



5) me-hye-e Kofi **ma** (-noa-a nam ma-Type  
 1sg-force-Pst Kofi *ma* 3sg-cook-Pst fish  
 “I forced Kofi to cook fish”

Note that in (3) the object of the embedded verb precedes the verb, while in (4) and (5) the object follows the selecting verb.

The paper is organized as follows. First we look at the OV complement type, and related constructions. From this, we move to verbs that alternate and take either OV or *s*( complements. This leads to a comparison of the control complement-taking verbs with *s*( and bridge verbs which take *s*( complements. The final major section examines the properties of *ma* clauses and compares them to serial constructions in Asante Twi.

## 2. OV-Complement Clauses

There are several verbs which take OV complement clauses. These include *kyiri* ‘hate’, and *gyae* ‘stop’, exemplified below:

- 6) a. me-twa-a bayer(( VO  
 1sg-cut-Pst yam  
 “I cut yams”
- b. me-kyiri bayer( twa OV  
 1sg-hate yam cut  
 “I hate cutting yams”
- c. \*me-kyiri twa bayer(( VO  
 1sg-hate cut yam  
 “I like cutting yams”
- d. me-gyaae bayer( twa kyiri V [[OV] V]  
 1sg-stop.past yam cut hate  
 “I stopped hating cutting yams”

Comparing (6)a to (6)b and (6)c, it is seen that (6)a has the expected OV order. However, once embedded under *kyiri* ‘hate’, VO is impossible. The OV construction admits recursion (although it becomes difficult to process), as indicated in (6)d, above.[1]

Examples like (6)b and (6)d do not seem to be instances of noun incorporation simpliciter because, the object nominal can carry numerals, determiners, and demonstratives, for example, unlike canonical cases of noun incorporation (Baker 1988):

7) me-kyiri **saa** bayer( **yi** twa OV  
 1sg-hate this yam this cut  
 “I hate cutting THIS yam”

Most verbs which select for an OV complement also allow for a *s*( complement clause (with the choice of one excluding the other):

8) me-nim twene b( *nim* + OV  
 1sg-know drum hit  
 “I know how to play the drum”

9) me-nim s( me b( twene *nim* + *s*( VO  
 1sg-know s( 1sg-hit drum  
 “I know that I play the drum”

With some verbs (e.g. ‘*nim*’ know, ‘*kae*’ remember, etc), the choice between the OV or the *s*( constructions accompanies a regular meaning change (e.g. knowing *how* vs. knowing *that*). When this is the case, the OV complement clause may be substituted for by a manner relative clause introduced by ‘*s*(*nea*’:

10) me-nim s(*nea* y(-b( twene  
 1sg-know *s*(*nea* 1pl-hit drum  
 “I know how to play the drums”

There are several facts which suggest that the OV type complement clauses above are ‘smaller’ than a full clause, and, possibly are some species of nominal. First, OV complements cannot contain tense or negation morphemes (10), although they may contain adverbs (11):

11) me-nim twene (\*b(/re/a/m-) b( (\*-()  
 1sg-know drum (fut./prog./perf./neg.) hit (-Pst)  
 “I know how to play the drums”

12) me-nim twene b( **br**(oo  
 1sg-know drum hit slowly  
 “I know how to play the drums slowly”

Second, Asante Twi has a set of Negative Polarity Items (NPI), which must occur with clausemate negation:

13) wo-\*(n)-y( **hwee** Matrix CP  
 2sg-(neg)-do anything  
 “you do (not) do anything”

14) a. me-dwene s( wo-\*(n)-y( **hwee** Embedded CP  
 1sg-think that 2sg-neg-do anything  
 “I think that you don’t do anything”

b.\*me-n-dwene s( wo-y( **hwee** Embedded CP  
 1sg-neg-think that 2sg-do anything



“What did you cook?”

- b. **den** na wo-noa-e? Matrix Raised Wh  
what foc 2sg-cook-Pst  
“What did you cook?”

However, if a Wh is embedded in a DP, then it cannot be in situ and be a matrix question, instead, it is an echo question:

- 21) a. wo-noa-a Kofi nam no Possessed DP  
2sg-cook-Pst Kofi fish the  
“You cooked Kofi’s fish”
- b. \*wo-noa-a [hena nam no] Wh inside of in situ DP  
2sg-cook-Pst who fish the (echo only)  
“Whose fish did you cook?”
- c. [hena nam no] na wo-noa-e( Wh inside of raised DP  
who fish the foc 2sg-cook-Pst  
“Whose fish did you cook?”

Tellingly, OV complements pattern with nominals in that a Wh contained in an OV complement must be raised yield an interrogative interpretation (21). Interestingly, the entire OV complement can pied-pipe with the wh-word (22):

- 22) a. \*wo-p( **den** nua In-Situ Wh  
2sg-like what cook (echo only)  
“What do you like to cook?”
- b. **den** na wo-p( nua Raised Wh  
what foc 2sg-like cook  
“what do you like to cook?”
- 23) a. \*wo-nim **hena** b( In Situ Wh  
2sg-know who hit (echo only)  
“you know how to hit who?”
- b. **hena** na wo-nim no b( Raised Wh  
who foc 2sg-know him hit  
“who do you know how to hit him?”
- c. **hena** b( na wo-nim (\*no) b( Raised Wh + V  
who hit foc 2sg-know (him) hit  
“who do you know how to hit”

### 3. S( Complements

There are four types of *s(* complements: alternating VO/OV complement verbs, *s(* control clauses, bridge verbs, and optative *s(* clauses. All *s(* clauses have a number of properties in common with main clauses that distinguish them from the OV complement construction discussed above. First, they occur with overt subjects[4], unlike the OV nominal complements. Second, *s(* clauses are always inflected for tense, mood, and polarity. Third, negation on a matrix verb does not license an NPI inside of a *s(* complement clause (cf. (13)b and (13)c), unlike OV complements (23). Finally, *s(* clauses take *na* as the coordinator (24):

24) a. Kofi pene-e so *s(* o-n-nua hwee[5]  
 Kofi agree-Pst Prt that 3sg-neg-cook anything  
 “Kofi agreed to not cook anything”

b. \*Kofi a-m-pene so *s(* o-nua hwee  
 Kofi past-neg-agree Prt that 3sg-cook anything  
 “Kofi did not agree to cook anything”

25) mi-reefi *s(*( m(-twa bayer( na/\*ne m(-kan nhoma no  
 1sg-forget that 1sg.fut-cut yam and 1sg.fut-read book the  
 “I forgot that I will fry the yam and read the book”

It will now be useful to briefly compare complements of bridge verbs, which occur with *s(* and the control type of *s(* complements. It is clear from the similarities that all *s(* complements share that they are likely to be closely related from a morpho-syntactic perspective. However, we have found one striking difference between *s(* complements of bridge verbs and *s(* complements of control verbs. This concerns the distribution of *wh*-words. *Wh*-in-situ yields an appropriate question only for bridge verbs like *dwene* ‘think’, and is only acceptable with an echo interpretation on control-type verbs (25). The left dislocation question formation strategy is acceptable for both kinds of verb :

26) a. wo-dwene *s(* me-y(-(( den Bridge with *s(* Complement  
 2sg-think that 1sg-do-Pst what  
 “What do you think that I did?”

b. \*wo-kyiri *s(* wo-y(-(( den Control with *s(* Complement  
 2sg-hate that 2sg-do-Pst what (echo only)  
 “What do you hate that you did?”

Here we briefly describe another subset of *s(* complements. These are embedded optative clauses, which only occur under a very restricted set of matrix predicates, such as *tea mu (gu so)* ‘shout (at)’, and *ka kyer(* ‘tell’. Optative clauses are characterized by the presence of a high toned *n* in the affirmative and a high toned *ma* in the negative.

- 27) a. (-n-noa nam no 3sg-opt-cook fish the Affirmative Optative  
 “He should cook the fish!”
- b. **ma** (-n-noa nam no opt 3sg-neg-cook fish the Negative Optative  
 “He should not cook the fish!”
- c. noa nam no cook fish the Imperative  
 “cook the fish!”

When embedded under one of the above verbs, the optative *s*( clause expresses the content of the shouting/telling. When the object of the verb is the second person singular, the special second person singular imperative form of the verb is used:[6]

- 28) a. me-ka kyer(-(**Kofi** *s*( (-n-noa nam no *s*( + Optative  
 1sg-say show-Pst Kofi *s*( 3sg-opt-cook fish the  
 “I told Kofi, ‘cook the fish!’”
- b. me-ka kyer(( **wo** *s*( **noa nam no** *s*( + Imperative  
 1sg-say show 2sg *s*( cook fish the  
 “I told you, ‘cook the fish!’”

#### 4. Ma Complement Clauses

Some verbs may select for the factive complementizer, *ma* (Osam 1998). Roughly, when factive *ma* occurs, the speaker presupposes the truth or certainty of the complement clause:

- 29) me-tea-a mu gu-u Kofi so **ma** (-da-a(  
 1sg-shout-Pst Prt drip-Pst Kofi on *ma* 3sg-sleep-Pst  
 “I shouted at Kofi to sleep (and he did sleep)”

The factivity of the complement clause in (28) can be seen by contrasting possible continuations to clauses with *s*( and those with *ma*:

- 30) me-bisa-a Kofi *s*( (-n-k(, nanso (-a-n-k(  
 1sg-ask-Pst Kofi *s*( 3sg-opt-go, but 3sg-Pst-neg-go  
 “I asked Kofi to go, but he didn’t go”
- 31) #me-bisa-a Kofi **ma** (-k(-((, nanso (-a-n-k(  
 1sg-ask-Pst Kofi *ma* 3sg-go-Pst, but 3sg-Pst-neg-go  
 “I asked Kofi to go, but he didn’t go”

The continuations show that only the *s*( clause is compatible with a continuation which contradicts



clause. Put simply, tense and aspect in *ma* complement clauses have the same distribution as in serial verb constructions. Within a *ma* complement clause, the tense and aspect of the matrix verb determines the spellout of morphological tense and aspect in the embedded clause:

- 36) a. Kofi **b**(-pene so (**a-**)ma ne-\*(**a-**)k( Future Matrix  
 Kofi fut-agree Prt *a- ma* 3sg-*a-go*  
 “Kofi will agree to go”
- b. Kofi (-pene so (\***a-**)ma ne-(-k( Present Matrix  
 Kofi (-agree Prt *ma* 3sg-(-go  
 “Kofi agrees to go (and he does go)”
- c. Kofi **a**-pene so (**a-**)ma ne-\*(**a-**)k( Perfect Matrix  
 Kofi perf-agree Prt *a-ma* 3sg-*a-go*  
 “Kofi has agreed to go (and has gone)”
- d. Kofi pene-**e** so ma ne-k( \*(**-e**) Past Matrix  
 Kofi agree-Pst Prt *ma* 3sg-go-Pst  
 “Kofi agreed to go (and he went)”

The examples above show that when a particular tense/aspect appears in the matrix, it corresponds to a distinct tense/aspect morpheme in the embedded clause. Other seemingly logical combinations are not possible:

- 37) a. \*Kofi **b**(-pene so (**b(-)**)ma ne-**b**(-k( Future Matrix  
 Kofi fut-agree Prt fut- *ma* 3sg-fut-go  
 “Kofi will agree to go (and he will go)”
- b. \*Kofi pene-**e** so ma ne-**a**-k( Past Matrix  
 Kofi agree-Pst Prt *ma* 3sg-*a-go*  
 “Kofi agreed to go (and he has gone)”
- c. \*Kofi **a**-pene so ma ne-\*(**b(-)**)k( Perfect Matrix  
 Kofi perf-agree Prt *ma* 3sg-fut-go  
 “Kofi has agreed to go (and he will go)”

These dependencies in *ma* clauses do not occur in *s*( clauses, where the embedded tense/aspect/polarity is not strictly determined by the matrix. Contrast the following with the examples in (36) above:

- 38) a. Kofi **b**(-pene so s( o-**b**(-k(( Future Matrix  
 Kofi fut-agree Prt that 3sg-fut-go (cf. (36)a)  
 “Kofi will agree that he will go”

- b. Kofi **a**-pene so s( o-**b**(-k(( Perfect Matrix  
 Kofi perf-agree Prt that 3sg-fut-go (cf. (36)c)  
 “Kofi has agreed that he will go”

Serial constructions are very common in Asante Twi and other Akan dialects and their properties are well-known (see, Dolphyne 1987, Dolphyne 1988, Campbell 1989, Forson 1990, Osam 1997, Bodomo 1998)). The relevant property of the serial construction is the set of dependencies between the matrix tense/aspect and the embedded tense/aspect, which are identical to those in *ma* clauses:

- 39) a. Kofi **b**(-di \*(**a**-)k( Future Matrix  
 Kofi fut-eat *a*-go  
 “Kofi will eat and go”
- b. Kofi (-di (-k( Present Matrix  
 Kofi (-eat (-go  
 “Kofi eats and goes”
- c. Kofi **a**-di \*(**a**-)k( Perfect Matrix  
 Kofi perf-eat *a*-go  
 “Kofi has eaten and gone”

While *ma* and *s*( never occur within the same clause (i.e. CP), both a *ma* clause and a *s*( clause can co-occur in a tricausal configuration.. In this case, the *s*( clause always appears to the left of the *ma* clause.

- 40) a. me-tea mu gu Kofi so s( (-n-da **ma** ne-da s(...**ma**  
 1sg-shout Prt drip Kofi on s( 3sg-opt-sleep *ma* 3sg-sleep  
 “I shout at Kofi to sleep”
- b. \*me-tea mu gu Kofi so **ma** ne-da s( (-n-da \***ma**...s(  
 1sg-shout Prt drip Kofi on *ma* 3sg-sleep s( 3sg-opt-sleep  
 “I shout at Kofi to sleep”

Despite being separated from the main clause tense by the *s*( clause, the verbal morphology in the *ma* clause is still that of the serial construction. However, the polarity of the *ma* clause is identical to that of the *s*( clause.

- 41) m(-tea mu e-gu Kofi so s( (-n-da (a-)ma ne-a-da  
 1sg.fut-shout Prt *a*-drip Kofi on s( 3sg-opt-sleep *a*- *ma* 3sg-fut-sleep  
 “I will shout at Kofi to sleep”
- 42) me-teaa mu guu Kofi so s( ma[7] (-**n**-da ma ne-a-**n**-da  
 1sg-shout.past Prt drip-Pst Kofi on s( opt 3sg-neg-sleep *ma* 3sg-Pst-neg-sleep  
 “I shouted at Kofi not to sleep”



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[1] Apparently distributionally identical to OV clauses is the verbal relative clause:

44) me-gyaae b( aa me-b(-( Kofi  
 1sg-stop.past hit Rel 1sg-hit-Pst Kofi  
 "I stopped hitting Kofi"  
 [literally: "I stopped hitting that I hit Kofi"]

For reasons of space, we will not describe the verbal relative construction here. See (Kobebe & Torrence, forthcoming) for a treatment of verbal relatives in Twi.

[2] There may in fact be four coordinators in total. In addition to *ne* and *na* (which seem to differ subtly in meaning), one also finds *ene* and *ena*. Interestingly, these all seem to have different distributions. We leave thorough examination of these forms for future research.

[3] It appears that the situation is more complex. First, some Wh words, *s(n* 'how' and *aden* 'why' cannot be in-situ. (Campbell, 89) offers the generalization that wh-words are allowed in-situ only in theta-governed positions.

[4] When an overt subject would be required in a main clause, that is.

[5] Prt = particle

[6] The negative optative functions as the negative imperative.

[7] Note that this the *ma* that appears in negative optative clauses. It is not the factive *ma*.