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# Clause Structure and Verb Series

*Enoch Oladé Aboh*

This article argues that in  $V_1$ -XP- $V_2$  and  $V_1$ - $V_2$ -XP series,  $V_1$  merges in the functional domain of the lexical verb ( $V_2$ ).  $V_2$  introduces the (internal) argument and is embedded under an AspP whose head is endowed with an EPP feature. Surface word order variations in Kwa (and Khoisan) result from the EPP licensing that triggers  $V_2$ -object inversion, sometimes followed by  $V_2$  movement past the shifted object.

*Keywords:* verb series, argument sharing, functional verb, EPP, verb-object inversion

## 1 Introduction

The following sentences illustrate serialization in Kwa (1a–b) and in Khoisan (1c):

- (1) a. Àsíbá bé lésì ò. (Gungbe)  
Asiba collect rice eat  
'Asiba collected rice eat (i.e., Asiba ate a lot of rice).'
- b. Obi kwa-da-ra Eze. (Igbo)  
Obi push-fall-rV Eze  
'Obi pushed Eze down.'
- c. Ma a- q||hu |'o djo ki kx'u na. (≠Hoan)  
1SG PROG pour put.in water PRT pot in  
'I am pouring water into the pot.'

Studies of serialization in Kwa and Khoisan languages suggest that examples (1a–c) are bona fide serial verb constructions (SVCs) because they obey the Argument-Sharing Hypothesis (ASH).<sup>1</sup> The ASH states that “in a serial verb construction,  $V_1$  and  $V_2$  must share an internal argument” (Collins 1997:463; see also Baker 1989, Stewart 1998, Baker and Stewart 2002, Carstens 2002). Taking the sequence  $V_1$ -O- $V_2$  in (1a) as a core case of serialization, Collins (2001, 2002) argues that the  $V_1$ - $V_2$ -O order in (1b–c) derives from “multiple” verb movement

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The following abbreviations are used in this article: ACC = accusative, CAUS = causative, COM = comitative, COMP = complementizer, COORD = coordination conjunction, DAT = dative, DEF = definite, DET = determiner, EVENT = eventuality marker, EXCL = exclamative, EXPL = expletive, FOC = focus, FUT = future, HAB = habitual, INDEF = indefinite, NEG = negation, PAST = past, PL = plural, POSS = possessive, PREP = preposition, PROG = progressive, PROSP = prospective, PRT = particle, PV = preverb affix, REL = relative, rV = verbal extension, SG = singular, TOP = topic.

<sup>1</sup> All examples are from Gungbe, unless otherwise specified. The ungrammatical English translations are meant to give the reader a flavor of the intended meaning. Data from the literature are cited as in the sources.

of  $V_1$  and  $V_2$  to little  $v$ . These series comply with the ASH, though “multiple” verb movement distorts the underlying  $V_1$ -O- $V_2$  order.

In this article, I take a different approach to serialization. I abandon the ASH and propose that in the series in (1),  $V_1$  merges as a functional (verbal) element within the extended projection of the lexical verb (i.e.,  $V_2$ ) that introduces the arguments (2).

(2) [<sub>CP</sub> . . . [<sub>TP</sub> . . .  $V_1$  . . . [<sub>VP</sub> . . . [<sub>V<sub>2</sub></sub> . . . ]]]]

In (2), functional  $V_1$  has no internal  $\theta$ -role, which is why it can merge within the functional extension of the lexical verb  $V_2$ .<sup>2</sup> This view departs radically from the well-established generative tradition on SVCs that regards the ASH as a necessary condition on serialization. In section 2, I present empirical evidence for the analysis in (2) and show that the ASH and its theoretical correlates (e.g., double-headed VPs and object control) cannot be maintained for all the relevant cases. Therefore, the ASH cannot be a defining condition on serialization, nor can it be related to a serializing parameter. The discussion further indicates that we reach a better understanding of verb series by comparing them, language-internally, with structurally similar constructions. In this regard, in section 3 I propose an analysis for Kwa series that takes into account Aux-O-V structures, which display structural similarities with series. I propose that  $V_1$  is similar to certain Auxes (or light verbs) because it delimits a functional domain that embeds the lexical verb  $V_2$  and that it is characterized, among other things, by verb-object inversion (Aboh 2003). I show that the inverted object is not in a case position, but occurs in a derived position that better qualifies as an EPP position related to an Aspect head. Accordingly, the intervening object in (1a) has moved there to check the EPP feature under Asp. Building on this, in section 4 I propose that the  $V_1$ - $V_2$ -O sequences in (1b–c) result from subsequent movement of  $V_2$  past the object. In section 5, I offer concluding remarks.

## 2 Revisiting Verb Series: The Empirical Facts

In this section, I provide empirical evidence that the ASH is inaccurate. I further demonstrate that a VP shell approach to SVCs that translates the ASH into obligatory object control (Collins 1997) cannot be maintained. For instance, the verbs in a series can (a) separately combine with distinct (internal) arguments, (b) cooccur with I(nfl)-related markers (e.g., aspect), and (c) be separated by intervening headlike adverbs. I conclude from these facts that the sequences  $V_1$ -XP- $V_2$  and  $V_1$ - $V_2$ -XP in (1) involve more structure than a simple VP shell allows for. Finally, I argue against a view of series that makes them exceptional even in languages where they occur.

### 2.1 Abandoning the Argument-Sharing Hypothesis

The Gungbe sentences in (3) illustrate SVCs often described as object-sharing series (e.g., Westermann 1930, Stewart 1963, Ansre 1966, Lord 1973, Bamgboṣe 1974).

<sup>2</sup> This view recalls Cinque’s (2004) proposal for restructuring verbs in Romance and Germanic. For the view that restructuring can also take place between two lexical verbs, see Wurmbrand 2001 and Cardinaletti and Shlonsky 2004.

- (3) a. Sétù zé kpò ló xò Kójó.  
 Setu take stick DET hit Kojo  
 ‘Setu took the stick hit Kojo (i.e., he hit him with the stick).’  
 b. Sétù nyàn Kójó yì Kútònù.  
 Setu chase Kojo go Cotonou  
 ‘Setu chased Kojo go to Cotonou (i.e., he chased him to Cotonou).’  
 c. Àsíbá d̀à lésì d̀ù.  
 Asiba cook/prepare/make rice eat  
 ‘Asiba cooked/prepared/made the rice eat (i.e., she ate the rice).’

Sentence (3a) illustrates an instrument SVC: the instrument of  $V_2$  is the theme of  $V_1$ . Sentence (3b) illustrates a resultative SVC: the internal argument of the unaccusative  $V_2$  is the theme of  $V_1$ . In the consecutive SVC (3c),  $V_1$  and  $V_2$  share the same internal argument.<sup>3</sup> The tendencies in (4) are often considered typical of these series.

- (4) a. The verbs in SVCs ‘‘share’’ the same arguments.  
 b. SVCs tend to force a ‘‘single event’’ reading.  
 c. The verbs in SVCs are associated with a single tense specification.  
 d. SVCs involve no coordinating conjunction.

Early transformational analyses of SVCs assumed that object sharing (4a) results from deletion of the internal argument under identity. Baker (1989) abandons the notion of deletion under identity and reinterprets the facts in (4) in terms of the ASH. The latter is a consequence of double-headed VPs where  $V_1$  and  $V_2$  directly  $\theta$ -mark the internal argument. (3c) is therefore derived as in (5).

- (5) [<sub>S</sub> Àsíbá [<sub>I</sub> [<sub>VP</sub> [<sub>V'</sub> [<sub>d</sub> <sub>a</sub><sub>V<sub>1</sub></sub> lésì d̀ù<sub>V<sub>2</sub></sub>]]]]]

Assuming the Projection Principle, Baker (1989:527) concludes that because ‘‘the object of  $V_1$  is an immediate constituent of a  $V'$  projection of  $V_2$ ,  $V_2$  *must*  $\theta$ -mark it, just as any other verb must  $\theta$ -mark its object. Thus, the Projection Principle predicts that object sharing is not only possible in SVCs, but obligatory.’’ This conclusion has far-reaching theoretical and empirical consequences. For instance, no internal argument can appear after  $V_2$ . In addition,  $V_2$  cannot license an overt pronoun object coreferential with the first object (Baker 1989:527). Similarly, this analysis implies that Universal Grammar includes a ‘‘serializing parameter’’ that sets serializing languages (e.g., Gungbe) apart from nonserializing ones (e.g., English). The following discussion shows that these conclusions cannot be maintained for all SVCs and that the ASH must therefore be rejected.

<sup>3</sup> For more than two verbs, see da Cruz 1993, 1995, Tossa 1993, Ameka 2004, 2005.

Consider, for instance, the following Gungbe SVC where  $V_1$  and  $V_2$  apparently select for an internal argument and there is no argument sharing in Baker's sense:<sup>4</sup>

- (6) Òjé! Sésínú kùn mótò cè sọ \*(àdó).  
 EXCL Sesinou drive car 1SG.POSS hit wall  
 'Sesinou drove my car hit the wall (i.e., he drove my car into the wall)!'

In discussing Sranan examples comparable to (6), Baker (1989) indicates that they involve covert coordination and should be formally distinguished from SVCs proper. The latter, he claims, must obey the ASH. Two crucial syntactic tests used by Baker to distinguish between coordination and serialization are these: (a) SVCs involve a single tense and negation marker, while coordinate structures involve distinct tense and negation markers in each conjunct; (b) SVCs show no sensitivity to extraction of arguments, while coordinate structures display island effects typical of such structures. To make sure that (6) is not a (covert) coordinate structure, let us first consider coordinate structures in Gungbe.

*2.1.1 Coordinate Structures in Gungbe* Gungbe sentence coordination involves two types of conjunction: *bò* coordinates two IPs involving two distinct subjects (7a) or coreferential pronouns, while *bò* coordinates two IPs where the subject of the first IP necessarily controls that of the second (7b).

- (7) a. Sésínú d̩à lésì *bò* Súrù d̩ù n̩sónú.  
 Sesinou cook rice COORD Suru eat soup  
 'Sesinou cooked rice and Suru ate soup.'  
 b. Sésínú<sub>i</sub> d̩à lésì *bò* pro<sub>i</sub> d̩ù n̩sónú.  
 Sesinou cook rice COORD eat soup  
 'Sesinou cooked rice and ate soup.'

It is crucial to stress that Gungbe does not have covert coordination of any sort. Within the Gbe languages, Gungbe and Fongbe require an overt coordinator (i.e., *bò* or *bò*) in contexts where Ewegbe, discussed by Collins (1997:465), has covert coordination.

- (8) a. Kòfí ná d̩ù lésì \*(*bò*) ná yì xòmè. (Gungbe)  
 b. Kòfí ná d̩ù mólínkún \*(*bò*) ná yì xòmè. (Fongbe)  
 c. Kòfí á d̩ù mólú . . . á yì xòmè. (Ewegbe)  
 Kofi FUT eat rice (COORD) FUT go room  
 'Kofi will eat rice and will go into the room.'

<sup>4</sup> Example (i) shows that series can also involve inherent complement verbs (ICVs).

- (i) Ỳ̀kpó lé yì d̩ó-wèzùn gb̩̀n àxìmè.  
 child PL go plant-race pass market  
 'The children went running through the market.'

In their citation form, these verbs require an internal argument. I will not discuss these examples here because such discussion requires a proper syntactic analysis of ICVs that would lead us too far afield (Manfredi 1991, Agbedor 1994, Essegbey 1999). What matters here is that if the ICV in (i) takes an (incorporated) argument on its own, there can be no argument sharing with  $V_2$ , contra Baker (1989).

Given that the required conjunction *bò* or *b̀ò* is missing in (6), we already have an indication that this example does not involve coordination.

2.1.2 *Distinguishing between Coordinate Structures and Verb Series in Gungbe* The coordinate structures in (8) also indicate that each conjunct has its own tense marker.<sup>5</sup> The same holds of the examples in (9), where negation and tense markers may occur in either conjunct (or both).

- (9) a. Kòfí *má ná wá fí bò ná ðú wè.*  
 Kofi NEG FUT come here COORD FUT dance dance  
 ‘Kofi will not come here and will dance.’  
 b. Kòfí *má ná wá fí bò má ná ðú wè.*  
 Kofi NEG FUT come here COORD NEG FUT dance dance  
 ‘Kofi will not come here and will not dance.’

In the Gungbe series, however, I(nfl) specifications occur on  $V_1$  only and cannot precede  $V_2$ . The negation *má* and tense marker *ná* precede  $V_1$  *kùn* ‘drive’ in (10a), but they cannot occur with  $V_2$  *só* ‘hit’, as shown in (10b).

- (10) a. Sésínú! *À má ná ṣ kùn mótò cè só àdó égbè.*  
 Sesinou 2SG NEG FUT again drive car 1SG.POSS hit wall today  
 ‘Sesinou! You will not again drive my car hit (i.e., into) the wall today!’  
 b. \*Sésínú! *À má ná ṣ kùn mótò cè má ná só àdó égbè.*  
 Sesinou 2sg NEG FUT again drive car 1SG.POSS NEG FUT hit wall today

These examples show that Gungbe coordinate structures do not obey generalization (4c), which holds of the verb series in (6) and (10a), though the latter violate the ASH (4a).

Nevertheless, given that covert coordination does exist in Gbe (8c), and in serializing languages generally (Baker 1989), one can imagine that covert coordination in Gungbe is restricted to VP coordination. Evidence that this view is not tenable comes from extraction facts. Example (11a), a variant of (9a) without the negation marker, allows *wh*-extraction of all arguments under focusing or *wh*-question formation (11b–g).

- (11) a. Sésínú *ná kùn mótò cè só àdó!*  
 Sesinou FUT drive car 1SG.POSS hit wall  
 ‘Sesinou will drive my car hit the wall!’  
 b. Sésínú *wè ná kùn mótò cè só àdó!*  
 Sesinou FOC FUT drive car 1SG.POSS hit wall  
 ‘SESINOu will drive my car hit the wall!’  
 c. Mótò cè *wè Sésínú ná kùn só àdó!*  
 car 1SG.POSS FOC Sesinou FUT drive hit wall  
 ‘Sesinou will drive MY CAR hit the wall!’

<sup>5</sup> Gungbe differs from English, where future tense or negation may take scope over the second conjunct as in *Everybody will jump or dance* versus *Everybody will jump or will dance*.

- d. Àdó wè Sésínú ná kùn mótò cè só!  
 wall FOC Sesinou FUT drive car 1SG.POSS hit  
 ‘Sesinou will drive my car hit THE WALL!’
- e. Mènú wè ná kùn mótò cè só àdó?  
 who FOC FUT drive car 1SG.POSS hit wall  
 ‘Who will drive my car hit the wall?’
- f. Été wè Sésínú ná kùn só àdó?  
 what FOC Sesinou FUT drive hit wall  
 ‘What will Sesinou drive hit the wall?’
- g. Été wè Sésínú ná kùn mótò cè só?  
 what FOC Sesinou FUT drive car 1SG.POSS hit  
 ‘What will Sesinou drive my car hit?’

Such extractions are unexpected under a coordination analysis. An *LI* reviewer suggests that these examples could involve base-generation of the focused element or *wh*-phrase in clause-initial position, from which location it binds a null pronoun within the IP. In Aboh 2004c:chap. 7, I show that this option is not available in Gungbe, because these constructions display minimality effects typical of movement operations. In (12), for instance, an argument *wh*-phrase cannot cross an intervening adjunct *wh*-phrase.

- (12) \*Été<sub>i</sub> wè ùn kànbíó dè hwèténù<sub>j</sub> wè Sésínú ná kùn t<sub>i</sub> só àdó t<sub>j</sub>?  
 what FOC 1SG ask that when FOC Sesinou FUT drive hit wall  
 ‘What did I ask you when Sesinou will drive hit the wall?’

In Aboh 2004c:chap. 7, I analyze *wh*-questions and focus constructions as involving movement to the specifier of a FocP headed by the focus marker *wè*. With this analysis in mind, let us consider (7a), repeated here, in the context of extraction.

- (7) a. Sésínú dâ lési b̂ Súrù d̂ n̂sónú.  
 Sesinou cook rice COORD Suru eat soup  
 ‘Sesinou cooked rice and Suru ate soup.’

Unlike the examples in (11), the following examples indicate that extraction out of a coordinate structure is possible only in an across-the-board fashion such that the two conjuncts contain a variable bound by the same *wh*-operator, as in (13c) (Ross 1967):

- (13) a. \*Été<sub>i</sub> wè Sésínú dâ t<sub>i</sub> b̂ Súrù d̂ n̂sónú?  
 what FOC Sesinou cook COORD Suru eat soup  
 ‘What did Sesinou cook and Suru ate soup?’
- b. \*Été<sub>i</sub> wè Sésínú dâ lési b̂ Súrù d̂ t<sub>i</sub>?  
 what FOC Sesinou cook rice COORD Suru eat  
 ‘What did Sesinou cook rice and Suru eat?’
- c. Été<sub>i</sub> wè Sésínú dâ t<sub>i</sub> b̂ Súrù d̂ t<sub>i</sub>?  
 what FOC Sesinou cook COORD Suru eat  
 ‘What did Sesinou cook and Suru ate?’

Furthermore, in series, but not in coordinate structures,  $V_2$  cannot license a pronoun coindexed with the object of  $V_1$ .

- (14) a. \*Sésínú ná kùn mótò cè zé é sò àdó!  
 Sesinou FUT drive car 1SG.POSS take 3SG hit wall  
 ‘Sesinou will drive my car take it hit the wall!’  
 b. Sésínú ðà lésì b̀̀ Súrù sà-è kpó!  
 Sesinou cook rice COORD Suru sell-3SG all  
 ‘Sesinou cooked rice and Suru sold it all!’

Put together, these facts lead me to conclude that examples (6), (10a), and (11), where  $V_1$  and  $V_2$  appear to take different internal arguments (and therefore violate the ASH) are bona fide SVCs. This observation makes the ASH a rather weak condition.

*2.1.3 Instrument Series and the Argument-Sharing Hypothesis* A final empirical fact that further weakens the ASH as a condition on SVCs comes from instrument series of the type in (3a). According to Baker (1989), in this context  $V_2$  is a triadic verb that assigns an instrument (or manner)  $\theta$ -role to the object of  $V_1$ . Yet the Fongbe sentence in (15) appears to be a counterexample to this claim because the instrument is introduced by a preposition. The latter is associated with a gap, presumably an empty category whose antecedent is the object sandwiched between  $V_1$  and  $V_2$  (da Cruz 1997).

- (15) Kòkú sò [jìvì s̀̀] s̀̀n ẁ̀xúxú s̀̀ ná ec̀̀.  
 Koku take knife DET cut bread DET with  
 ‘Koku cut the bread with the knife.’ (Fongbe)

Since this shared object can be extracted under *wh*-question formation (16), unlike in coordinate structures, we have to conclude that example (15) is a well-formed SVC.

- (16) Été̀ ẁ̀ Kòkú sò s̀̀n ẁ̀xúxú s̀̀ ná ec̀̀?  
 what FOC Koku take cut bread DET with  
 ‘What did Koku cut the bread with?’ (Fongbe)

If, as da Cruz (1997) convincingly argues, *ná*  $\theta$ -marks the instrument/manner argument in these Fongbe examples, then  $V_2$  *s̀̀n* ‘cut’ cannot be a triadic verb that jointly  $\theta$ -marks the object of  $V_1$  *jìvì s̀̀* ‘the knife’. Accordingly,  $V_1$  and  $V_2$  do not *share* the same object in a Fongbe ‘take’ series (see also Campbell 1996). This closes the case of the ASH, which must be rejected (see also Manfredi 2005). I now turn to the VP shell analysis.

## 2.2 The VP Shell Analysis of Serial Verb Constructions

Given that Baker’s (1989) ternary structure is at odds with standard assumptions of X-bar theory, certain authors propose to translate the ASH into syntactic structures involving VP shells. A sentence like (3c), repeated here as (17a), is therefore said to involve the partial derivation in (17b) where all arguments are symmetrically introduced to the left. The external argument is introduced by little *v*, while the direct object is introduced by  $V_1$ . The latter subsequently raises



past the object and adjoins to *v*, where it is licensed. On the other hand, Spec,VP<sub>2</sub> hosts an empty category *pro*, which is controlled by the object of V<sub>1</sub> (see Larson 1991, Collins 1997, 2002, da Cruz 1997, Stewart 1998).

- (17) a. Àsíbá d̀à                                      lésì d̀ù.  
           Asiba cook/prepare/make rice eat  
           ‘Asiba cooked/prepared/made the rice eat (i.e., she ate the rice).’  
       b. . . . [<sub>VP</sub> Àsíbá [<sub>v</sub> d̀à [<sub>VP<sub>1</sub></sub> lésì<sub>i</sub> [<sub>V<sub>1</sub></sub> t<sub>d̀à</sub> [<sub>VP<sub>2</sub></sub> *pro*<sub>lésì</sub> [<sub>V<sub>2</sub></sub> d̀ù]]]]]]]]

The VP shell analysis per se solves the technical problems of ternary structures. It also offers a technical solution to cases of object mismatch and instances of deletion under identity, without any further stipulation. However, a VP shell approach to SVCs that relies on obligatory control only to meet the ASH cannot accommodate series such as those in (6), (9), and (11), where control cannot hold.

With the ASH gone, we now face the question of whether obligatory control holds of series in general or is used selectively in cases like (17a) where the verbs apparently share the same internal argument. I postpone this question until section 3.5, where I discuss consecutive series. In the remainder of this section, I show that the VP shell in (17b) must be expanded to include other syntactic positions. Indeed, structure (17b) cannot handle the Akan example (18) where V<sub>1</sub> and V<sub>2</sub> are individually marked by a tense/aspect marker and V<sub>2</sub> may be followed by a pronoun.

- (18) Kofí bɔ-ɔ                      Áma ku-u                      no.                      (Akan)  
           Kofi strike-PAST Ama kill-PAST 3SG  
           ‘Kofi hit Ama and killed her.’  
           (Ameke 2004:14)

Under the assumption that tense/aspect is a syntactic category (e.g., Tenny 1987, Cinque 1999), I hypothesize that there must be some I-type functional projection (e.g., AspP) between VP<sub>1</sub> and VP<sub>2</sub> that expresses tense/aspect specifications that match those of the I-system above V<sub>1</sub> (see also Veenstra 1996, 2000). This idea is compatible with data from Edó. In this language, certain middle-field adverbs (e.g., *gié!gié* ‘quickly’), which Stewart (1998) treats as heads, intervene between the object and V<sub>2</sub>.

- (19) Òzó d̀ùnmwún èmà [gié!gié] khién.                      (Edó)  
           Ozo V<sub>1</sub>-pound yam quickly V<sub>2</sub>-sell  
           ‘Ozo pounded the yam and quickly sold it.’  
           (Stewart 1998:34)

Given Cinque’s (1999) analysis of event modifiers as expressions of dedicated functional projections, sometimes corresponding to AspPs, this example can be interpreted as showing that there exists an aspect position and an agreement/case position between V<sub>1</sub> and V<sub>2</sub>. I therefore conclude that SVCs do not involve stacking structures where two or more finite verbs are embedded under a single vP, as in (17b). Instead, there appear to be some functional projections intervening between the two verbs. Consequently, (17b), which was adopted in previous work, must be

amended to capture these facts. As I argue here, an alternative is to propose that  $V_1$  and  $V_2$  belong to two different domains of the clause structure:  $V_2$  merges as the head of the lexical field of which  $V_1$  realizes a functional head within the extended functional field (see section 3).

Summarizing, the discussion shows that the ASH is not a necessary condition on serialization because it is freely violated by series where  $V_1$  and  $V_2$  do not share an argument. I have also demonstrated that the space between  $V_1$  and  $V_2$  involves more syntactic positions than previously assumed because it may involve tense/aspect markers, adverbs, and clitic pronouns. The next question to address relates to the structure of SVCs proper. I begin by comparing SVCs with object-verb constructions.

### 2.3 Against Serializing Exceptionalism

Because SVCs are regarded as typical of some language types, much effort has been devoted to finding comparable constructions in nonserializing languages. Parallels with secondary predicates are often evoked in this respect (Larson 1991).<sup>6</sup> Here, I abandon this view and compare SVCs with structurally similar constructions in the same languages where SVCs are found. In Gbe (and Kwa), the best candidates are object-verb constructions (OVCs).

2.3.1 *Object-Verb Constructions versus Serial Verb Constructions* Examples (20a–d) illustrate OVCs in Gungbe (Manfredi 1997, Aboh 2003, 2004c, 2005).

- (20) a. Àsíbá jè lésì qù jí.  
Asiba reach rice eat PRT  
'Asiba started eating rice.'
- b. Àsíbá wá lésì qù gbé.  
Asiba come rice eat PRT  
'Asiba came in order to eat rice.'
- c. Àsíbá tò lésì qù`.  
Asiba PROG rice eat.PRT<sup>7</sup>  
'Asiba is eating rice.' (progressive)
- d. Àsíbá gbé lésì qù.  
Asiba refuse rice eat  
'Asiba refused to eat rice.'

<sup>6</sup> Such parallels wrongly suggest that serializing languages lack nonverbal secondary predicates. Yet Gbe languages involve adjective secondary predicates (Ameka 2005).

(i) Yé qù làn ló mǔ.  
3PL eat meat DET raw  
'They ate the meat raw.'

<sup>7</sup> The sentence-final floating tone (') glossed as *PRT* derives from a sentence-final particle typical of progressive aspect in Gbe (Aboh 2004c).

Most SVCs superficially differ from OVCs in lacking an overt sentence-final morpheme (20a–c), which in conjunction with the preverbal Aux encodes mood/aspect specifications (e.g., inceptive, progressive, purpose). Yet the fact that (20d) lacks a sentence-final particle makes the comparison between OVCs and SVCs worth pursuing.<sup>8</sup>

In addition to word order (i.e.,  $V_1$ /Aux-O- $V_2$ ), OVCs and SVCs display other striking structural similarities and transparency effects, which cannot be accidental. First, both constructions require a single tense and negation. Compare (21) with the SVCs in (10)–(11).

- (21) Àsíbá má ná nò wá lésì òù gbé.  
 Asiba NEG FUT HAB come rice eat PRT  
 ‘Asiba will not habitually come in order to eat rice.’

Second, both SVCs and OVCs allow *wh*-extraction of all arguments. Compare the following OVCs with the SVCs in (11):

- (22) a. Kòfí wè Àsíbá yì xó òù ná ecì gbé.  
 Kofi FOC Asiba go word say PREP PRT  
 ‘Asiba left in order to talk to KOFI.’  
 b. Ménù; wè Àsíbá yì xó òù ná ecì gbé?  
 who FOC Asiba go word say PREP PRT  
 ‘Who did Asiba go to talk to?’

Third, just as certain Kwa languages exhibit an aspect marker associated with  $V_2$  in SVCs (recall the Akan sentence (18)), so Gungbe OVCs allow the prospective aspect marker *ná* to intervene between the object and the lexical verb.

- (23) Àsíbá wá lésì ná òù gbé.  
 Asiba come rice PROSP eat PRT  
 ‘Asiba came in order to eat rice (and she is about to do so).’

Summarizing, OVCs and SVCs display structural similarities. Both constructions involve an auxiliary, an aspectual verb, or a verblike element that delimits a functional layer inside which the object must front to the left of the lexical verb. This functional layer is embedded in a monocause that requires single expression of tense and negation and that exhibits transparency effects in allowing free extraction of its arguments. Taking these facts to be the core properties of OVCs and SVCs, I propose that these constructions form a natural class different from coordinate structures. I now explore the possibility of extending the analysis of OVCs to SVCs.

**2.3.2 Toward a Solution** An obvious fact about the OVC example (23) is that the aspectual unaccusative verb *wá* ‘come’ has no accusative case to assign to its right. In addition, Jaeggli and Hyams (1993:319ff.) have shown on the basis of English aspectual *come* and *go* that such

<sup>8</sup> In what follows, I use a purpose sentence for expository reasons, but the reader should keep examples such as (20d) in mind.

aspectual verbs only have selectional requirements on the agent. The question therefore arises whether the following lexical verb  $\theta$ -marks and case-licenses the left-adjacent DP object. Put simply: is the intervening DP object in a case and  $\theta$ -position? In the context of SVCs, we may inquire whether the DP object between  $V_1$  and  $V_2$  is  $\theta$ -marked and case-licensed by  $V_1$  and  $V_2$ , as one would expect under the ASH. Let us first consider OVCs, hoping to extend our findings to SVCs.

Given sentence (23), and assuming that Gbe languages are underlyingly SVO, it is in principle possible to claim that the object has inverted for case reasons. However, in discussing VO versus OV alternation in Gbe, I have shown elsewhere (Aboh 2004c:chaps. 5 and 6) that the preverbal position is not a case position. I will not review all the arguments presented there. Instead, I will mention only some points relevant for this discussion.

1. The inverted object is not in a  $\theta$ -position left-adjacent to the verb; instead, it is left-adjacent to the prospective aspect marker *ná* (23). This marker also occurs with unergative verbs, where there is no accusative case to assign (24). Therefore, prospective *ná* does not case-license or  $\theta$ -mark the element to its left.

- (24) Xè ló tò ná zróń`.  
 bird DET PROG PROSP fly.PRT  
 ‘The bird is just about to fly.’

2. Weak (or clitic) object pronouns—which show case morphology in Gungbe—cannot precede the prospective aspect marker, but must follow the verb (25). This can be interpreted as evidence that case is determined to the right of the lexical verb (i.e., within vP). Accordingly, verb-object inversion in OVCs must be triggered by some other principle of the grammar than case checking.

- (25) a. Àsíbá tò ná sà è ná mì`.  
 Asiba PROG PROSP sell 3SG PREP me.PRT  
 ‘Asiba is just about to sell it for me.’  
 b. \*Àsíbá tò è ná sà ná mì`.  
 Asiba PROG 3SG PROSP sell PREP me.PRT

3. The preverbal object position can be occupied by various elements that must invert in the absence of any argument. Some of these elements are certain reduplicated adverbs (26), OVV gerunds (27), and a goal argument, as in double object constructions where the theme is *wh*-extracted (28).

- (26) a. Àsíbá tò [sìn] nù dèdè`.  
 Asiba PROG water drink slowly.PRT  
 ‘Asiba is drinking water slowly.’  
 b. Àsíbá tò [dèdè] zón`.  
 Asiba PROG slowly walk.PRT  
 ‘Asiba is walking slowly.’

- (27) Àsíbá tò [mótò kùnkùn] ná kplón`.  
 Asiba PROG car drive.drive PROSP learn.PRT  
 ‘Asiba is just about to learn to drive a car.’
- (28) a. À tò hàn kplón Kòfí`.  
 2SG PROG song teach Kofi.PRT  
 ‘You are teaching Kofi a song.’ (theme > V > goal)
- b. Été wè à tò Kòfí kplón`?  
 what FOC 2SG PROG Kofi teach.PRT  
 ‘What are you teaching Kofi?’ (goal > V . . .)

It appears from the above data that verb-object inversion is not triggered by case considerations. All in all, there seems to be a constraint in Gungbe OVCs that a position left-adjacent to the prospective aspect marker *ná* must be filled in overt syntax by a DP object or by another maximal category (e.g., an adverb or a gerund, elements that are not case-marked or  $\theta$ -marked). In addition, object clitics must occur right-adjacent to the verb, itself following the prospective marker. I conclude from this that both DP objects and clitic pronouns first merge in a position to the right of the verb—where they are  $\theta$ -marked and case-licensed—but DP objects subsequently raise to the preverbal position related to the prospective aspect marker. Under the view that this marker heads its own projection (AspP), I propose that Asp, sometimes realized as *ná*, has an EPP feature that must be checked before Spell-Out (Aboh 2004c:chap. 6). Put another way, the inverted object moves to Spec,AspP to check the EPP feature under Asp. That various elements can target this position, as shown in (26)–(28), suggests that Spec,AspP is indeed an EPP position independent of case. The following facts about verb reduplication bear out this hypothesis.

We have seen that OVCs exhibit inversion of an argument or an adjunct to Spec,AspP. When inversion is impossible, the verb reduplicates. This happens in two situations. (a) The verb is intransitive; compare (29a) with its progressive equivalent (29b).

- (29) a. Jíkù jà.  
 rain fall  
 ‘It rained.’
- b. Jíkù tò jìjà`.  
 rain PROG fall.fall.PRT  
 ‘It is raining.’

(b) The internal argument is a clitic pronoun (30a) or is being *wh*-extracted (30b).

- (30) a. Súrù tò sísà è ná mì`.  
 Suru PROG sell.sell 3SG PREP me.PRT  
 ‘Suru is selling it for/to me.’
- b. Été<sub>i</sub> wè Súrù tò sísà t<sub>i</sub> ná mì`?  
 what FOC Suru PROG sell.sell PREP me.PRT  
 ‘What is Suru selling for/to me?’

Interestingly, however, the prospective aspect marker blocks reduplication in all contexts. Consider the following counterparts of the examples in (29) and (30):

- (31) a. Jíkù tò ná (\*jì)jà` .  
rain PROG PROSP fall.PRT  
‘It is just about to rain.’  
b. Súrù tò ná (\*sì)sà è ná mì` .  
Suru PROG PROSP sell 3SG PREP me.PRT  
‘Suru is just about to sell it for/to me.’  
c. Été<sub>i</sub> wè Súrù tò ná (\*sì)sà t<sub>i</sub> ná mì` ?  
what FOC Suru PROG PROSP sell PREP me.PRT  
‘What is Suru just about to sell for/to me?’

That *wh*-extraction in (30b) triggers reduplication suggests that Spec,AspP, which otherwise hosts the inverted constituent, acts as if it were empty. Recall that reduplication applies only if nothing fronts to Spec,AspP ((29b), (30)). Accordingly, reduplication in the context of *wh*-extraction (30b) indicates that the displaced constituent cannot transit through Spec,AspP on its way to the left periphery (Aboh 2004c:217). Following Rizzi and Shlonsky (2007), I take this property to relate to the freezing nature of EPP positions in general. I therefore conclude that the extracted constituent cannot check the EPP feature under Asp on its way to the left periphery because Spec,AspP is a freezing position. This conclusion leads to another interesting fact about this position: it never attracts the canonical subject. Consequently, example (32), with an expletive in the canonical subject position and the subject frozen in Spec,AspP, is ruled out.<sup>9</sup>

- (32) \*É tò jíkù ná jà` .  
EXPL PROG rain PROG fall.PRT  
‘It is just about to rain.’

If Spec,AspP is an EPP position (i.e., a freezing position) and Asp has no case feature to check, we expect (32) to be correctly ruled out in Gungbe because the subject is frozen in Spec, AspP, where it checks the EPP but receives no case.

With this in mind, and adopting the analysis of right-edge particles in Aboh 2004b,c, 2005—which force pied-piping of their complement to their specifier—I propose that OVCs exhibit the structure in (33).<sup>10</sup> Aux/V<sub>1</sub> merges under an AspP that dominates the functional sequence introduced by the particle under F. The latter dominates an array of functional projections

<sup>9</sup> Under Rizzi and Shlonsky’s (2007) proposal, a freezing position is a criterial position that terminates the chain. I do not endorse this view here, though it is compatible with the proposed analysis. In my treatment of OVCs in Aboh 2004c:chap. 6, I suggested that the OV sequence, here FP, is a lower predicate of which the element in Spec,AspP behaves like a subject. This of course is compatible with Rizzi and Shlonsky’s subject criterion.

<sup>10</sup> These may include the focus marker, as illustrated in (i) (Aboh 2004b, 2004c:chap. 8).

(i) [Sésínú ná kùn mótò cè sò àtín] wè!  
Sésinou FUT drive car 1SG.POSS hit tree FOC  
‘SESINOU WILL DRIVE MY CAR HIT A TREE!’


including an AspP headed by the prospective marker and endowed with an EPP feature. AspP dominates the VP shell containing the lexical verb.

- (33)  $[_{AspP} \text{ Aux/V}_1 [_{FP}[_F \text{ PRT } [_{AspP}[_{Asp}[_{VP}[_{v_{ext}}[_{VP}[_{v_{appl}}[_{VP} \text{ V}]]]]]]]]]]]]]]]]]]]]]$

Though the line of argumentation is the same, the structure in (33) differs from the one proposed in Aboh 2003, 2004c, 2005 in that it dispenses with a VP-internal Agr<sub>O</sub>P responsible for accusative case licensing. Here, I follow Marantz (1993) and Collins (1996) in assuming an extended VP shell structure where the object merges as complement of V<sub>2</sub>. Furthermore, v<sub>appl</sub> introduces the indirect object (or the instrument) and checks the case of the direct object, while v<sub>ext</sub> introduces the external argument and checks the case of the indirect object. Given that Spec,AspP is subject to an EPP requirement, I suggest that Gbe languages meet this requirement thanks to verb-object inversion. In what follows, I keep the term *verb-object inversion* even though what fronts is sometimes a nearby constituent rather than the direct object (see (27) and (28)).

Following Aboh 2004c, I propose that in simple OVCs, the lexical verb merges under V<sub>2</sub>, and the direct object merges as its internal argument to form VP<sub>2</sub>. VP<sub>2</sub> merges with v<sub>appl</sub> (responsible for checking accusative case) to form vP. The latter merges with v<sub>ext</sub>, which introduces the external argument to form a higher vP, which in turn merges with the aspect head Asp to form AspP. V<sub>2</sub> raises to Asp to check its aspect features (if the latter is not realized as the prospective aspect marker *ná*). The object raises to Spec,AspP to check the EPP feature under Asp.

Recall that Asp has no case feature to check and that the external argument cannot transit through Spec,AspP on its way to Spec,TP because Spec,AspP is a freezing position. Accordingly, Asp cannot attract the external argument, even though the latter is a closer target. Instead, the external argument must move to the canonical subject position to check both case and EPP features under T (I thus assume that the pure EPP feature under Asp should be formally distinguished from case/agreement EPP features under T; see also Collins 2004). AspP, now containing the fronted object, merges with the particle expressing F to form FP. I further argue that this particle surfaces at the right periphery of the clause because it belongs to the class of Gbe functional items that attract the phrase under their scope (here AspP) into their specifier position. Finally, FP merges as the complement of the first verb (Aux/V<sub>1</sub>), which itself merges under a higher Asp. Under this approach, sentence (20b)—repeated as (34a)—has the partial derivation in (34b).<sup>11</sup>

- (34) a. Àsíbá wá lésì òù gbé.  
 Asiba come rice eat PRT  
 ‘Asiba came in order to eat rice.’  
 b.  $[_{AspP} \text{ wá } [_{FP}[_F \text{ gbé } [_{AspP}[_{Asp} \text{ lésì } [_{VP} \text{ t}_{\text{Asíbá}} [_{v_{ext}} \text{ t}_{\text{òù}} ] [_{VP}[_{VP} \text{ t}_{\text{òù}} \text{ t}_{\text{lésì}}]]]]]]]]]]]]]]]]]]]]]$
- 

<sup>11</sup> Under proposals made in Aboh 2004c, the complement of Aux/V is a small clause involving a CP layer (here FP) and an IP layer (AspP). This formulation does not bear in any significant way on the conclusions reached in this article.

When the object is extracted as in (35a), pronominalized, or simply missing, I propose that a null expletive is merged in Spec,AspP that has to be licensed. This null expletive, I claim, is licensed under a specifier-head configuration either by the prospective marker *ná* under Asp, which then blocks reduplication, or by the verb that has moved to Asp and reduplicates there. Accordingly, this null expletive is licensed by specifier-head agreement, which in these morphologically poor languages translates into verb reduplication. The derivation is partially represented in (35b).<sup>12</sup>

- (35) a. *Étɛ̀ wɛ̀ ʌ̀sɪbá wá d̀ùd̀ù gbé?*  
 what FOC Asiba come eat.eat PRT  
 ‘What did Asiba come to eat it?’
- b.  $[_{\text{AspP}} wá [_{\text{FP}} [_{\text{F}} gbé [_{\text{AspP}} \text{expl} [_{\text{Asp}} d̀ùd̀ù [_{\text{VP}} t_{\text{Asibá}} [_{\text{V}_{\text{ext}}} t_{d̀ù} [_{\text{VP}} [_{\text{VP}} t_{d̀ù} t_{\text{étɛ̀}}]]]]]]]]]]]$
- 

I will not elaborate further on derivations (34b) and (35b); for discussion, see Aboh 2004c: chap. 6, 2005, and references cited there. The relevant conclusion for the present discussion is that the inverted object moves to a derived position that counts as an EPP position. Returning to SVCs, which I regard as an instance of OVC, the question now arises how they can be analyzed under structure (33).

### 3 Verb Series in Gungbe (Kwa)

Before getting into the details of analyzing SVCs in Gungbe under structure (33), we need to make one crucial observation: SVCs, like the OVC example (20), never exhibit a sentence-final particle. This leaves open the question of whether SVCs also involve the projection FP headed by a null morpheme (which may trigger pied-piping of AspP to Spec,FP); see section 2.3.1. For the sake of the discussion, I tentatively assume that SVCs involve FP even though it is not overtly realized in Gbe. In section 4, I show that certain Kwa (and Khoisan) languages may make use of this position in verbal compounds.

Another question that arises under the unified structure for OVCs and SVCs in (33) is how  $V_1$ , which is comparable to an Aux, apparently case-marks and  $\theta$ -marks the following object in a  $V_1$ -O- $V_2$  sequence. This question remains even if we abandon the ASH as proposed in section 2. In answering this question, I take the strong position that  $V_1$  has no internal  $\theta$ -role to assign and does not determine the case feature of the object to its right. Several facts support this view. I start with instrument and comitative SVCs.

<sup>12</sup> A reviewer points out that in principle, vP/VP can move to Spec,AspP to satisfy the EPP. Though possible, this option seems unavailable in Gungbe OVCs, for reasons still unclear to me. An interesting hypothesis, also suggested by the reviewer, is that SVCs never show verb reduplication because, unlike OVCs, they allow the vP/VP-to-Spec,AspP option when object inversion fails. I hope to return to this hypothesis in future work.





and SVCs are seen as ‘LF compounds.’ The analysis defended here renders LF incorporation superfluous.

Summarizing, the analysis of instrument and comitative series shows that  $V_1$  and  $V_2$  do not form a complex constituent (in syntax or at LF). Instead,  $V_1$  heads a projection in the higher functional field, while  $V_2$  merges in the lexical field inside the VP shell. Taking the discussion one step further, I propose that  $V_1$  is a functional (or light) verb that has no (internal)  $\theta$ -role to assign.<sup>14</sup> As I now show, ‘take’ series in Gungbe support this new analysis.

### 3.2 On Light $V_1$

In the Gungbe bracketed SVC in (38a) and the example in (38b), the canonical subject is interpreted as the external argument of  $V_2$  only.  $V_1$  ‘take’, on the contrary, does not seem to assign any agent role, nor does it assign a theme role to the following object ‘eye’ or ‘joy’, which cannot fulfill such a semantic function. Instead,  $V_1$  encodes the way the event expressed under  $V_2$  has been carried out (Awóyalé 1988). This is so even though  $V_1$  ‘take’ is used as the main predicate in (38c), where it assigns a  $\theta$ -role to its object (for discussion, see Lefebvre 1991, Den Dikken and Sybesma 1998).

- (38) a. Dáwè ló dọ àdì xòmè ná mì káká, àmón má dọ xó dẹ.  
 man DET put anger bell.in for 1SG until but 1SG.NEG say word one  
 [Ûn zé nùkún kpòn-è] bò wlé àlìò cè.  
 1SG take eye look-3SG COORD catch road 1SG.POSS  
 ‘The man really annoyed me, but I didn’t say anything. I looked at him angrily and went my way (i.e., I stared at him with anger).’
- b. Sétù zé àwájìjè yí yé.  
 Setu take joy receive 3PL  
 ‘Setu received them with joy.’
- c. Sétù zé gbó dèkpó.  
 Setu take goat one  
 ‘Setu took one goat.’

Despite the existence of a lexical verb ‘take’ in Gungbe (38c), the following Akan examples confirm the idea that functional ‘take’ in (38a–b) has no  $\theta$ -role. Indeed, in this language,  $V_1$  *de* (also glossed as ‘take’) can occur in an SVC (39a) even though it cannot license an internal argument on its own (39b) (see Campbell 1989, 1992, 1996).

- (39) a. Kofi de Yaw kɔɔ Kumase. (Akan)  
 Kofi take Yaw go Kumase  
 ‘Kofi took Yaw to Kumase.’

<sup>14</sup> See also Grimshaw and Mester 1988, Hagemeyer 2001.

- b. \*Kofi de Yaw.  
 Kofi take Yaw  
 ‘Kofi took Yaw.’

Together, these examples indicate that  $V_1$  lacks a  $\theta$ -role in such ‘take’ SVCs. This would mean that the instrument to the right of  $V_1$  ‘take’ does not occur in that position for  $\theta$ /case reasons. This observation is compatible with the previous conclusion about the preverbal object in OVCs and is reinforced by example (15), repeated here.

- (40) Kòkú só [jìvì ɔ]ᵢ sɛ́n wòxúxú ɔ ná ecᵢ. (Fongbe)  
 Koku take knife DET cut bread DET with  
 ‘Koku cut the bread with the knife.’

This example shows that the instrument appearing between  $V_1$  and  $V_2$  is actually introduced by the preposition *ná* that has been stranded at the right edge.

### 3.3 Object Movement over Control

In Collins’s (1997) account for SVCs, a sequence like (40) is analyzed in terms of control:  $V_1$  assigns the  $\theta$ -role theme to the instrument, which controls the empty category *pro* introduced by the preposition (see also Veenstra 1996, 2000, da Cruz 1997, Stewart 1998, Collins 2001, 2002, Baker and Stewart 2002).

However, if  $V_1$  does not assign the  $\theta$ -role theme in ‘take’ series, as suggested by (38) and (39), then it is not clear to me what the formal reason would be to merge the instrument as a theme of  $V_1$  and have it control the empty category introduced by the preposition. In addition, an analysis of (40) in terms of control has to face the puzzling fact that this instance of obligatory control does not respect the Minimal Distance Principle often typical of obligatory control (see, e.g., Hornstein 1999).

Taking this into account, and in the absence of compelling evidence favoring a control analysis for these cases, I opt for a much simpler analysis: the empty category to the right of the preposition is a copy of the inverted object. Put differently, series involve a copy of the inverted object in the extraction site. I argue that this copy is subsequently deleted under identity, or because it is nondistinct from the head of the chain (Chomsky 1995, Nunes 2004). Under this view, a number of seemingly unrelated facts within Gbe languages fall into place more naturally than they would under a control analysis.

With regard to Fongbe, da Cruz (1997) shows that the preposition *ná* in (40) takes this form only when followed by an empty category. Observe in sentence (41) that the benefactive/instrument preposition surfaces as *nú*. *Ná* is excluded in such contexts.

- (41) Kòkú sà mǒtò ɔ nú/\*ná Àsíbá. (Fongbe)  
 Koku sell car DET to/for Asiba  
 ‘Koku sold the car to/for Asiba.’

When the goal is *wh*-extracted as in (42a), however, only the form *ná* can be used. The *wh*-island effect observed in (42b) suggests that the construction involves movement.

- (42) a. Mě wè Kòkú sà mǒtò ́ ná/(\*nú). (Fongbe)  
 who FOC Koku sell car DET to/for  
 ‘To/For whom did Koku sell the car?’  
 b. \*Mě wè Àsíbá kànbyó q̀ hwétènù wè Kòkú sà mǒtò ́ ná?  
 who FOC Asiba ask that when FOC Koku sell car DET to/for  
 ‘Lit. Who did Asiba ask when Koku sold the car to/for?’

This description carries over to the series in (43), where *nú/ná* alternation also occurs in the context of extraction.

- (43) a. Kòkú sọ̀ jìvì ́ sén wàxúxú ́ ná/\*nú. (Fongbe)  
 Koku take knife DET cut bread DET with  
 ‘Koku cut the bread with the knife.’  
 b. Été Kòkú sọ̀ sén wàxúxú ́ ná/\*nú?  
 what Koku take cut bread DET with  
 ‘What did Koku cut the bread with?’

If *nú/ná* alternation signals a deleted copy to its right rather than general emptiness, then we have a strong argument for an object movement analysis of SVCs. Indeed, the *nú/ná* alternation is reminiscent of other verb (or preposition) alternations where we know movement has taken place. A case in point is the *q̀/̀q̀* or *tò/t̀* variation that occurs in Fongbe and Gungbe, respectively. As shown in Aboh 2004c:255, the auxiliaries (or verbal elements) *q̀* and *t̀* typically occur in progressive sentences and ‘be-located’ constructions (see section 2.3), where the forms *q̀̀* and *t̀̀* are excluded.

- (44) a. Àsíbá q̀̀/\*q̀̀ [mǒtò ́ sà wè]. (Fongbe)  
 b. Àsíbá t̀̀/\*t̀̀ [mótò ló sà `]. (Gungbe)  
 Asiba PROG car DET sell PRT  
 ‘Asiba is selling the car.’

Under focus movement of the complement, however, *q̀̀/̀t̀̀* must be used, not *q̀̀/t̀̀*.<sup>15</sup>

- (45) a. [Mǒtò ́ sà wè]<sub>i</sub> Àsíbá q̀̀/\*q̀̀ t<sub>i</sub>. (Fongbe)  
 b. [Mótò ló sà `]<sub>i</sub> Àsíbá t̀̀/\*t̀̀ t<sub>i</sub>. (Gungbe)  
 car DET sell PRT Asiba PROG  
 ‘Asiba is SELLING THE CAR.’

In (45), the fronted OV strings represent FP in structure (33). Therefore, the gap to the right of *q̀̀/̀t̀̀* is comparable to the gap created by VP-fronting and sanctioned by *do*-support in English (see Chomsky 1995, Aboh 2004c:chap. 7). Since the *nú/ná*, *q̀̀/̀q̀̀*, and *tò/t̀̀* alternation occurs

<sup>15</sup> The same alternation occurs in ‘be-located’ constructions involving *q̀̀/t̀̀* (Aboh 2004c:252ff.).

in extraction contexts in Fongbe and Gungbe, I conclude that it serves to license a gap—a deleted copy. In this regard, I argue in Aboh 2004c:256 that *tò/tè* (or *qò/qè* in Fongbe) is a functional head whose specifier serves as an escape hatch for movement of its complement. The alternating form *tè* (*qè*) is treated as an agreeing form (i.e., *tè* = *tò* + agr; *qè* = *qò* + agr) that reflects movement of the complement through the specifier of *tò* (or *qò*). Unlike the default form, therefore, the agreeing form acquires the ability to license a deleted copy to its right (see also Shlonsky 1991 for a similar view). Applied to *ná* (40), this proposal means that *ná* displays an agreeing form (i.e., *ná* = *nú* + agr) when its complement has been extracted.

This analysis extends to the particle *yi* in Kpele (Ewegbe), which Collins (1997) regards as a default case assigner that is required in resultative series (46) but excluded from transitive constructions where the verb assigns accusative case (47).

- (46) Me nya q̣evi-ε dzo (yi). (Kpele)  
 1SG chase child-DET leave PRT  
 ‘I chased the child away.’
- (47) Kofi fo Yao (\*yi).  
 Kofi hit Yao PRT  
 ‘Kofi hit Yao.’

An analysis that comes to mind here is that Kpele involves a null oblique case assigner whose presence is signaled by *yi* when movement has taken place. To put this differently, we can analyze *yi* as an agreeing preposition (i.e.,  $\emptyset$  + agr) that licenses the copy of the moved complement (i.e., these Gbe examples are comparable to Germanic particle constructions involving movement of the object past the oblique case assigner; see Kayne 1984, Hoekstra 1988). This analysis correctly predicts that, like Fongbe *ná*, the Kpele preposition *yi* cannot precede an in-situ object (48). Instead, the element *ku* ‘with’, which determines instrumental case, must be used (Collins 1997:488).

- (48) \*Kofi fo Yao yi ati-ε. (Kpele)  
 Kofi hit Yao PRT stick-DET
- (49) Kofi fo Yao ku ati-ε.  
 Kofi hit Yao with stick-DET  
 ‘Kofi hit Yao with the stick.’

This analysis sheds a new light on microvariation in Gbe ‘take’ series ((50a) is repeated from (15)/(40)).

- (50) a. Kòkú só jìvì ó sén wòxúxú ó ná. (Fongbe)  
 Koku take knife DET cut bread DET with  
 ‘Koku cut the bread with the knife.’
- b. Kofi tsɔ ati-ε fo Yao yi. (Kpele)  
 Kofi take stick-DET hit Yao with  
 ‘Kofi hit Yao with the stick.’

- c. Kòfi zé àtín ló xò Kòkú —. (Gungbe)  
 Kofi take stick DET hit Koku  
 ‘Kofi hit Koku with the stick.’

The Fongbe and Kpele sentences, (50a–b), are parallel. They involve the agreeing form of the instrument preposition, of which Gungbe manifests the null counterpart only (50c). Therefore, series involve a functional head within the extended projection of  $V_2$  that introduces the instrument/manner argument. That Fongbe and Kpele exhibit agreeing prepositions in this context provides evidence that the instrument/manner argument has raised to a position between  $V_1$  and  $V_2$ .

This analysis fares better than Collins’s (1997) original account, where the postposition *yi* case-marks the complement (i.e., *pro*) of the resultative series (46), represented in (51). This representation wrongly assigns a special status to the particle *yi* among the Gbe postpositions, which generally (unlike *yi*) derive from nouns, fail to assign case, and cannot be stranded (Ameka 2003, Aboh 2004a).

- (51) me nya  $\varphi_{vi-\varepsilon_i}$  [ $v_P$  dzo [ $pro_i$  (yi)]]

I conclude from this discussion that the constituent following  $V_1$  in ‘take’ series has its case checked within the  $vP$  shell (e.g., against  $v_{ext}$ , (36)), but raises to a derived EPP position right-adjacent to  $V_1$ . Therefore, functional  $V_1$  ‘take’ lacks an internal  $\theta$ -role, a property that generalizes to all verbs representing  $V_1$ .  $V_2$ , on the contrary, introduces the internal argument. I now turn to causative and resultative SVCs, which support this view.

### 3.4 Causative Series, Resultative Series, and Subject Mismatch

With the distinction between functional  $V_1$  and lexical  $V_2$  in mind, let us consider causative and resultative series. Here, I show that the proposed analysis both accounts for these series and suggests that certain causative series allow  $V_1$  to introduce the external argument, as causer. Consider these examples, where the relevant sequence is italicized and the following sentences provide the context:

- (52) a. *Kpòndòn lé nyàn àjòtís bíṣ zùngbó mè* bò gbé má xòdó è. Acé  
 policeman PL chase thief enter forest in COORD refuse NEG follow 3SG in.fact  
 yé dọ àvún dọxó dọkpó ní-è dón bọ é má nyó-é. Káká àvún  
 3PL plant dog big one for-3SG there COORD 3SG NEG know-3SG before dog  
 ló ná gbó dọkpó, tón dáwè tówè tón bọ yé zé-è kédè bọ  
 DET FUT bark one exit guy 2SG.POSS exit COORD 3PL take-3SG quietly COORD  
 yì zé sú dọ gànkpámè.  
 go take shut PREP prison

*‘The policemen chased the thief into the bush, but didn’t follow him. Actually, they had a big dog waiting for him in the bush. As soon as the dog barked, he quickly came out and they quietly caught him and put him in jail.’*

- b. *Kpòndòn lé nyàn àjòtò bíṣ zùngbó mè bò yì jè kìnìkíní jí. Ní à*  
 policeman PL chase thief enter forest in COORD go bump lion on if 2SG  
*mò wèzùn, mè dẹ nyì sò gbòn dé, mè dẹ nyì gbákú gbòn*  
 see race some INDEF throw gun pass there some INDEF throw hat pass  
*dé. Àjòtò bà! Kédékékédé wè é bǎi bò xé àtín jí. À má mós dẹ*  
 there thief not slowly FOC 3SG make COORD climb tree on 2SG NEG see that  
*sé dẹ dá àjòtò tò vò!*  
 spirit that.REL create thief is different  
*'The policemen chased the thief into the bush and bumped into a lion. Could you*  
*imagine the race that followed? Some threw their gun away, some threw their hat*  
*away. But certainly not the thief! He quietly climbed into a tree. Well, the creator*  
*of thieves is of a different kind!'*

In (52a), the italicized series has a causative reading: the policemen chased the thief such that he entered the bush. This example suggests that even though the canonical subject is generally introduced by  $V_2$  because  $V_1$  lacks  $\theta$ -roles, there are series where  $V_1$  introduces the canonical subject (here, the policemen).<sup>16</sup> At first sight, one could think that  $v_{ext}$  associated with  $V_2$  also introduces an external argument, such that series of this type would involve two separate subjects, each linked to a verb. Under this analysis, the lower subject ('thief' in this example) would move to Spec,AspP for EPP reasons, while the higher subject ('policemen') would move to the canonical subject position. Given that Spec,AspP is not a case position, it is not clear how the lower subject is case-licensed under this view. I will therefore not follow this analysis.

There are indeed good reasons to think that the Gungbe causative series in (52a) is akin to the French causative in (53a) or more readily to the Hungarian and Japanese causatives in (53b–c).

- (53) a. Marie a fait traverser la ville à Pierre.  
 Marie has made cross the city to Pierre  
 'Marie made Pierre cross the city.'
- b. Péter el-mesél-tette Pál-lal a történet-et.  
 Péter PV-tell-CAUS.PAST.DEF.3SG Pál-COM the story-ACC  
 'Péter made Pál tell the story.'  
 (Anikó Lipták, pers. comm.)
- c. Isya-wa kanzya-ni hoorensoo-o tabe-sase-ta.  
 doctor-TOP patient-DAT spinach-ACC eat-CAUS-PAST  
 'The doctor caused the patient to eat spinach.'  
 (Vinka and Hirota 1995:179)

In these languages, the causee is transparently a syntactic dative or comitative argument, even though it is understood as the subject of the embedded reduced clause. Morphosyntactic differences aside, the Gbe causative SVCs are reminiscent of the Hungarian and Japanese causatives, where

<sup>16</sup> Under proposals made in Stewart 1998 and Baker and Stewart 2002, a Voice head embedding  $V_1$  and  $V_2$  assigns an agent role. See also Roberts 1997 and Wurmbrand 2001 for a similar view on restructuring, contra Cinque 2004.





- b. *É má fá bò mí dó sísé mótò ló xé kpó ló jí.*  
 3SG NEG easy COORD 1PL have push car DET climb hill DET on  
 ‘It was not easy for us to push the car up the hill.’

If only the causative reading derives from the syntactic structure of these series, we can conclude that subject mismatch SVCs are akin to causative structures where the subject or causer is introduced by the CAUSE light verb, here  $V_1$  (see also Lefebvre 1991, Sybesma 1992, 1997, Den Dikken and Sybesma 1998). In other SVCs, however (e.g., instrument or comitative), all arguments are associated with the lexical verb under  $V_2$ .

### 3.5 Consecutive Series

Taking this line of thinking seriously, and following the hypothesis that  $V_1$  is always a functional verb that lacks internal  $\theta$ -roles, let us now consider consecutive series. In this section, I show that consecutive series come in two forms: consecutive SVCs with two internal arguments, and consecutive series with one internal argument.

3.5.1 *Consecutive Series with Two Internal Arguments* The Gungbe example (6), repeated here, represents consecutive series with two internal arguments.

- (57) *Òjé! Séšínú kùn mótò cè só àdó.*  
 EXCL Sesinou drive car 1SG.POSS hit wall  
 ‘Sesinou drove my car hit the wall!’

With the analysis of instrument and resultative series in mind, I propose that consecutive series of this type only look superficially like cases where both  $V_1$  and  $V_2$  have an internal argument. More specifically, I suggest that these consecutive series are akin to causative series and that (57) could be understood (or paraphrased) as ‘Sesinou caused my car to hit the wall’. Under this description, the subject *Séšínú* is introduced as the external argument of  $V_1$ , while the DP *mótò cè* ‘my car’ is introduced by  $v_{\text{appl}}$ , like an instrument or a comitative. The DP *àdó* ‘wall’, on the other hand, merges as the internal argument of  $V_2$ , whose external argument is suppressed. Following previous discussion, the external argument of  $V_1$  moves to Spec,TP for case/agreement and EPP reasons, while the comitative/instrument *mótò cè* moves to Spec,AspP to check the EPP feature under Asp. The derivation is represented in (58).<sup>18</sup>

- (58)  $[_{\text{TP}} \text{Séšínú} [_{\text{AspP}} \text{t}_{\text{Séšínú}} [_{\text{Asp}} \text{kùn} [_{\text{FP}}[_{\text{AspP}} \text{mótò cè} [_{\text{Asp}} \text{só} [_{\text{VP}}[_{\text{v}_{\text{ext}}}[_{\text{VP}} \text{t}_{\text{mótò}} [_{\text{v}_{\text{appl}}} \text{t}_{\text{s5}} [_{\text{VP}_2} \text{t}_{\text{s5}} \text{àdó}]]]]]]]]]]]]]]]]]$

<sup>18</sup> Alternatively, (57) may be treated like instrument/comitative series, as in (i), because it can also be paraphrased as ‘Sesinou hit the wall with my car’. Here  $v_{\text{ext}}$  introduces the external argument *Séšínú*,  $v_{\text{appl}}$  introduces *mótò cè* ‘my car’ as an instrument, and *àdó* ‘wall’ merges as the internal argument of  $V_2$ . Choosing between (i) and (58) requires more study, and I leave the matter for future work.

(i)  $[_{\text{TP}} \text{Séšínú} [_{\text{AspP}}[_{\text{Asp}} \text{kùn} [_{\text{FP}}[_{\text{AspP}} \text{mótò cè} [_{\text{Asp}} \text{só} [_{\text{VP}}[_{\text{v}_{\text{ext}}} \text{t}_{\text{Séšínú}} [_{\text{VP}} \text{t}_{\text{mótò}} [_{\text{v}_{\text{appl}}} \text{t}_{\text{s5}} [_{\text{VP}_2} \text{t}_{\text{s5}} \text{àdó}]]]]]]]]]]]]]]]]]$

Under this analysis, functional  $V_1$  *kùn* ‘drive’ is a CAUSE verb that introduces the causer and specifies how the event expressed by  $V_2$  has been carried out (e.g., driving the car rather than pushing it into the wall).<sup>19</sup> While this analysis of  $V_1$  as a functional verb lacking an internal  $\theta$ -role is conceivable on the basis of examples like (57), things become more complicated when we look at consecutive series with just one internal argument.

*3.5.2 Consecutives with One Internal Argument* In the following sections, I discuss instances of SVCs where two seemingly transitive verbs appear to share a single internal argument. I show that these SVCs do not support the ASH because  $V_1$ , a functional verb, does not select for an internal argument.

*3.5.2.1 On Apparent Argument Sharing and Obligatory Control* Example (3c), repeated here, illustrates consecutive SVCs with one internal argument. In this example, it appears as if  $V_1$  and  $V_2$  share the internal argument because the meaning includes two events, that is, the two VPs [VP cook rice] and [VP eat rice] jointly interpreted.

- (59) Àsíbá d̀à                                      lésì d̀ù.  
 Asiba cook/prepare/make rice eat  
 ‘Asiba cooked/prepared/made the rice eat (i.e., she ate the rice).’

Under this description, it is at first sight doubtful that  $V_1$  here is a functional verb with no  $\theta$ -roles (i.e., agent, theme) to assign to the subject and the object. An apparently easy way out would be to restore the ASH to life and restrict it to consecutive SVCs of this sort, where obligatory control applies. However, some properties of  $V_1$  in such series suggest that this will not work. Consider again (17b), repeated here.

- (60) . . . [VP Àsíbá [v d̀à [VP<sub>1</sub> lésì<sub>i</sub> [V<sub>1</sub> t<sub>d̀à</sub> [VP<sub>2</sub> pro<sub>lésì</sub> [V<sub>2</sub> d̀ù]]]]]]]

*3.5.2.2 Object Movement over Control: The Epilogue* The control mechanism in (60) guarantees the recoverability of *pro* and allows object sharing under the ASH. In formulating this analysis, Collins (1997:474ff.) tentatively chose *pro* as the best candidate for the empty category in SVCs because (a) this empty category is assigned case by the particle *yi* in Kpele, and (b) it occurs in a governed position. Observation (a) eliminates NP-traces, which cannot be assigned case according to Chomsky and Lasnik (1993), and (b) excludes PRO, which cannot be governed.

Under the analysis I propose here, and current minimalist approaches, these two observations are not without problems. First, I have shown that the particle *yi* is not a special case assigner that only shows up to assign case to *pro*, contra Collins (1997). Instead, this particle is a null preposition that takes the agreeing form *yi* when its complement has been extracted. This raises the question whether the gap in series is created by movement, as I am assuming here, rather than by first Merge of *pro* (as in Collins 1997). Second, given Hornstein’s (1999) analysis of obligatory control as movement from one  $\theta$ -position to another  $\theta$ -position, under which PRO is

<sup>19</sup> English *drive* is also causative: *The police drove them out by playing loud music.*

comparable to NP-trace, the view in (b) becomes less straightforward. In Hornstein's terms, representation (60) is formally indistinguishable from (61), where obligatory control arises as a consequence of the internal argument of  $V_2$  moving into the  $\theta$ -position of  $V_1$ , where it is assigned the  $\theta$ -role theme. Here, PRO behaves like a locally bound reflexive.

(61) . . . [<sub>VP</sub> Àsíbá [<sub>v</sub> d̀à [<sub>VP<sub>1</sub></sub> lésì<sub>i</sub> [<sub>V<sub>1</sub></sub> t<sub>d̀à</sub> [<sub>VP<sub>2</sub></sub> PRO<sub>i</sub> [<sub>V<sub>2</sub></sub> d̀ù]]]]]]]]

Given these competing representations, the crucial question is not whether obligatory control in consecutive series with a single argument derives from the ASH (60) or raising (61), but whether  $V_1$  ever assigns a  $\theta$ -role to the linearly following object.

One fact pointing to  $V_1$ 's inability to assign an internal  $\theta$ -role in SVCs is that not all transitive verbs freely occur as  $V_1$ . A fact not much discussed in the literature is that triadic verbs (e.g., *ná* 'give') never occur as  $V_1$  in series.

- (62) a. \*Kòfí ná kwé<sub>i</sub> x̀d̀ xwé pro<sub>i</sub>.  
 Kofi give money buy house  
 'Kofi gave money buy a house (i.e., he gave money to buy a house).'
- b. \*Kòfí ná wémá<sub>i</sub> mì wà àzón pro<sub>i</sub>.  
 Kofi give book 1SG.ACC do work  
 'Kofi gave me a book to work (i.e., he gave me a book to work with).'

The VP shell analysis in (60), where object control guarantees the ASH, rules in (62a–b), contrary to fact. In principle, the shared argument (*kwé* 'money') can control the instrument argument of  $V_2$  (*pro*). Observe from the parenthesized interpretations that these examples are perfectly grammatical in English.<sup>20</sup>

That there is a general ban on triadic verbs as  $V_1$  suggests a thematic restriction on elements that realize this position. I now review some examples where it turns out that verbs that have both a functional and a lexical usage display certain syntactic and semantic restrictions in their functional usage. This also suggests a thematic restriction on  $V_1$ . Let us reconsider example (1a), repeated as (63a), where the verb *bé*, which means 'collect' when used lexically, does not encode this meaning when used functionally. Instead, examples (63a–b) indicate that  $V_1$  *bé* does not assign an internal  $\theta$ -role to the object to its right since the intended meaning is that of a modifier of  $VP_2$ : 'there has been a lot of eating or talking nonsense'.

- (63) a. Àsíbá bé lésì d̀ù.  
 Asiba collect rice eat  
 'Asiba collected rice eat (i.e., Asiba ate a lot of rice).'
- b. Àsíbá bé xó d̀d̀.  
 Asiba collect word say  
 'Asiba collected word say (i.e., Asiba said a lot of nonsense).'

<sup>20</sup> Baker (1989:522) excludes (62b) by assuming that  $V_1$  must project to the  $V'$  level to take an unshared argument. It can do so only if it follows rather than precedes the argument. This restriction cannot be formulated in a framework that assumes binary branching.

Similarly, the verb *dín* means ‘look for’ or ‘search for’ when used lexically. However, the intended meaning of (64) is (64a), not (64b).

- (64) Àsíbá, dín nú dé dù tò àdòkòn.  
 Asiba search thing INDEF eat at kitchen  
 a. ‘Asiba, get yourself something to eat in the kitchen.’  
 b. ‘\*Asiba, look for something in the kitchen and eat it (in the kitchen).’

If the meaning of *dín* in this example literally corresponds to that of English *get* (or *have*) in its causative usage, then there seems to be no basis for assuming that it shares an object with  $V_2$ , to which it assigns a  $\theta$ -role. Similarly, the verb *kpón* means ‘look at/for’ when used lexically. But this meaning is not available in its functional usage as  $V_1$ . Therefore, the sequence *kpón xó dè* ‘look word say’ means ‘be careful about (or watch) what one says’ rather than ‘look for something to say’. The same observation holds for the verb *dà*, which is often translated as ‘cook’ but also means ‘prepare, make/get X ready’.

- (65) Mìgàn dà kpònòn lé yì àhwàn.  
 Mìgàn prepare soldier PL go war  
 ‘Mìgàn prepared the soldiers go to war (i.e., by making some magic).’

If lexical *dà* implies both ‘prepare’ and ‘cook’, we can hypothesize that series such as (59) are hidden causatives that actually mean ‘make/get/cause rice (to be) ready to eat’, where only the meaning ‘prepare’ is available.

Now consider the verb *dù*. In its lexical use in (63a) and (64), *dù* means ‘eat’; but when it is used as  $V_1$ , it can be followed by various elements, including the DP *tò ló* ‘the country’ in (66), which cannot be said to receive the  $\theta$ -role theme from  $V_1$ .

- (66) Yé dù [tò ló] vò.  
 3PL eat country DET finish  
 ‘They ate the country finish (i.e., they ruined the country by misappropriating funds).’

What appears from the discussion is that when used functionally, these verbs are immediately followed by a wide range of constituents that cannot fulfill the semantic function of theme. Accordingly, these examples are reminiscent of ‘take’ series (38a–b), where it cannot be argued that  $V_1$  ‘take’  $\theta$ -marks the DP object to its right. I propose to treat verbs like *bé* ‘collect’, *dín* ‘search for/get’, *kpón* ‘look/watch’, *dù* ‘eat’, and *dà* ‘cook/prepare’ as  $V_1$  in ‘take’ series.<sup>21</sup> The unifying property behind all these cases is that the lexical meaning corresponds to situations where the verb selects for a DP-internal argument to which it assigns an internal  $\theta$ -role, while the functional meaning corresponds to situations where  $V_1$  has no internal  $\theta$ -role to assign but

<sup>21</sup> Many verbs have different meanings when used as  $V_1$  or  $V_2$ . *Hèn* means ‘hold’ but *hèn X gblé* means ‘cause X to spoil’, while *hèn X wá* means ‘cause X to come, i.e., bring’.





SVCs as well as Kwa and Khoisan. Indeed, the examples in (72), taken from Cardinaletti and Giusti 2001, are very good candidates for Romance and Germanic SVCs, where F is possibly realized by a complementizer preposition.

- (72) a. Vaju a pigghiu u pani. (Marsalese)  
 go.1SG to fetch.1SG the bread  
 ‘I go to fetch bread.’  
 b. I go (and) buy bread. (American English)

According to Cardinaletti and Giusti (2001), the motion verbs in these sentences directly merge in the functional layer of a monoclaus. This conclusion is compatible with Jaeggli and Hyams’s (1993) treatment of English motion verbs (e.g., *come*, *go*) as expressions of an AspP within the inflectional domain. There is an obvious convergence between these views and the analysis proposed here for SVCs. I will not discuss these facts any further, but the matter looks pertinent enough to merit exploration.

## 5 Concluding Remarks

In this article, I have proposed a unified analysis for verb series and verbal compounds in Kwa and Khoisan. I have argued that in  $V_1$ -XP- $V_2$  and  $V_1$ - $V_2$ -XP series,  $V_1$  merges in the functional domain of the lexical verb ( $V_2$ ) that introduces the (internal) argument and is embedded under an AspP whose head is endowed with an EPP feature. I have shown that surface word order variations in Kwa (and Khoisan) result from the EPP licensing that triggers  $V_2$ -object inversion, sometimes followed by  $V_2$  movement past the shifted object. The proposed analysis in terms of functional versus lexical verbs implies that, if anything, the serializing parameter has to do with the lexicon rather than with core syntax. In a sense, the Kwa and Khoisan languages are more serializing than, say, Romance and Germanic, because they allow more functional elements of the type  $V_1$  than the Romance and Germanic languages do.

In most of the serializing languages discussed here, the functional and lexical verbs have the same morphological form. This creates the illusion that SVCs involve lexical verbs that must discharge their respective  $\theta$ -roles. Yet the proposed necessary distinction between functional (verbal) elements and their lexical cognates bears on the fact that many purely functional items in Gbe (e.g., complementizer, mood marker, aspect marker, preposition) derive from verbs. Example (73), even though a bit unnatural, perfectly illustrates this point. The derived element is in italics and the source in boldface. Also notice that *na* can be understood both as a preposition and as the verb ‘give’.

- (73) Ûn **d̩** na-è d̩ Súrù ná wá **wá** n̩ n̩ fí tò hwèmè.  
 1SG tell *PREP/give*-3SG COMP Suru FUT EVENT come HAB stay here at noon  
 ‘I told him that Suru will eventually come to stay here frequently at noon.’

In light of (73), the relevant question remains what properties of the lexicon in Gungbe (and Kwa) allow this development. I hope to come back to this in future work.



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