The representation of ISVC in C and F structures of LFG: A proposal

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Serial Verb Constructions (SVCs) have been analysed in Lexical Functional Grammar (LFG) as **complex predicates** *with all the verbs sharing all the arguments in the construction (Bodomo 1997, 2002). In this paper, I argue that the complex predicate analysis amounts to an overgeneralization of the sharing relations that usually characterise the verbs in an SVC, since there are instances where some arguments are not shared. In its place, I propose an analysis in which shared arguments are put into the functional structure of the parent VP so that its properties can be inherited by any verb that shares that argument. Any argument that is not shared will occur with the verb with which it is associated only in the functional structure of that verb.*

Keywords: *Akan, Integrated Serial Verb Construction, Argument Sharing, complex predicates*

0. Introduction[1]

Serial verb constructions (SVCs) have been divided into two broad types based on the criterion of *event integration*. The types are integrated serial verb construction (ISVC) or SVC proper and Clause Chaining (CC) Osam (1994). Among the defining features of SVCs is argument sharing – the requirement that verbs in the construction share some core arguments – subject and/or object. Various syntactic theories have different ways of representing this sharing relationship. In Lexical Functional Grammar (LFG), SVCs have been analysed as **complex predicates** with all the verbs forming one **PREDCHAIN** and sharing all the arguments in the construction (Bodomo 1997, 2002). That means, if there are five verbs and three objects in the construction, all five verbs will form one complex predicate and share all the three objects.

In this paper, whilst rejecting the proposed representation of this relationship because it amounts to overgeneralisation of the sharing relationships that characterise SVCs, I give an alternative proposal in which all and only shared argument are put in the F-structure of the parent VP so that its properties can be inherited by all daughter VPs. This means, there will one parent VP that will have as many daughter VPs as there are verbs in the construction. If an argument is specified as an argument of the parent VP, it will mean that argument will be an argument of each daughter VP. Any argument that is not shared will occur with the verb with which it is associated only in the functional structure of that verb. This analysis is motivated by the fact that, though argument sharing is common with SVCs, there are constructions in which none of the arguments is shared. Therefore, I argue that the argument sharing relation should not be overly generalised.

The paper begins with a sample of the definitions and/or descriptions of SVCs and the types of SVCs, in section one. Section two contains a brief introduction to Lexical Functional Grammar (LFG) – the theoretical framework. Section three looks more closely at Integrated Serial Verb Constructions focusing on features like *Argument sharing* and *tense/aspect sharing*.

Section four deals with the proposal for the representation of the sharing relationship(s) in C-(constituent) structure and F-(functional) structure of LFG, and section five is the conclusion of the paper.

1. Serial Verb Construction (SVC)

Serial Verb Constructions (SVCs) are known to occur in various languages of the world. The construction has been observed in five main linguistic areas: (i) West African languages especially Gur and Kwa languages like Dagaare (Bodomo 1997, 2002), Akan (Christaller 1875, Schachter 1974a, Osam 1994a, 1994b), (ii) African-Caribbean Creoles such as Sranan (Seuren 1991), (iii) South Asian Languages like Oriya (Sahoo 2001), (iv) South-East Asian languages such as Chinese (Li 1991), Khmer (Schiller 1991) and Thai (Diller 2006), and (v) Oceanic, that is Pacific and Papuan Languages such as Kallam and Alamblak (Durrie 1988).

There are various definitions of the term given by various writers in the literature with each focussing on some aspects of the phenomenon they have found to occur in a particular language and sometimes presenting them as if those 'facts' held cross-linguistically. Osam (1994b: 207) puts it this way: "One of the problems associated with the study of serialisation cross-linguistically is that hardly any two writers agree on what the phenomenon is. This is borne out by the variability in the definitions of serialisation offered by various writers." Below is a sample of the definitions and/or the descriptions of serialisation offered in the literature:

> "Serial Verb Constructions (SVCs) are constructions which contain a series of verbs each with their own objects." (Van der Veen 1998: 7)

> "A sentence that contains a serial verb construction consists, on the surface, of a subject noun phrase followed by a series of two or more verb phrases, each containing a finite verb plus, possibly, the complement(s) of that verb." (Schachter 1974: 254)

> "These are constructions in which verbs sharing a common actor or subject are merely juxtaposed, with no intervening conjunctions. … Serial verb constructions always contain two or more predicates. … While they may require the same actor, each verb may have arguments that are not shared by the other verbs." (Foley and Olson 1985: 18)

> "A sequence of several verbs which act together as a single predicate" (Aikhenvald 1999: 469)

> "What we may broadly refer to as 'verb serialisation' resides in either a combination of verbs without complements and adjuncts or in a combination of phrasal items, viz verbs with their complements and adjuncts, in both cases without overt co-ordinators or sub-ordinators." (Sahoo 2001: 1)

> "In simple descriptive terms, serialisation is what happens when two or more verbs are juxtaposed in such a way that they act as a single predicate, taking a unitary complex of direct arguments. The verbs are bound together syntactically and/or morphologically on

the basis of sharing one or more core arguments and neither verb is subordinate to the other. Typically, in a serial construction, there is no marker of coordination or subordination, no dividing intonational or morphological mark of a clause boundary and the verbs cannot have a separate scope of tense, mood, aspect, illocutionary force, and negation." (Durie 1988: 3)

A closer look at the various definitions and/or descriptions reveals two possible reasons for the apparent lack of agreement on what the phenomenon of serialisation is. One, definitions are prompted by what aspect of serialisation one is concerned with at a particular point in time. Two, writers are tempted to over-generalise. They make claims which hold in the particular language they are dealing with, but which may not hold in other serialising languages. This is consistent with Osam's observation that in most cases statements are made regarding some serialising languages. When some of such statements are examined closely with reference to specific serialising languages, they are found to be incorrect (1994b). Be that as it may, there appears to be agreement, to some extent, on a set of features that should serve as the defining characteristics of serial verb constructions. Below I present what Aikhenvald (1999: 470) sees as a probable summary of what may be seen as the defining properties of a prototypical serial verb construction.

(I)   A serial construction has the property of a single predicate: (a) it refers to a single event; (b) it functions on a par with monoverbal clauses in discourse; (c) it has a single subject; (d) verbs in a serial construction often share other arguments; (e) it has shared tense/aspect, modality and, often, polarity value.

(II)   A serial construction has the intonational property of a monoverbal clause, and not of a sequence of clauses.

(III)   Each of the verbs, which form a serial construction, is an independent morphological word, and they act together as a syntactic whole. A serial construction occupies one core functional slot in the sentence or clause structure.

(IV)   Serial constructions are monoclausal and allow no markers of syntactic dependency between their components. This distinguishes them from subordinate and coordinate clauses. (This is only valid for languages which have explicit markers of subordination or coordination.)

(V)   Serial constructions can be distinguished from complex predicate and other verb + verb sequences which are syntactically combined, but neither of which can be predicate on its own. For this reason, complex verb forms like perfect or continuous in English are not serial verbs.

According to Aikhenvald, a prototypical serial verb construction is assumed to have all these properties. However, She observes, the situation is often much more complex. Therefore, the most important point to note is that no one of these characteristics is defining per se since exceptions can be found to each of them.

1.1 *Types of Serial Verb Constructions*

As noted above, there is, in the cross linguistic literature on serialisation, the point that two or more verbs are used to code an event (Givón 1991; Osam 1994; etc). This phenomenon has a semantic motivation. Osam (ibid) notes that the semantic foundation of serialisation has to do with the integration of the subatomic events that are conceived as representing a single event. The reason a series of verbs in a construction is treated as conceptually coding a single event, even though the verbs originally code separate events, is that, through the process of cognitivisation, the events come to be integrated as a single event. He therefore views serialisation as a scalar phenomenon where the degree of serialisation is determined by the extent of semantic integration of the events coded by the verbs in the construction.

Based on the degree of semantic integration of the events coded by the verbs in a serial construction, two broad types of serial constructions have been recognised. These are the ***clause chaining*** type and the ***integrated*** type or ***SVC proper*** (Osam 1994). The following are examples of the two types of serial verb construction from the Fante dialect of Akan. (1a) is of the clause chaining type and (1b) is of the integrated type.

(1)   a. **Ama   kyer-r   Kofi   kyeker-r   no   bor-r   no.**
Ama   catch-PAST   Kofi   tie-PAST   3SGOBJ   beat-PAST   3SGOBJ
'Ama caught Kofi, tied him [and] beat him.'

        b. **Kofi   bɔ-ɔ   mpae   ma-a   Amma.**
Kofi   say-PAST   prayer give-PAST   Amma
'Kofi prayed for Amma.'

The major difference between (1a) and (1b), as noted above, is found in the degree of semantic integration of the events coded by the individual verbs in the construction. In the integrated type ((1b) above), in which the semantic integration is very high, multi verbs are used to code a single coherent event. On the other hand, in the chaining type ((1a) above), in which the semantic integration is lower, multi verbs are used to code multi events which are considered definable subparts of a bigger event. Therefore, whereas in the integrated SVC the verbs are tightly knit into a single event, in the chaining type the events are loosely connected.

The syntax of the two types of serial constructions reflects the difference in the degree of semantic integration of the subatomic events coded by the verbs. The resultant structural difference between the two types of constructions is that conjunctions can be introduced into the chaining types to break up the various clauses coding the subatomic events as shown in (2a) (which is the sentence in (1a) with conjunctions inserted between the various clauses). If the same operation is carried out on the integrated type the result will be ungrammatical as in (2b) below.

(2)   a. **Ama kyer-r   Kofi na   ɔ-kyekyer-r no   na   ɔ-bor-r   no.**
Ama catch-PAST Kofi CONJ 3SG-tie-PAST 3SGOBJ CONJ 3SG-beat-PAST 3SG
'Ama caught Kofi and tied him and beat him up.'

b. ***Kofi   bɔ-ɔ   mpae na   ɔ-ma-a   Amma.**
   Kofi   say-PAST   prayer CONJ 3SGSUBJ-give-PAST   Amma

The reason sentence (2b) is ungrammatical is that there are two verbs in the conjoined clauses. While the valency requirement of the first verb ***bɔ*** 'say' is satisfied, that of the second verb ***ma*** 'give' is not met. This is not the case in (1b) even though they involve the same set of verbs. Because in (1b) the subatomic events coded by the two verbs are conceptualised as one event, the arguments in the construction can be shared to meet the valency requirements of both verbs.

        It is possible for the various verbs in the clause chaining type of serialisation to inflect for different tense/aspect. In the sentence (3a) below, the first verb in the series is marked for perfect, the second for progressive and the third for consecutive.[2] This is another of the features that distinguish clause chaining from ISVC, since no independent choice of tense/aspect is possible in the ISVC, (Foley and Olson 1985: 23). That explains the ungrammaticality of (3b) where the first verb is in the past and the second verb is in the perfect.

(3)   a. **Ama   a-kyer-r   Kofi   re-kyekyer   no   a-bor   no**
           Ama   PERF-catch   Kofi   PROG-tie   3SGOBJ   CONS-beat 3SGOBJ
           'Amma has caught Kofi and is tying her (up) to beat her.'

        b. ***Kofi   bɔ-ɔ   mpae a-ma   Amma**
            Kofi   say-PAST   prayer PERF-give   Amma
            *'Kofi prayed (and) has given Amma.'

That the clause chaining type qualifies as a serial construction is sometimes questioned. The arguments for and against the SVC status of the clause chains are so varied that discussing them will definitely throw this paper off focus. However, it is worth noting that one could, perhaps, account for this defective serial construction by agreeing with Aikhenvald (1999), that no one of the so called defining features of serial verb construction is defining per se since exceptions can be found to each of them. On the other hand, one could adopt Osam's (1994) view, which appears more elegant. He sees serialisation as a scalar phenomenon where the grading is done on the basis of semantic integration. This way, we may account for the two types of SVCs by saying that the integrated type is higher up the scale of serialisation and the less integrated clause chaining is at the bottom of the scale. The problem with Osam's analysis, though, is that he stops short of providing examples of other SVCs on the scale between the integrated SVC and the clause chaining SVC.

        The focus of the present paper is how to accurately represent argument sharing in integrated serial verb constructions. Some pertinent features of the integrated serial verb construction will be discussed, in some reasonable detail, in section 3 before the c-structure and the *f*-structure representation is presented in section 4. Before that, I will give a brief overview of the theoretical framework – LFG in the next section.

2. The Theoretical Framework

Lexical Functional Grammar evolved in the 1980s as an alternative to the generative transformational grammar architecture. This alternative is generally considered to be more constrained formally and more adapted linguistically to the expression of language universals than generative-transformational grammar (Bodomo 1997: 26). Bresnan (2001: vii) notes that "LFG is a theory of grammar which has a powerful, flexible and mathematically well-defined grammar formalism designed for typologically diverse languages."

As the name suggests, LFG is *lexicalist* in approach; it considers most grammatical alternations such as the active-passive alternations to be lexical and not necessarily syntactic transformations. This shows that lexical items or words are considered to be as important as syntactic structures in encoding grammatical information. The framework is also *functional* in approach; syntactic expressions of participant roles such as SUBJECT and OBJECT are defined as primitives. These notions are not defined in terms of variable phrase structure configurations, as does generative transformational grammar. This means, in LFG, grammatical information is not identified with particular structural forms of expression, but is viewed as a system of abstract relaters of expressions to eventualities (Bresnan 2001). Mchombo (1993: 2) notes the non-derivational nature of LFG and the extent to which it differs from GB, in its treatment of grammatical functions, as follows:

> … The theory of lexical functional grammar (LFG) departs from the theory of GB at the minimum, in their proposed treatment of grammatical functions as basic primitives. Grammatical functions, under GB, were thus dealt with in terms of 'instructions' or rules that were function dependent in that they explicitly mentioned the change of a specific grammatical function into another. For example, the passive was stated in terms of an operation which converts the OBJECT into SUBJECT.

This alternative architecture of grammar is based on parallel structures of as many as five levels: **P**-(prosodic) structure, **σ**-(semantic) structure, **a**-(argument) structure, **ƒ**-(functional) structure and **c**-(constituent) structure. The last three belong to the syntactic component and so far are the most developed (Bodomo 1997). Mchombo again makes the following observation:

> Within LFG it has been proposed to factor out into separate components the different informational structures of language. The theory of grammar must provide for the representation of Constituent structure, Functional structure, Semantic role structure and Discourse structure. It must also provide a principled account of the manner in which these informational structures interact. The various informational structures are not all represented by the same kind of configurations. They each involve a different set of vocabulary and the relations among them are captured by terms of structural equivalence rather than derivation (1993: 2).

The three syntactic components of the theory are illustrated in figure 1 (a, b & c). Each level models a different dimension of grammatical structure: *role*, *function* and *category* respectively. Roles, modelled by **a**-structure, correspond to *the grammatically expressible participants.* Function belongs to the inner or covert grammatical relations and is modelled by **ƒ**-structure.

Finally, categories, which belong to the outer structure of forms of expression is modelled by **c**-structure. Each level has its own distinctive prominence relations characterising the logical subject, the functional subject and the structural subject. The levels are associated by principles of functional correspondence (Bresnan 2001).
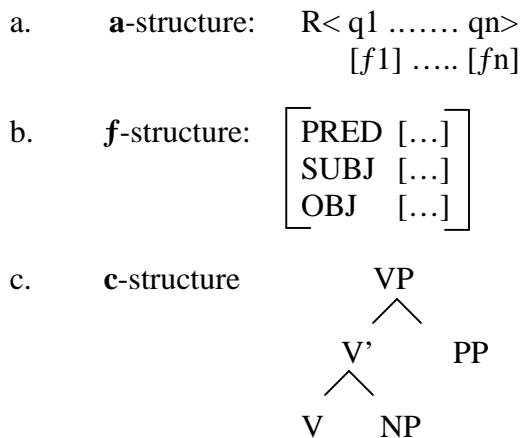
a.　　**a**-structure:　R< q1 ……. qn>
　　　　　　　　　　　　[f1] ….. [fn]

b.　　*f*-structure:　$\begin{bmatrix} \text{PRED} & […] \\ \text{SUBJ} & […] \\ \text{OBJ} & […] \end{bmatrix}$

c.　　**c**-structure

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              VP
             /\
          V'    PP
         /\
        V   NP
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Figure 1 *The syntactic component of LFG (Bodomo (1997: 27)*

The formal model of LFG embodies three general design principles (Bresnan 2001: 44):

(i)　　*Variability*, which states that external structure varies across languages. The formal model for expressing variability is the c-structure. At the c-structure level we can show, for instance, that some languages are head-initial whilst some are head-final;

(ii)　　*Universality*, which states that internal structures are largely invariant across languages. The *f*-structure is the formal model for expressing internal structure, and

(iii)　　*Monotonicity*, which states that the correspondence between c-structure and *f*-structure in LFG be a piecewise monotonic function. That is, it requires that the internal structure of language should somehow be transparent in the external structure of language.

In addition to these principles, each of the levels has well-formedness conditions further constraining them. The *f*-structure, for instance, has two main well-formedness constraints: *completeness* and *coherence*. Completeness requires that every function designated by a PRED be present in the *f*-structure of that PRED. In return, coherence requires that every argument function in an *f*-structure be designated by a PRED. The c-structure is constrained by the universal principle of *endocentricity* and *predicate argument locality*. The functional annotation found in LFG can be predicted from general principles of structure-function correspondence.

There is a *uniqueness* condition on *f*-structure, which requires that every attribute have a unique value. This constraint forbids a single attribute having non-identical values even though the reverse is acceptable (Bresnan 2001: 47). That being the case, a cursory look at the proposed c-structure for SVCs, reveals a problem looming large at the *f*-structure level. For instance, the

c-structure for sentence (1b) which is repeated here as (4) is shown in figure (2). A functional annotation of the c-structure yields the structure in figure (3).

(4)   **Kofi bɔ-ɔ   mpae ma-a   Amma**
         Kofi say-PAST   prayer give-PAST   Amma
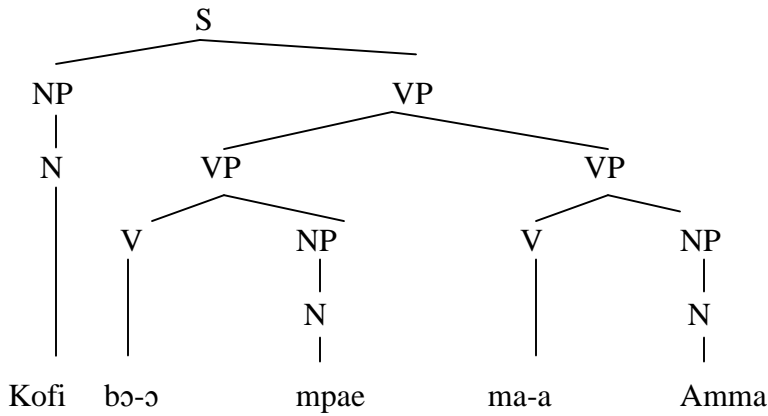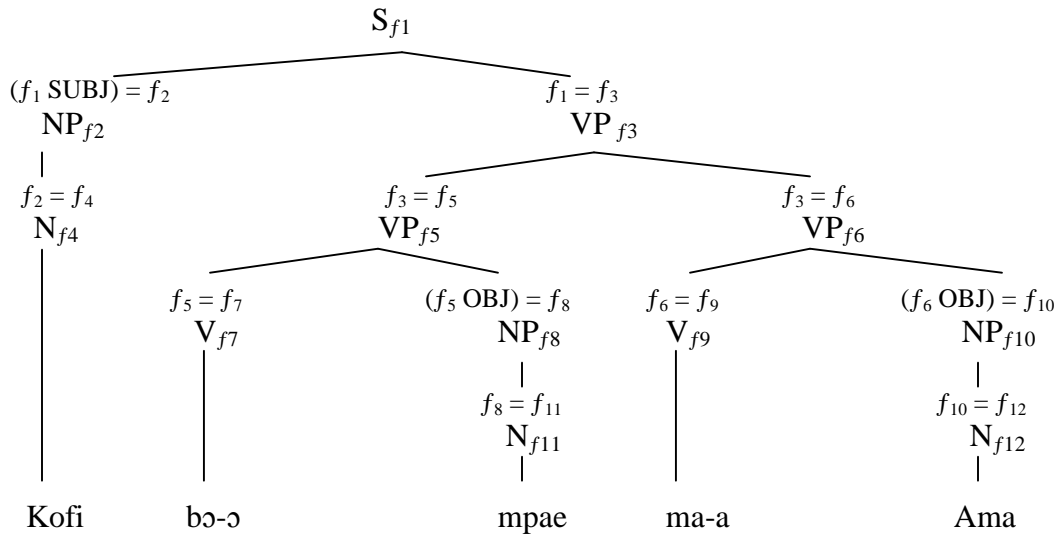   'Kofi prayed for Amma.'

Figure 2 *A flat C-structure*

Figure 3 *A C-structure with functional descriptions*

The functional annotation on the tree diagram (c-structure) indicates that $f_1 = f_3, f_3 = f_5$ and $f_3 = f_6$. This implies f_5 and f_6 are each equal to f_3 and together they make up f_1. That being the case,

it is clear that there will be two different PRED values in the matrix f-structure (f_1) because f_5 which is the same as f_7 has a PRED '**bɔ**' whilst f_6 which is the same as f_9 has its own PRED '**ma**'. This will lead to a violation of the uniqueness condition alluded to above. It is this problem that I am proposing a solution to, for Akan ISVCs, and hopefully, by so doing, provide a representation that will work for, at least, those SVCs that obey the same or similar constraints cross-linguistically.

3. Integrated Serial Verbs Construction (SVC proper)

My concern, in this paper, is to find out how ISVCs could be represented in the **c**-structure and f-structure of LFG, especially, relative to the **PRED** feature, so that the uniqueness condition is not violated. I will, in this section, look more closely at the integrated SVC considering such issues as argument sharing, tense/aspect sharing, etc (generally referred to as constraints on serialization), since their presence or absence in a construction type has implications for the representation of that construction type in both **c**-structure and f-structure.

3.1. *Argument Sharing*

"All serial verb constructions are heavily constrained so that some core arguments are shared by all the verbs in the series." (The core arguments are the basic conceptually necessary arguments of a verb as entered into its lexical entry.). This quotation from Foley and Olson (1985: 24) succinctly captures what writers agree on as one of the defining characteristics of a prototypical SVC (Aikhenvald 1999). Bodomo (1997, 2002) separates this into the "subject sameness constraint" and the "object sharing constraint." Osam (1994) describes it as the nature of the relationships that hold between the nominal arguments and the verbs that they are associated with. Argument sharing requires that the verbs in the construction share some core argument(s) – subject and/or object within the construction.

3.1.1 *Subject Sharing*
Subject sharing requires that the verbs in the construction share a single structural or functional subject. In (5a-e) are examples of SVCs from various languages in which a single subject is shared by the verbs in each construction.

(5)　　a. **O　da　zo　　wa　de　la　　soɔ　ko　　ma**
　　　　　3.s　PAST　run　　come　take　FACT.　Knife　give　me
　　　　　'S/he ran here and took the knife for me'

　　　　　　　　　　　　　　　　　　　　　　　　(Dagaare; Bodomo, 1997:85)

　　　　b. **Me　ɖa　nú　　　ɖu　Ø**
　　　　　1SG　cook　(some)thing　eat　Ø
　　　　　"I cooked something and I ate (it)

　　　　　　　　　　　　　　　　　　　　　　　(Ewe; Sætherø, 1997:70)

c. **Kofi**   **tɔ-ɔ**   **bayerɛ**   **di-iɛ**
Kofi   buy-PAST   yam   eat-PAST
"Kofi bought yam (and) ate"

<div align="right">(Akan; Van der Veen, 1998: 18)</div>

d. **Sùk**   **?aw**   **máy**   **maa**
Sook   take   wood   come
"Sook brought the wood"

<div align="right">(Thai; Foley & Olson, 1985: 25)</div>

e. **ó**   **mú**   **tʃwé**   **wá**
he   take   book   come
"he brought a book home"   (Yoruba; Aikhenvald, 1999: 4)

In the sentence in (5a), there are as many as four verbs: *zo* 'run', *wa* 'come', *de* 'take/use' and *ko* 'give' and all of them take the same subject: *o-* 's/he'. Bodomo notes that "these originally monadic, dyadic and triadic verbs come together to form a new *complex predicate* which is now triadic" (2002:35). I consider that analysis problematic, at best. As I will explain latter in this paper, though argument sharing is a common feature of SVCs, it has been shown abundantly (Osam 1994ab, Sahoo 2001, etc), that the verbs in a serial construction need not share all the objects in the construction. The sharing relation that characterizes SVCs is not universal the way it is presented in the complex predicate analysis.

The requirement that SVCs share a subject comes up against a problem with one type of SVC distinguished on the basis of argument sharing, in which the subject of the first verb is not the subject of the second verb, but the object of the first verb is. This type of SVC is known as switch-subject SVC (Osam 1994, Foley and Olson 1985). The following are examples of this type of serialisation from Ewe (6a) and Akan (6b-d) from Bodomo, (2002: 36).

(6)   a. **Kofi**   **na**   **Ama**   **kpɔ**   **eˈokui**   **le**   **ahuhɔe**   **me**   (Ewe)
Kofi   make   Ama   see   self   LOC   mirror   in
"Kofi made Ama see herself in a mirror"

b. **Kofi**   **a-ma**   **Ama**   **a-hwɛ**   **ne**   **ho**   **wɔ**   **ahwehwɛ**   **mu**
Kofi   PERF-make   Ama   PERF-see   3SGPOSS   self   LOC   mirror   in
"Kofi has made Ama see herself in the mirror"

c. **Kofi**   **a-ma**   **Ama**   **a-hwɛ**   **no**   **wɔ**   **ahwehwɛ**   **mu**
Kofi   PERF-make   Ama   PERF-see   3SGOBJ   LOC   mirror   in
"Kofi has made Ama see him/her in the mirror"

d. **Kofi**   **a-to**   **boɔ**   **a-bɔ**   **no**
Kofi   PERF-throw   stone   PERF-hit   3SGOBJ
"Kofi hit him by throwing a stone"

On the basis of the data in (6a-d), Bodomo argues that these kinds of construction in Ewe and Akan are not SVCs. Referring to a binding phenomenon in Kwa provided by James Essegbey (Email communication, 1996), which shows that these periphrastic causatives in Akan and Ewe are bi-clausal, he concludes that both languages obey the binding criterion for which a reflexive pronoun must be bound to its referential noun in the clause. He says, of the sentences in (6a-b), that the reflexive *neho* cannot refer to *kofi*. So, he argues, one has to say that it occurs in a different clause[3]. Contrasting these sentences with (6c), where the non reflexive pronoun *no* 'him/her' cannot refer to *Ama* (same clause) but can refer to *Kofi* (different clause), or someone else that the speaker might have referred to already, he noted that these periphrastic causatives are bi-clausal and cannot count as counter evidence to the monoclausal subject-sharing serial verb construction that the subjecthood constraint refers to. Finally, he says of the sentence in (6d) that, though one might argue that *bɔɔ* 'stone' is the subject of the second verb *bɔ* 'hit' (because it is that which makes final contact with the object), yet, the stone is not the subject but an instrument of 'hitting' which still leaves *Kofi* as the subject of both *to* 'throw' and *bɔ* 'hit'.

Using the data in (7a-d) below, Osam (1994) presents what could be considered cogent syntactic and semantic arguments against the tendency for people to consider these sentences as instances where the direct object of the first verb is the 'logical subject', (Lord 1993: 85) or the 'semantic subject' (Sebba 1987: 181) of the second verb (even though, unlike Bodomo, Osam stops short of ruling out the existence of this type of SVC).[4] He observes some problems with the analyses of the NPs: *bobaa* 'stone' (7a), *adaka no* 'the box' (7b), *Araba* (7c) and *aburo* 'corn' as 'logical subject' or 'semantic subject'. The first problem with this analysis, he notes, is that it is not specified what the labels 'logical subject' and 'semantic subject' are. Secondly, he argues that treating the direct object in (7) as some kind of subject of the following verb overlooks a very crucial semantic and conceptual feature of the verb combinations in these serial constructions. He notes that such verb combinations are typical instantiations of what it means to have two or more verbs representing what is conceptually a unitary event. The point is that the two events in these combinations are the lexical representation of semantically integrated events, as a result, they do not code separate events. For example, in (7a), the combination *tow…bɔ* 'throw…hit' does not represent separate events. The verb combination indicates a single event that took place. Native speakers in using this combination intend to represent the event as a single happening. This is made clearer when an attempt is made at questioning various parts of the sentence in (7a). For example, we could question what *Kofi* did to *Esi* as in (8a) and have the response as in (8b). In (8b), the subject of the first verb is understood to be the subject of the second verb because the two verbs code a single event.

Osam (ibid) notes that, part of the reason speakers conceive these two verbs as coding a single event is that, the event of 'stone throwing' by *Kofi* is purposive; the stone was thrown in order that it would hit *Esi*. If it was the case that the stone hit *Esi* accidentally, speakers were more likely to use a complement clause as in (9) rather than a serial construction.

(7)   a. **Kofi**   **tow-w**   **bobaa bɔ-ɔ**   **Esi**[5]
           Kofi   throw-PAST   stone   hit-PAST   Esi

'Kofi   threw a stone at (to hit) Esi'

b. **Kofi   de   adaka no   si-i   pono   no   so**
Kofi   take   box   DEF   stand-PAST   table   DEF   on
'Kofi put the box on the table'

c. **Kofi   pia-a   Araba   bɔ-ɔ   famu**[6]
Kofi   push-PAST   Araba   hit-PAST   ground
'Kofi pushed Araba down (to the ground)'

d. **Kofi   de   aburo no   gu-u   nsu   mu**
Kofi   take   corn   DEF   put-PAST   water   in
'Kofi put the corn into (the) water'

(8)   a. **Kofi   yɛ-ɛ   Esi   dɛn?**
Kofi   do-PAST   Esi   what
'What did Kofi do to Esi?'

b. **ɔ-tow-w   bobaa   bɔ-ɔ   no**
3SGSUBJ-throw-PAST   stone   hit-PAST   3SGOBJ
'He threw a stone at (to hit) her.'

(9)   **Kofi   tow-w   bobaa ma   ɔ-kɔ-bɔ-ɔ   Esi**
Kofi   throw-COMPL   bobaa COMP 3SGOBJ-go-hit-PAST   Esi
'Kofi threw a stone and it hit Esi'

From Osam's and Bodomo's analyses, it is clear that some of the sentences that are sometimes considered as examples of switch-subject serial verb construction may not really instantiate the phenomenon. Be that as it may, the point must be made that the examples from these two languages do not offer good enough evidence based on which one could rule out the existence of the switch-subject SVC (as the case is in Bodomo (1997)). For instance, Foley and Olson (1985:25-26) provide data from various languages which instantiate the switch subject type of SVC. Indeed, they have observed that "there is a *significant* class of serial verb constructions which *require* that the object of the first verb and the subject of another be coreferential." Also, Aikhenvald (1999) and Hale (1991) provide data from Tariana and Misumalpan respectively, proving the existence of switch subject SVCs. The discussion ends here, since a detailed discussion of the issues involved is beyond the scope of this paper.

3.1.2 *Object Sharing*
Object sharing is the situation where verbs in a serial construction share some referentially identical objects. In Bodomo (1997, 2002), this is referred to as the "object sharing constraint", and in his complex predicate analysis, it is required that ***all*** the verbs in the series share ***all*** the

objects in the construction. However, object sharing has been shown to be optional (Osam 1994b:202, Sahoo 2001: 157-158). In the Oriya examples in (10), the object, *maachha* 'fish' in (10a) is shared by all the four verbs: *kiNi* 'buy', *kelaai* 'clean', *bhaaji* 'fry' and *khaaili* 'eat'. In (10b) however, both verbs: *dhoi* 'wash' and *khaaili* 'eat' have their own object and so there is no object sharing. Although in (10c) both verbs: *dhoi* 'wash' and *khaaili* 'eat' share the direct object, *maachha* 'fish', they each have their own modifiers.

(10)   a. **kaali   raatire   mun maachhaTe kiNi   kelaai bhaaji   khaaili**
           yesterday   night-PP   I   fish-a   buy   clean fry   eat-PAST 1stsg
           'Last night, having bought, cleaned and fried a fish, I ate it.'

        b. **mun   haata dhoi bhaata   khaaili**
           I   hand wash rice   eat-PAST 1stsg
           'Having washed my hand, I ate rice.'

        c. **mun   maachha-Ti-ku   bhalabhaabe dhoi dhire dhire   kaa-Tili**
           I   fish-the-acc   well   wash slowly slowly   cut-PAST 1stsg
           'Having washed the fish well, I cut it slowly.'

                                                                    (Sahoo 2001:158)

A similar paradigm of SVCs is found in Akan. (11a) is similar to (10a) with all the verbs: *t* 'buy' *ma* 'give' and *hyɛ* 'wear' all sharing the object, *mpaboa* 'sandals'. (11b) is also similar to (10b). In this construction, the NPs *sekan no* 'the knife' and *ahoma no* 'the rope' are the respective direct objects of the verbs: *de* 'take' and *twa* 'cut'. Things are somewhat different in (11c). Aside from having the NP, *Akosua* as an object, the verb, *ma* 'give' shares the other argument *mpaboa* 'sandals' with the preceding verb *tɔ* 'buy'. A similar thing happens in (11a) where *ma* 'give' shares *mpaboa* 'sandals' with the preceding verb *tɔ* 'buy' aside from having *Akosua* as an object. As noted by Sahoo (ibid), the object need not be shared by all the verbs in the construction (if there will be any sharing at all).

(11)   a. **Kofi   tɔ-ɔ   mpaboa   ma-a   Akosua   hyɛ-ɛe.**[7]
           Kofi   buy-PAST   sandals   give-PAST   Akosua   wear-PAST
           'Kofi bought Sandals for Akosua to wear (it).'

        b. **Kofi   de   sekan no   twa-a   ahoma   no.**
           Kofi   take   knife DEF   cut-PAST   rope   DEF
           'Kofi cut the rope with a knife.'

        c. **Kofi   tɔ-ɔ   mpaboa   ma-a   Akosua.**
           Kofi   buy-PAST   sandals   give-PAST   Akosua
           'Kofi bought Sandals for Akosua.'

In the Oriya examples in (12a) the object, *maachha* 'fish' is shared by the verbs: *bhaaji* 'fry' and *khaaili* 'eat' only. The third verb *gali* 'go' has its own adverbial modifier *skulaku* 'school'. Again, in (12b), the first verb in the series has its own adverbial modifier while the rest of the verbs in the series: *kiNi* 'buy' and *khaaili* 'eat' share the object *chakleT* 'chocolate'. Note that in Oriya, the shared object occurs immediately after the subject and before all the verbs in the series, while an unshared object occurs in the complement position of the verbs they belong to, as can be seen from the sentences in (10) and (12). This is somewhat similar to what pertains in Akan except that in Akan, the shared object occurs between the verbs that share it, as in (11b-c), and maintains the position even when a third verb is introduced into the construction as in (11a).

(12) a. **Mun**   **maachhaTe** **bhaaji** **khaai**   **skulaku**   **gali.**
       I   fish-a   fry   eat   school-PP   go-PAST 1stsg
          'Having fried a fish I ate it and went to school.'

      b. **mun**   **bajaaraku**   **jaai**   **chakleT**   **kiNi**   **khaaili.**
       I   market-PP   go   chocolate   buy   eat-PAST 1stsg
          'Having gone to the market I bought chocolate and I ate it.'

The discussion so far has revealed that the verbs in an SVC do not need to share arguments if they are not referentially identical. When sharing becomes necessary, the verbs will only share ***as many referentially identical arguments as they need to satisfy their conceptually necessary arguments as entered into their lexical entry***[8] (Foley and Olson 1985: 24). For example, the NP, *mpaboa* 'sandals' in (11b) need not be shared by the verb *ma* 'give' if what was given to, *Akosua* was not the same as the NP, *mpaboa* which was bought. In like manner, the verb *khaaili* 'eat' in the Oriya example in (10a), needs not share the object *maachha* 'fish' if, having bought and cleaned the fish, he ate something else (a loaf of bread, for instance). The fact that sharing objects is not obligatory should explain why as many as four different verbs with different valency requirements can appear to be sharing two objects (as in the Dagaare example in (5a)). In that clause, there are enough objects to meet the valency requirement(s) of each verb in the series, the highest being two. From the foregoing, I want to conclude that while verbs in a serial construction require the presence of as many objects as they need to satisfy their valency requirements, they do not 'worry' about the presence of other objects whose reference they do not share, as long as those objects are needed by other verbs in the construction to satisfy their valency requirements. For example it is clear that in the Dagaare construction in (5a) the verbs *zo* 'run' and *wa* 'come' do not share either of the objects *soɔ* 'knife' and *ma* 'me'. The verbs *zo* 'run' and *wa* 'come' are intransitive and do not become transitive because they are paired with transitive verbs. This rules out the suggestion that in SVCs, verbs fail to retain their independent syntactic properties (Van der Veen 1998: 41). What is true, though, is that in SVCs, shared arguments may not appear in their canonical places of occurrence.

3.2 *Tense/Aspect and Polarity Sharing*

Apart from argument sharing, another set of features that has been recognized to characterize Serial Verb Constructions cross-linguistically is the sharing of tense/aspect and polarity. The series of verbs in the construction are usually within the scope of one tense/aspect type and polarity value. Bodomo puts these together into the TAP (**T**ense+**A**spect+**P**olarity) constraint. I will discuss these briefly, in this section.

3.2.1 *Tense/Aspect sharing*

In serial construction, there is no independent choice of tense or aspect for the verbs in the construction. Instead, once the tense or aspect of the initial verb or final verb (as in Yimas (Foley and Olson 1985)) is specified, that of all subsequent (or preceding) verbs in the series is/are automatically specified (Schachter 1974a, Aikhenvald 1999, Osam 1994a, 1994b). This means it is not possible to have the initial verb marked for the past and the subsequent verbs marked for the non-past (the future, for example). Any attempt at that will result in an ungrammatical sentence. I give examples from two languages below. Those numbered (i) are grammatical because they have one tense/aspectual type, each having scope over that whole construction while those numbered (ii) are ungrammatical because the verbs in the various construction have different tense/aspectual marking.

(13)   a. i.   **ya-bɨ-taray-mul-kiak.**   (Yimas, Foley & Olson 1985:23)
                3plO-3dlS-loosened-run-remote past
                'They both loosened them and ran away'

      ii.   *****ya-bɨ-taray-t-mut-n.**
               3plO-3dlS-loosened-perf-run-pres
                'They both loosened them and are running away'

b. i.	**Kofi**	**yɛ-ɛ**	**adwuma**	**ma-a**	**Ebo.**
	Kofi	do-PAST	work	give-PAST	Ebo

'Kofi worked for Ebo'

ii.	*****Kofi**	**yɛ-ɛ**	**adwuma**	**a-ma**	**Ebo.**	
	Kofi	do-PAST	work	PERF-give	Ebo	(Akan)

Even though the constraint on the independent selection of tense/aspect for verbs in a serial construction appears to hold for all SVC proper, different serializing languages have different way of implementing this. For example, as can be seen from the data above, in Akan the tense/aspect marker appears on all the verb(s). In Yimas, however, it appears on the final verb but has scope over the entire construction.

3.2.2 *Polarity sharing*

This refers to the fact that in serialization all the verbs are marked either for the negative or the affirmative. The term polarity stems from the fact that, generally, negation is contrasted with the affirmatiive, creating a polarity distinction between positive and negative. The following are constructions in which the presence of a negatively marked verb in a sentence with a non-negatively marked one results in an ungrammatical sentence.

(14)   a. **Mansah**   **yɛ-ɛ**   **aduane**   **ma-a**   **Mensah.**
           Mansah   prepare-PAST   food   give-PAST   Mensah
           'Mansah prepared food for Mensah'

       b. ***Mansah**   **yɛ-ɛ**   **aduane**   **a-m-ma**   **Mensah**.
           Mansah   prepare-PAST   food   PAST-NEG-give   Mensah
           '*Mansah prepared food did not give Mensah'

       c. ***Mansah**   **a-n-yɛ**   **aduane**   **ma-a**   **Mensah**.
           Mansah   PAST-NEG-do   food   give-PAST   Mensah
           '*Mansah did not prepare food gave Mensah'

       d. **Mansah**   **a-n-yɛ**   **aduane**   **a-m-ma**   **Mensah.**
           Mansah   PAST-NEG-do   food   PAST-NEG-give   Mensah
           'Mansah did not prepare food for Mensah'

In this section I have looked closely at the integrated SVC, focusing on those features that are pertinent to the goal of this work. In the next section I will show how the issues discussed in the foregoing sections can be represented in both C-structure and *f*-structure.

4. C-structure and *f*-structure representation

Bodomo (1997, 2002), treated serial verb construction as complex predicates and represented them like a discontinuous PRED value (PREDCHAIN) as the following show.

(15)   **o**   **da**   **zo**   **wa**   **de**   **la**   **soɔ**   **ko**   **ma**
        3.s   PAST run   come take   FACT. knife give   me
        'S/he ran here and took the knife for me'

       [PRED   'zo-wa-de-ko <SUBJ, OBJ1, OBJ2>'
             SUBJ   [PRED '**o**']
             OBJ1   [PRED '**soɔ**']
             OBJ2   [PRED '**ma**']

                                   ]   (Dagaare; Bodomo, 1997: 85)

Figure 4 *A flat f-structure*

As pointed out earlier, the objects in an SVC need not be shared by all the verbs in the construction, if there will be any sharing at all (Sahoo 2001: 158). Therefore assuming an *f*-structure like the one in figure 4 above amounts to an over-generalisation of the sharing relation in the phenomenon and is bound to run into difficulties when faced with a construction in which some object(s) is/are not shared by the verbs in the series as, indeed, is the case in figure 4. Taking the Akan sentence in (14a) as an example, it could be seen with half an eye that assuming a complex predicate for the verbs and presenting them in an *f*-structure like the one in (15b) translates into the verb, *yɛ* 'prepare' as well as ***ma*** 'give' selecting *Mensah* as their object. However, it is clear, as argued above, that the verbs ***zo*** 'run' and ***wa*** 'come' do not select ***so*** 'knife' and ***ma*** 'me' as objects, just as the verb *yɛ* 'do' in (14a) does not select ***Mensah*** as an object. ***Mensah*** is an object of ***ma*** 'give' only, even though ***ma*** 'give' shares the other object *aduane* 'food' with the verb *yɛ* 'prepare'.

　　　Therefore, to represent the sharing relation, I propose to adopt some of the formalisms used in the literature in the discussion of coordination (Bresnan 2001, Dalrymple 2001), in the proposed c-structure and *f*-structure representation of ISVCs. This does not mean I am assuming a coordinate structure for SVCs, but that, in using a symbol like 'Є' (which means 'member of') in the proposed structures, I portray the fact that these verbs with their subatomic events come together to code what is conceptualised as a single event (Osam 1994), of which the individual verbs are subparts. The underlying assumption is that Serialisation and Coordination could be regarded as alternative means of representing conceptualized integrated events with the degree of semantic integration being higher in SVC than in coordinate construction.[9] I propose the phrase structure rules in (16), which will generate the c-structure in figure 5. The up arrow ($\uparrow$) refers to the mother node whilst the down arrow ($\downarrow$) refers to the node itself. So the functional annotation ($\downarrow$ Є $\uparrow$) means this node is a member/subpart of the node immediately dominating it. In the same way, the annotation ($\uparrow = \downarrow$) means the daughter node has the same value as mother node. For example, the annotation ($\uparrow = \downarrow$) above the V node, in the c-structure in figure 5, means the head V has the same value as the maximal projection VP which immediately dominates the V node.

(16)　S $\rightarrow$　　NP　　　　　VP$_1$
　　　　　　　　($\uparrow$SUBJ) = $\downarrow$　　$\uparrow = \downarrow$

　　　　NP $\rightarrow$　　N　　　　　$\begin{pmatrix} \text{Det} \\ \uparrow = \downarrow \end{pmatrix}$
　　　　　　　　　$\uparrow = \downarrow$

　　　　VP$_1$ $\rightarrow$　VP　　　　　VP
　　　　　　　　　$\downarrow$ Є $\uparrow$　　　　$\downarrow$ Є $\uparrow$

　　　　VP $\rightarrow$　　V　　　　　$\begin{pmatrix} \text{NP} \\ (\uparrow\text{OBJ}) = \downarrow \end{pmatrix}$
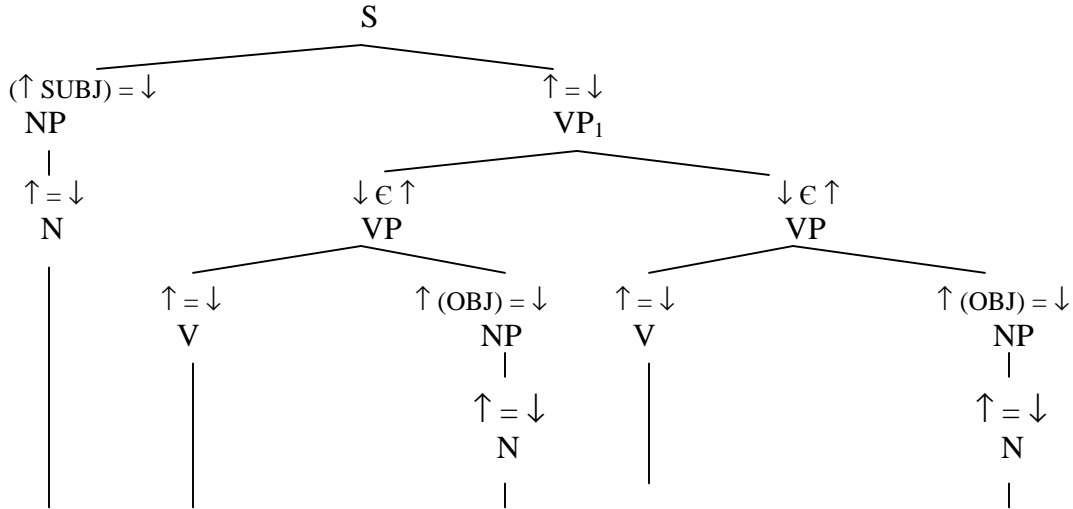　　　　　　　　　$\uparrow = \downarrow$

Figure 5 *The c- structure*

The lexical entries below and the instantiation of the functional annotations in the C-structure in figure 5 yield the C-structure in figure 6 for the Akan sentence in (17). In this sentence there is subject sharing. This is shown by the functional annotation $[f_1 \text{ SUBJ} = f_2]$ which is above $[\text{NP}_{f2}]$. The annotation shows that $[\text{NP}_{f2}]$ is the subject of the entire construction which is $[S_{f1}]$. On the *f*-structure, the shared subject is put inside the functional structure of the sentence $[f_1, f_3]$ so that the verbs can inherit its properties. The inheritance is shown by the direction of the arrows in the *f*-structure.

(17) **Kofi   to-o   bo-ɔ   bɔ-ɔ   Amma**
      Kofi   throw-PAST   stone   hit-PAST   Amma
      'Kofi stoned Amma'

(18) Kofi   NP   ($\uparrow$PRED) = **'kofi'**
                   ($\uparrow$NUM) = 'SG'

      to   V   ($\uparrow$PRED) = **'to'** <(SUBJ), (OBJ)>
                   ($\uparrow$TENSE) = 'PAST'

      boɔ   NP   ($\uparrow$PRED) = **'boɔ'**
                   ($\uparrow$NUM) = 'SG'

      bɔ   V   ($\uparrow$PRED) = **'bɔ'** <(SUBJ), (OBJ)>
                   ($\uparrow$TENSE) = 'PAST'

      Amma NP   ($\uparrow$PRED) = **'Amma'**
                   ($\uparrow$NUM) = 'SG'

S$_{f1}$

f_1 SUBJ = f_2
NP$_{f2}$

$f_1 = f_3$
VP$_{1f3}$

$f_2 = f_4$
N$_{f4}$

$f_5 \in f_3$
VP$_{f5}$

$f_6 \in f_3$
VP$_{f6}$

$f_5 = f_7$
V$_{f7}$

f_5 OBJ = f_8
NP$_{f8}$

$f_6 = f_9$
V$_{f9}$

f_6 OBJ = f_{10}
NP$_{f10}$

$f_8 = f_{11}$
N$_{f11}$

$f_{10} = f_{12}$
N$_{f12}$

Kofi to-o boɔ bɔ-ɔ Amma
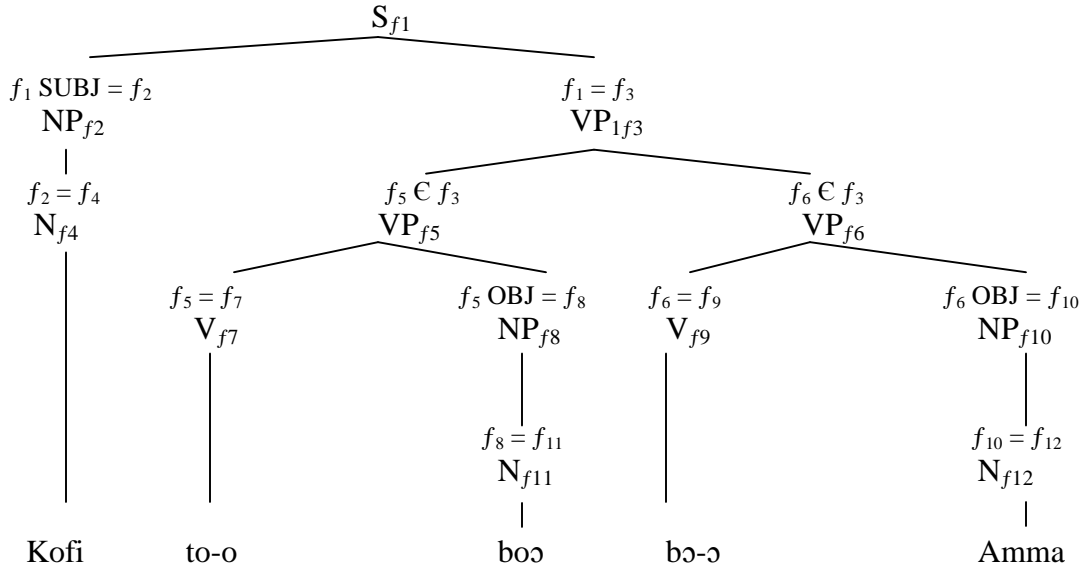
Figure 6 *A c-structure with subject sharing only*

f_1, f_3:

SUBJ f_2, f_4: [PRED 'Kofi' / NUM 'SG']

TENSE   PAST

∈: f_5, f_7: [PRED 'to' <(SUBJ) (OBJ)> / SUBJ [' '] / OBJ f_8, f_{11}: [PRED 'boɔ' / NUM SG]]

∈: f_6, f_9: [PRED 'bɔ' <(SUBJ) (OBJ)> / SUBJ [' '] / OBJ f_{10}, f_{12}: [PRED 'Amma' / NUM 'SG']]
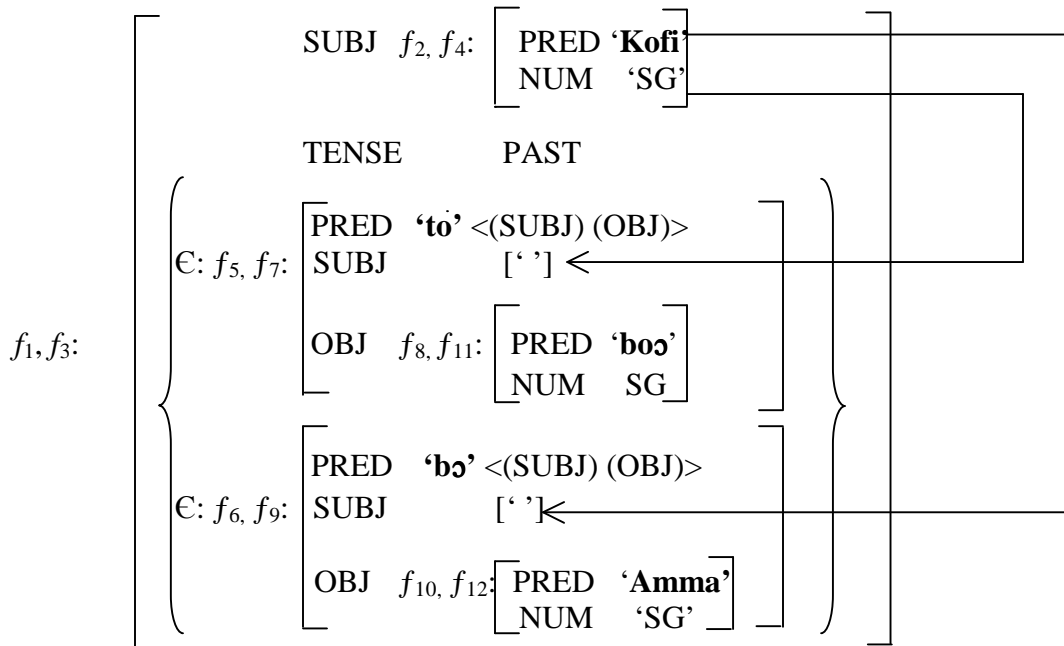
Figure 7 *F-structure of SVC proper showing subject sharing*

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This leads me to the question of how to show (in the c-structure) object sharing of the kind in (14a), where *ma* 'give' is argued to take two objects, the second of which it shares with the other verb *yɪ* 'prepare'. To this end, I propose to make the shared object an object of the parent verb phrase (VP$_1$), which branches into the two lower VPs so that the daughter VPs can inherit the object in question. This is shown by the functional annotation [(*f*3 OBJ) = *f*8] which is above VP$_1$. That annotation indicates that *f*8, which is the first NP, belongs to (is the object of) the parent VP. As a result, its features percolate through to the daughter VPs. That effectively translates into the object functioning as the object of both verbs in the construction. In the *f*-structure, the shared OBJ, like the shared SUBJ, will be in the matrix *f*-structure so that its properties can be distributed as the arrows show in figures 10. That way, the representation captures the fact that the verbs in the construction are both independent and dependent. Independent because they code separate (subatomic) events, and dependent because each subatomic event combines with (an)other subatomic event(s) coded by (an)other verbs in expressing what is conceptually a unitary event (Osam 1994). So, what is in the c-structure that makes it possible for the shared object to occur under one VP only even though it is shared by both verbs? There is nothing in the c-structure that states that the shared element should or should not appear only once. The shared NP occurs only once but *functions* as the object of both verbs. This functional information should, therefore, be in the *f*-structure and possibly 'hinted' at through the functional annotations of the various nodes on the tree diagram (c-structure). In some other serialising language, it may be necessary to repeat shared objects. In Akan and indeed all the languages from which I have used examples in this paper, shared arguments occur only once. The variability principle, (Bresnan 2001: 44) states that external structure varies across languages. The formal model for expressing variability is the c-structure. In LFG, the practice is to factor out the separate components of the grammar into different informational structures and to map them one onto the other, through functional correspondence. Therefore, in this case, I stay faithful to the facts of the language by making the shared NP occur in the first daughter VP only, as it is in figure 8, and then by means of the functional annotation, show its various function(s). The functional annotion [(*f*3 OBJ) = *f*8] in the matrix VP in figure 8 shows this.

(19) **Mansah   yε-ε   aduane   ma-a   Mensah**
      Mansah   do-PAST   food   give-PAST Mensah
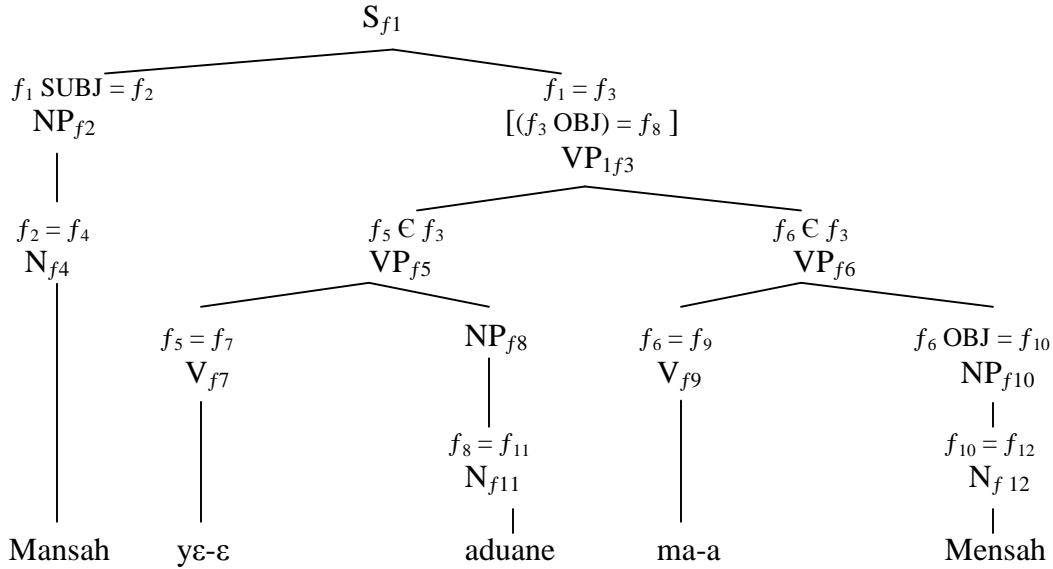   'Mansah prepared food for Mensah'

S_{f1}

f_1 SUBJ $= f_2$ $f_1 = f_3$
NP$_{f2}$ $[(f_3$ OBJ$) = f_8$]
                          VP$_{1f3}$

$f_2 = f_4$ f_5 Є f_3 f_6 Є f_3
N$_{f4}$ VP$_{f5}$ VP$_{f6}$

           $f_5 = f_7$ NP$_{f8}$ $f_6 = f_9$ f_6 OBJ $= f_{10}$
            V$_{f7}$ V$_{f9}$ NP$_{f10}$

                          $f_8 = f_{11}$ $f_{10} = f_{12}$
                          N$_{f11}$ N$_{f\,12}$

Mansah   yɛ-ɛ   aduane   ma-a   Mensah

Figure 8 *A c-structure with both subject sharing and object sharing*

f_1, f_3:
SUBJ f_2, f_4: [PRED 'Mansah' / NUM SG]

TENSE   PAST

OBJ f_8, f_{11}: [PRED 'aduane' / NUM 'SG']

Є: f_5, f_7: [PRED 'yɛ' < (SUBJ) (OBJ) > / SUBJ [' '] ← / OBJ f_8, f_{11}: [' '] ←]

Є: f_6, f_9: [PRED 'ma' < (SUBJ) (OBJ1) (OBJ2)> / SUBJ [' '] ← / OBJ1 f_{10}, f_{12}: [PRED 'Mensah' / NUM 'SG'] / OBJ2 f_8, f_{11}: [' ']←]
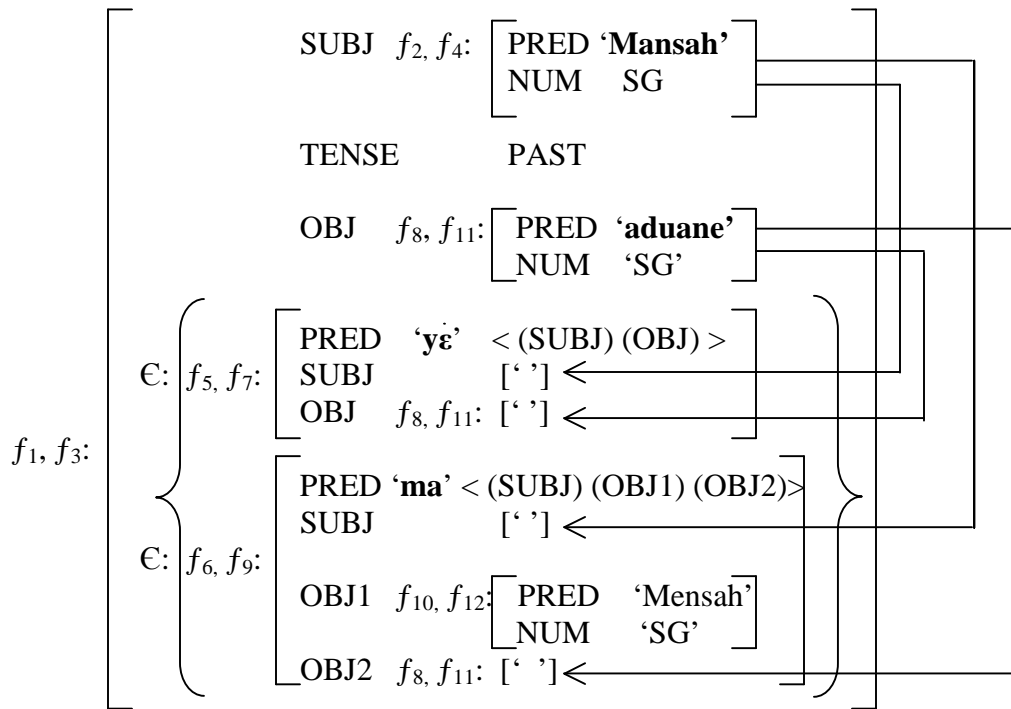
Figure 9 *F-structure of ISVC with both subject sharing and object sharing*

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5. Concluding Remarks

The aim, in this paper, has been to find out how ISVC could be represented in both C-structure and in *f*-structure. Based on the fact that objects in an ISVC proper need not be shared if they are not referentially identical (Foley and Olson 1985, Osam 1994a, 1994b, Sahoo 2001). I have shown that the complex predicate analysis, as presented in Bodomo (1997, 2002), with all the verbs in the series sharing all the NPs in the construction, is heavily flawed. As I argued, the complex predicate analysis amounts to an overgeneralisation of the sharing relation in that it does not show which arguments are shared by which verbs and which are not shared. In the said complex predicate analysis, all the verbs in the construction are strung together into one PREDCHAIN which behaves in ways similar to a single verb. Among other features, the complex predicate takes a single subject, made possible by the subject sharing constraint. It also takes all the objects in the construction, made possible by the object sharing constraint.

The difficulty that comes with this analysis is obvious. Principally, the analysis ignores the syntactic and the semantic restrictions on the component verbs in the construction. That is because, in the complex predicate analysis, the individual verbs have their syntactic and semantic features subjugated and they are incapable of independently selecting arguments, for example.

I have proposed an alternative in which I emphasise the fact that, though the individual verbs come together to convey the overall meaning of the entire construction, they do not lose their individual features completely, as the complex predicate analysis seems to suggest. Rather, they may retain their ability to select arguments to meet their conceptually necessary arguments as entered into their lexical entries, (Foley and Olson, 1985). For example, the verbs *zo* 'run' and *wa* 'come' in (15) are intransitive. It beggars belief, therefore, for one to suggest that they are enabled to take objects (as in, share the objects in the construction) just because they occur in the same construction with transitive verbs.

In my proposal, I make a shared argument an argument of the parent VP node on the C-structure so that its daughter VP nodes can inherit the NP argument. In the *f*-structure, I have proposed putting the shared argument(s) in the matrix *f*-structure so that its properties can be distributed, thus capturing both the relative independence and the mutual dependence of the verbs in the construction in expressing what is considered a unitary event.

Finally, I noted at the outset that the representation in the f-structure should not lead to a violation of the uniqueness condition which requires that every attribute have a unique value and so forbids a single attribute having non-identical values (Bresnan 2001: 47). This potential problem is dealt with in that each verb in the construction has its own *f*-structure and not strung together, as the case is with the complex predicate analysis. Therefore, there will be no PRED with more than one value.

Notes

[1] The abbreviations used in this paper are: CC = Clause chains, CONJ = Coordinating Conjunction, CONS = Consecutive aspect, DEF = Definite determiner, FUT = Future tense, NEG = Negation morpheme, OBJ = Object, PAST = Past tense marker, PERF = Perfect tense marker, POSS = Possessive pronoun, PROG = progressive aspect, SG singular, SUBJ = Subject, PRED = Predicate, SVC = Serial Verb Construction.

[2] Dolphyne (1988), Sætherø and Hellan (1996) have a discussion of the possible tense/aspect cormbinations in Akan.

[3] Bodomo (2002: 36-7) acknowledges that if the verb **hu** 'to see' is used, the reflexive could refer to either Kofi or Amma in sentence (a). To the extent that the reflexive **neho** refers to Amma, this sentence can be said to be a very good example of the switch subject serial verb construction. This is because the entity that did the seeing it (the subject of the second verb **hu** 'see') **Amma** is who is also the object of the first verb **ma** 'make'. Unlike (a) which is potentially ambiguous, (b) has only one interpretation. The entity that does the cheating is Amma which is the object of the first verb **ma** 'make' and the subject of the second verb **bu** 'cheat'. This sentence also instantiates the switch-subject SVC.

a. **Kofi a-ma Amma a-hu ne-ho**
   Kofi PERF-make Amma PERF-see 3SGPOSS-self
   'Kofi has made Amma see himself/herself'

b. **Kofi a-ma Amma a-bu ne-ho**
   Kofi PERF-make Amma PERF-cheat 3SGPOSS-self
   'Kofi has made Amma cheat herself'   (Akan)

[4] The example sentences Osam gives in support of the argument for the existence of the switch-subject SVC type are similar to the causative SVC types (Foley and Olson 1985, Lord 1993).

[5] This sentence is another rendition of the sentence in (6d), used by Bodomo in arguing against the switch subject SVC. The only difference between the two is that (7a) is in the Fante dialect of Akan while (6d) is in the Twi dialect. Besides, the two have different aspectual forms.

[6] I believe Osam will agree that this sentence is ambiguous and that in the first reading it is the patient that falls and in the second it is the agent that falls after pushing the patient. That translates into different subjects for the two different readings. So if it is the second reading the writer has in mind, then yes, it does not instantiate the Switch-subject SVC. On the other hand, if the writer has in mind the first reading then the sentence does represent an instance of the switch-subject SVC since the subject of the first verb will not be the subject of the second.

[7] This sentence is an example of the switch-subject SVC since the subject of the verb *hyɛ* 'wear' is not *kofi* but *Akosua* the object of the first verb.

[8] Emphasis mine

[9] This is the subject matter of another paper which is in preparation.

Acknowledgement

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