiliary (the highest verb in a sequence) that has the only true Agree relation with the subject, valuing its φ-features from a probe-goal relation with the subject. Secondary verbs acquire their agreement morphology by virtue of being in a local relationship with the auxiliary that has valued φ-features.

While the data and analysis presented here eliminates Carstens' (2001) argument against Chomsky's (2000) system of φ-complete case checking, some of the data introduced in the previous section actually present an independent argument against Chomsky's system. In relative clauses in

both Kirundi and Dzamba an inverted verb must agree with the relativized noun phrase rather than an overt subject. I repeat the example from Dzamba below:

(13)   etobo   **é** – ba – aki   oPoso olo-maa waabo   *Dzamba*
          5dress **5AGR**-be-PST Poso   INF-sow here
          'the dress that Poso was sowing here'

In (13) no agreement relation holds between the subject and the verb. Rather, subject agreement takes place with the relativized NP. Yet the subject in (13) is in a position at least as high as its thematic position in Spec-vP and possibly higher. We must therefore take the subject to be an argument with structural case.

The fact that the subject has its case checked in (13) without having any agreement relation with any element in the clause strongly suggests that φ-feature checking and case checking should be considered independent operations in the syntax. In other words, Carstens' conclusion is right, despite the faults of her arguments: case checking cannot be dependent upon the checking of φ-features as Chomsky suggests. This requires a system in which the features that probe for case features on goals are distinct from the uninterpretable φ-features on probes that search for interpretable φ-features on goals. A number of systems are possible, including the one Carstens proposes. However, in formulating such a system, we must keep in mind the generalization that motivated Chomsky's ideas in the first place: in general, the highest verbs in compound tense sequences have more complete φ-feature sets than the secondary verbs that they select. Any system we propose should account for this as well (an inadequacy of Carstens' particular proposal). Unfortunately, exploring the full range of possibilities is beyond the scope of this paper (but see Pesetksy and Torrego 2001, 2002 and Boeckx 2004 for recent attempts).

Notes

*Thanks to Karlos Arregi, Abbas Benmamoun, Cedric Boeckx, Eyamba Bokamba, Leonard Muaka, Juvenile Ndayiragije, Margaret Njeru and the participants of ACAL 36 (Savannah, GA) for comments on this work. Special thanks to Juan Uriagereka whose lectures at SyntaxFest 2004 (Indiana U., Bloomington) got me thinking along these lines. Mistakes are mine.

List of abbreviations: PST = past; PERF = perfect; IMP = imperfect; PROG = progressive; INF = infintitive; AGR = agreement; REL = relative marker; DEM = demonstrative.

[1]I have called the relation "concord" on analogy with what I believe to be a similar relation that exists between nouns and the adjectives that modify them in the nominal domain. Unfortunately, there is no room here to explore this correlation. Furthermore, the structural nature of concord remains unclear, though selection seems to me the most promising. For the purposes of this paper, I will simply take adjacency to be the expression of this relation.
[2]Dzamba also allows both verbs to invert with no semantic difference:

(i)   etobo   é – ba – aki   olo - maa oPoso waabo   *Dzamba*
         5dress 5AGR-be-PST INF-sow   oPoso here
         'the dress that Poso was sowing here'

Thanks to Eyamba Bokamba (personal communication) for pointing this out to me.
[3]The relative marker in Dzamba and in Kirundi is the high lexical tone marked on the verb in the examples.
[4]The example in (9b) is somewhat marginal as the question mark indicates. Most speakers prefer the subject to follow both verbs. I suspect this preference may be based on an analogy with CT structures given that the latter are much more common than control structures. In either case, it is a fact that while speakers vary as to the acceptability of (9b), all speakers find structures CT structures with an intervening subject like (6b) completely ungrammatical. Thus, a legitimate contrast requiring explanation does exist.
[5]However, several authors have suggested such an approach, claiming that Central Bantu languages must turn objects into subjects before they can be relativized. See Ndayiragije (1999) for minimalist attempt along these lines, but see Henderson (2004) for arguments against this approach.

References

Baker, Mark. 2002. Agreement, dislocation, and partial configurationality. Ms. Rutgers University.

Boeckx, Cedric. 2004. *Bare syntax*. Ms., Harvard University.

Bokamba, Eyamba. 1976. Question formation in some Bantu languages. Ph.D. Dissertation, Indiana University.

Carstens, Vicki. & Kasangati. Kinyalolo. 1989. On IP Structure: tense, aspect and agreement. Ms., Cornell University and UCLA.

Carstens, Vicki. 2001. Multiple agreement and case deletion: against φ-(in)completeness. *Syntax* 3: 147-163.

Chomsky, Noam. 2000. Minimalist inquiries. In Roger Martin et al. (eds.), 89-155.

Demuth, Katherine and Caroline Harford. 1999. Verb raising and subject inversion in Bantu relatives. *Journal of African Languages and Linguistics 20* (1): 41-61.

Geuron, Jacqueline and Jacqueline Lecarme. 2002. *The syntax of time*. Cambridge, Mass.: MIT Press.

Henderson, Brent. 2004. Head movement in syntax and at PF. Ms., University of Illinois, Urbana-Champaign, IL.

Kenstowicz, Michael. 2001. *Ken Hale: a life in language*. Cambridge, Mass.: MIT Press.

Kinyalolo, Kasangati. 1991. Syntactic dependencies and the spec-head agreement hypothesis in KiLega. Ph.D. Dissertation, UCLA.

Martin, Roger et al. 2000. *Step by step: studies in honor of Howard Lasnik.* Cambridge, Mass.: MIT Press.

Ndayiragije, Juvenile. 1999. Checking economy. *Linguistic Inquiry* 30 (3): 399-444.

Pesetsky, David. and Esther Torrego. 2001. T-to-C movement: causes and consequence. In M. Kenstowicz, (ed.), 355-426.

Pesetsky, David and Esther Torrego. 2002. Tense, case, and the nature of syntactic categories. In Jacqueline Gueron and Jacqueline Lecarme, (eds.), 495-537.

Uriagereka, Juan. 2004. Complete and partial infl. Ms., University of Maryland/University of the Basque Country.

Selected Proceedings of the 36th Annual Conference on African Linguistics: Shifting the Center of Africanism in Language Politics and Economic Globalization

edited by Olaoba F. Arasanyin
and Michael A. Pemberton

Web access and citation information

This entire proceedings can also be viewed on the web at www.lingref.com. Each paper has a unique document # which can be added to citations to facilitate access. The document # should not replace the full citation.

This paper can be cited as:

Henderson, Brent. 2006. Multiple Agreement, Concord and Case Checking in Bantu. In *Selected Proceedings of the 36th Annual Conference on African Linguistics*, ed. Olaoba F. Arasanyin and Michael A. Pemberton, 60-65. Somerville, MA: Cascadilla Proceedings Project.

or:

Henderson, Brent. 2006. Multiple Agreement, Concord and Case Checking in Bantu. In *Selected Proceedings of the 36th Annual Conference on African Linguistics*, ed. Olaoba F. Arasanyin and Michael A. Pemberton, 60-65. Somerville, MA: Cascadilla Proceedings Project. www.lingref.com, document #1407.