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Serial verb reduplication in the Mabia languages of West Africa

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Abstract

This paper introduces and discusses the notion of Serial Verb Reduplication (SVR) in two Mabia languages of West Africa, Dagaare and Kusaal. The authors show that the phenomenon of SVRs, though under-represented in the literature, has a wide scope occurrence in natural language usage within serializing languages. Theoretically, two lexical semantic notions: semantics of verbs (verb meaning) and pluraction, are advanced to explain the intricacies of the syntax and semantics of SVRs. The paper identifies two groups of SVRs: canonical SVRs and pluractional SVRs and proposes that semantically bleached verbs can only be reduplicated in pluractional benefactive and causative SVRs in these languages.

Keywords: Serial verb reduplication, serial verb constructions, Mabia languages, bleached verbs, pluractional.

Introduction

Verb serialization and verb reduplication are recurrent grammatical processes in many languages around the world, especially in the two Mabia languages of West Africa that this paper focuses on. The Mabia languages are a sub-group of Niger-Congo languages spoken in Ghana, Burkina Faso, Togo and Ivory Coast. They are previously referred to as the Western Oti-Volta subgroup of Gur languages (Westermann & Bryan, 1952; Greenberg, 1963). The term *Mabia* is a compound word composed of the words *ma* 'mother' and *bia* 'child' and it is argued to be more representative of the languages under this group since these two words can be traced in almost all the languages compared to the term 'Gur' which is derived from the initial syllables of only three/four of the languages in this group: Gurensi, Gurma and Gurenɛ (see Bodomo, 2020; Abubakari, 2020). Some of these languages are Dagaare, Dagbane, Gurune, Kusaal, Moore, and Buli. This work focuses on two of these languages: Dagaare and Kusaal - spoken in the Upper West and the Upper East regions of Ghana respectively, and are the native languages of the authors of the paper. Dagaare is spoken as a first language by about two million people (Bodomo, 2020) whilst Kusaal is spoken as a first language by about 535,000 people in Ghana (GSS, 2010). Much of the data for this paper, for both languages, are based on the native speaker intuitions of the authors of the paper, but some of the data are also from published works on serial verb constructions, as the citations at appropriate places show. Both languages, as is also the case in almost all the Mabia languages listed above, are tonal[1] languages, they have Subject Verb Object (SVO) word order and reference to time is mainly marked using particles. The process of verb serialization in these and other languages results in a grammatical construction known as serial verb construction,

[1] Tone is marked on the data used in this study from both Dagaare and Kusaal. However, ungrammatical constructions are often left unmarked since the tone on the lexical items are traceable from the grammatical counterparts of the respective examples.

a serial verb construction being defined as follows in Bodomo (2002):

> A construction c is an SVC iff:
> All the different verbal predicates in c share the same structural or functional subject and object and are in the scope of a Tense, Aspect and Polarity (TAP) node with no connector y such that y intervenes between the row of verbs in c which expresses a single event or tightly related events.

The verbs in the series as seen in the definition have single occurrences, but as Bodomo (2002) indicates there could be multiple occurrences of each verb or parts of it. This multiple occurrence may be reduplication, which may be partial or full reduplication (which may or may not be synonymous with repetition). According to Abubakari (2018, p. 98, 2011) Kusaal is a serializing language with prototypical SVC features that include: multiple predications, argument sharing, TAMP (Tense, Aspect, Mood and Polarity) sharing and the absence of connectors. Abubakari (2018, p. 98, 2011) adds that SVCs in the language are monoclausal constructions in which series of verbs are used in coding single events or series of activities that are closely related. Kambon et al (2015, p.75) advance an argument that the definition of SVCs should not prejudice the serial verbs to the detriment of other equally important parts of the construction. They arrive at this after an investigation which reveals that the semantic integration as well as the lexicalization that takes place in full lexicalized-integrated serial verb constructions extends not only to serial verbs but also to the non-verbal elements which, to native speakers, seem to form just as important a part of the SVC as the verbal elements.

Reduplication is a word-formation process in which meaning is expressed by repeating all or part of a word (Urbanczyk 2011). Studies on reduplication has attracted widespread analysis especially within the study of prosodic phonology (Marantz

1982; Steriade,1988; McCarthy and Prince, 1994,1995; Kager, 1999) where the process is defined as a form of phonological doubling of a base. Contrary to this, Inkelas and Zoll (2005) through the Morphological Doubling Theory (MDT), explain that reduplication involves morpho-semantic doubling (or self-compounding) rather than phonological doubling. According to them in MDT, a reduplicative construction is a self-compound in which each half is considered as an independent input required to have the same semantic features (Downing, 2007). Although there is dearth of knowledge on studies on reduplication in Dagaare and Kusaal to be specific (Bodomo, 1997; Abubakari, 2018; Musah, 2018) and Mabia languages in general, a few are traceable. Issah (2011, p. 40) and Hudu (2010, p.118) describe reduplication in Dagbani as a morphological process that sees the root or stem of a base or part of it repeated. Very little information can be traced on reduplication in both Dagaare and Kusaal (Bodomo, 1997; Abubakari, 2018; Musah, 2018). There are no known publications, prior to the writing of this paper, that have actually pinned down the various conditions under which verbs can be reduplicated within the serial verb construction in Dagaare and Kusaal besides a brief illustration of the phenomenon in Bodomo (2002). For non-Mabia languages, reduplication has been discussed in works such as Dixon (2011), Foley (1991), Alexandre (2006) and Lichtenberk (2006).

In this paper we define serial verb reduplication (SVR) as *a serial verb construction in which at least one of the verbs is reduplicated*. The paper is guided by the following research questions: (i) is reduplication possible in all types of SVCs, (ii) what verb types are targets for reduplication, and (iii) why at all is the SVR construction motivated in the grammar?

The paper is organized as follows. In section 2, we outline the basic component parts of SVRs, SVC and reduplication, and show how the SVR derives from the two parts. In section 3, we propose various types of SVRs and, based on lexical semantic interpretations of the verbs in the series, develop syntactic

constraints that govern the formation of these constructions. We conclude the paper in section 4 with a summary of our results and an exploration of a cross-linguistic research agenda for SVR studies.

The basics

Serial verb construction

SVCs are known to occur in various languages of the world. The construction has been observed in four main linguistic areas: (i) West African languages, especially Mabia, Kwa, and Benue-Congo languages (Musah, 2018; Abubakari, 2018, 2011; Kambon et al, 2015; Kambon, 2012; Osam, 1994, Ameka, 2006; Bodomo, 1997, 2002, 2011 among others) (ii) African-Caribbean Creoles such as Sranan (Sebba, 1987), (iii) South East Asan languages such as Chinese (Li, 1991), Khmer (Schiller, 1991), and Thai, and (iv) The Pacific i.e. the Oceanic and Papuan languages such as Kallam and Alamblak (Durie, 1988). But there are also some SV-like constructions in many traditionally 'non-serializing' languages. Pullum (1990) refers to 'go get' constructions in colloquial and American English as SV-like constructions. Also, in the Scandinavian languages such as Norwegian, we have 'subcoordination' constructions (see Bodomo, 1997 for a description of these SV-like constructions).

The verbal complex can be very long: anywhere from two to ad infinitum. It is usually subject to various semantic, syntactic, morphological, and phonological constraints. Here are two examples in Dagaare, involving two verbs in (1) and as many as four in (2)[2]:

(1) ***ò*** ***dé*** ***lá*** ***gánè*** ***kò*** ***ma***
3SG take FOC book give me
'S/he gave me the book'

[2] It is plausible to think of the longer SVCs as in (2) as comprising two types of SVCs, a deictic and a benefactive – see our typology of SVCs and SVRs in section 3. In this case then we would be dealing with two events: a deictic event of going to the knife and the benefactive event of giving the knife to the interlocutor.

(2) ***ò*** ***dà*** ***zò*** ***wà*** ***dé*** ***lá*** ***sòɔ́*** ***kò*** ***má***
3SG PAST run come take FOC knife give me
'S/he ran here and took the knife for me'

A considerable number of claims and counterclaims exist in the literature about the abstraction of universal rules for generating SVCs suitable for all languages and all types of SVCs in the same language. Lord (1993) succinctly expresses this point in the following way:

> The label "serial verb" has been applied to a range of linguistic constructions in a variety of languages. Generalizations about a set of verb phrase sequences in one language do not necessarily apply to superficially similar constructions in another language. Within a single language, one group of serial verb constructions may show a certain property, while another group may not. This situation has encouraged a blossoming of claims and counterclaims about serial verb constructions. (p.1)

Diachronic and synchronic, as well as descriptive and generative, approaches exist in the literature that discuss the phenomenon of SVC. A crucial step in the direction of abstracting useful generalizations is to catalogue the various types of SVCs in each language and if possible across languages. In this paper we base our classification on Dagaare and Kusaal SVCs, Dagaare and Kusaal being two main Mabia languages as mentioned above, but with some occasional comparison with other linguistic data.

Cross-linguistic characterizations of SVCs are strikingly similar even though there are some differences. We present below some of these. Sebba (1987) working on Creole languages of the Caribbean, such as Sranan, presents the following characterization (3):

(3) a. Although two or more verbs are present, the sentence is interpreted as referring to a single action rather than a series of related actions...
b. There is strict ordering relationship between the verbs...
c. Furthermore, the first verb in a series may subcategorize for a particular verb or class of verbs...
d. In some cases, each transitive verb in the series has its own object...

Ameka (2006, p. 128-9) describes an SVC in Ewe, a Kwa language, as a sequence of two or more verb phrases (including any complements and adjuncts):

(4) a. without any marker of syntactic dependency;
b. the VPs in the sequence are construed as occurring with in the same temporal frame;
c. the VPs share the same mood (e.g. imperative);
d. the VPs can be formally marked for different aspect and modality categories;
e. the individual verbs can function as independent verbs in simple clauses (in the same form);
f. same syntactic subject for all VPs in the series but ex pressed only once before VP1
g. monoclausal construction;
h. VPs cannot be formally independently negated;
i. the verbs can be individually focused or questioned.

Bradshaw (1982), working on Papua New Guinean languages, also outlines the following structural descriptions of serial verb constructions (5):

(5) a. All the verbs in the serial construction refer to subparts of a single overall event.
b. There is no intonational or grammatical marking of clause boundaries between the verbs.
c. There are tight restrictions on the nominal arguments associated with each verb.

d. There is no contrast in the basic inflectional categories of serialized verbs.

Many of these features of SVCs are demonstrated in the two Mabia languages in subsequent sections of the paper, but for now let us briefly outline the other building block of SVRs, reduplication.

Reduplication

Reduplication is not an uncommon phenomenon in languages. As pointed out by Sapir (1921, p.76), "nothing is more natural than the prevalence of reduplication, in other words, the repetition of all or part of the radical element". In Pott (1862), one of the oldest and most important typological databases on reduplication, he used the word "Doppelung" which refers equally to sentences, words, syllables, and individual sounds, as well as to both grammatical and extragrammatical word formation and cited a great number of examples from American, African and Asian languages. Haspelmath (2002, p.274) states that reduplication is a morphological process which repeats the morphological base entirely or only partially. This can be exemplified cross-linguistically, as shown in Indonesian and Latin in (6).

(6) a. Indonesian *kanak kanak* (b) Latin *te-tig-i*
child child RED-touch: PAST-1SG
'children' 'I have touched'

However, reduplication can also be "a formal linguistic device that can be used at all levels of linguistic structure" (Maas 2005, p. 395; cf. also Pott 1862), as shown in French and German in (7a and b).

(7) a. French: Il a marché longtemps, longtemps, longtemps, avant d'arriver. (Vittrant and Robin 2007, p. 77)

b. German: Reiten, reiten, reiten, durch den Tag, durch die Nacht, durch den Tag. Reiten, reiten, reiten. (Rilke, 1899)

Gil (2005, p.31) terms this higher level of reduplication as syntactic reduplication, or 'repetition', which distances it from proper lexical reduplication.

In this paper, we will deal specifically with verb reduplication and we will see that in the Mabia language data shown in the next section, reduplication is mostly one of total, and not partial, reduplication. The following examples (8), from Dagaare and Kusaal respectively, illustrate the occurrence of total reduplication for iterative purposes.

(8) a. ***ò*** ***dà*** ***pùllí pùllí*** ***laá*** ***à*** ***tèènɛ́ɛ́***
3SG PAST mixed-mixed FOC DEF medicines
'S/he mixed the several medicines (repeatedly).'

b. ***ò*** ***dà*** ***gɛ́ndígi-gɛ́ndígi*** ***tímá*** ***lá***
3SG PAST mixed-mixed medicines DEF
'S/he mixed the several medicines (repeatedly).'

Verb serialization + Verb reduplication = Serial Verb reduplication

Having introduced the basics of verb serialization and verb reduplication, we now proceed to demonstrate how serial verb reduplications derive from the two phenomena of verb serialization and verb reduplication.

Compare the Dagaare verbal constructions in (9) and (10) to that in (11) below:

(9) ***ò*** ***dà*** ***mɔ̀ŋ́g*** ***lá*** ***sááó*** ***dì***
3SG PAST stir FOC saao eat
'S/he stirred saao (and) ate it'

(10) a. ***ò*** ***dà*** ***mɔngmɔ̀ŋ́g*** ***lá*** ***sááó***
3SG PAST stir-stir FOC saao
'S/he stirred saao (repeatedly)'

b. ***ò*** ***dà*** ***dìdì*** ***lá*** ***sááó***
3SG PAST eat-eat FOC saao
'S/he ate saao (repeatedly)'

(11) a. ***ò*** ***dà*** ***mɔ̀ŋ́g*** ***lá*** ***sááó*** ***dìdì***
3SG PAST stir FOC saao eat-eat
'S/he stirred/made saao and ate it many times'
b. ***ò*** ***dà*** ***mɔ̀ngmɔ̀ŋ́g*** ***lá*** ***sááó*** ***dì***
3SG PAST stir-stir FOC saao eat
'S/he stirred saao repeatedly/intensively and ate it once'
c. ***ò*** ***dà*** ***mɔ̀ngmɔ̀ŋ́g*** ***lá*** ***sááó*** ***dìdì***
3SG PAST stir-stir FOC saao eat-eat
'S/he stirred saao repeatedly/intensively and ate it many times'

In (9) we have an instance of typical object-sharing serial verb construction involving two dyadic verbs 'stir' and 'eat'. As seen in (10) both verbs can be reduplicated in a non-serial verb construction. That is an instance of a verb reduplication construction. Now in (11a, b) things get a little bit more complex where each of the verbs in the SVC is reduplicated and even more complex in (11c) where both of the verbs are reduplicated. The constructions in (11) are instances of Serial Verb Reduplications, abbreviated from now onwards as SVRs, and may be defined as *constructions that are derived from an SVC where at least one of the verbs in the series is reduplicated,* as shown above in Dagaare sentences[3].

The second Mabia language we shall use to illustrate the phenomenon is Kusaal and the following in (12) to (15) illustrate SVRs in the language.

[3] A question may be raised as to whether the reduplication is limited to one copy or one repetition of the base morpheme as in *ò dà mɔ̀ngmɔ̀ŋ́g lá sááó dìdì.* This is usually the case but it is also possible that if the speaker wants to express an extra intensive repetition he or she can use more than one copy as shown here*: ò dà mɔ̀ngmɔ̀ngmɔ̀ŋ́g lá sááó dìdìdì.* Notice that there is a high tone on the last copy of the first verb but this is not a feature of reduplication but that of tone raising by the adjacent high tone particle*, lá.*

(12) a. ***Àsíbí́*** ***à*** ***pí'à*** ***gú›é***
Asibi PAST speak fail
'Asibi spoke but could not save the situation'

b. ***Àsíbí́ sà*** ***pí'à-pī'à*** ***gú'é***
Asibi PAST speak-speak fail
'Asibi spoke a lot but could not solve the situation'

(13) a. ***Bà*** ***sà*** ***dá'á*** ***laáád*** ***kúós***
3PL PAST buy item sell
'They bought things and sold them'

b. ***Bà*** ***sà*** ***dá'á-dá'á*** ***láád*** ***kúós- kúós***
3PL PAST buy-buy item sell-sell
'They bought a lot of things and sold them'

Since SVRs are derived from SVCs, as in the definition above, SVRs are governed by all the constraints of SVCs in addition to which there must be the reduplication of at least one of the verbs. In the interpretation of the SVRs we see continuity of the actions portrayed by the reduplicated verbs and a further connotation of emphasis on the meaning derived from reduplicating the verbs. The reduplicated verb in (14b) aside from implying that the action of speaking continued more than expected, also connotes some degree of emphasis on the action expressed by the reduplicated verb.

(14) a. ***Àsíbí́*** ***sà*** ***bù*** ***p*****í'à** ***g*****ú'é**
Asibi PAST NEG speak-speak fail
'Asibi did not fail after speaking'

b. ***Àsíbí́*** ***sà*** ***bù*** ***p*****í'à- p****í'à** ***g*****ú'é**
Asibi PAST NEG speak fail
'Asibi did not fail in solving the situation after speaking a lot'

(15) a. ***Bà*** ***tʊ́m-tʊ́m*** ***gɛ́n*** ****(gɛn)***
3PL work-work tired tired
'They work and work until they were tired'

b. ***Bà*** ***nà*** ***tʊ́m-tʊ́m*** ***gɛ́n*** ****(gɛn)***
3PL FUT work-work tired tired
'They will work and work until they are tired'

The examples in (12-15) show that all the verbs in SVRs, as in the case of SVCs, share identical subject, Tense, Aspect, Mood, Polarity (TAMP); as well as object where there is one.

As has been seen in the various sections so far, the interaction of verb serialization (§1) with verb reduplication (§2) gives us instances of SVRs (§3) for Dagaare and Kusaal, hence the title of this section: verb serialization + verb reduplication = Serial verb reduplication.[4] This section has illustrated that SVRs are formed from SVCs. In the next section we propose a typology of SVRs based on Bodomo (2002) and then use this typology to develop some constraints for SVRs involving each of the types of SVCs.

Classifications of SVRs and constraints

In this section we propose a functional descriptive classification of SVRs with data from Dagaare and Kusaal. The choice of these two sister languages is influenced partly by the

[4] Notice that when we talk of SVRs we are talking of only reduplicating the verbal predicates and not the object NPs or other kinds of non-verbal predicates. In other words, not everything can be reduplicated as illustrated below.

Ò	dà	mɔ̀ngmɔ̀nglá	sááó	dìdì		
DEF	PAST	stir stir	FOC	saao	eat-eat	
*o	o	da mɔngmɔngla		saao	di di	
DEF	DEF	PAST stir stir		FOC	saao	eat eat
*o	da	da mɔng mɔng		la	saao	di di
DEF	PAST	PAST stir stir		FOC	saao	eat eat
*o	da	mɔng mɔng	la	la	saao	di di
DEF	PAST	stir stir	FOC	FOC	saao	eat eat
*o	da	mɔng mɔng	la	saao	saao	di di
DEF	PAST	stir stir	FOC	saao	saao	eat eat

With the exception of (a), which is a licit SVR construction, the rest (b) to (e) are ungrammatical because the subject pronoun is repeated or reduplicated (b), the past tense particle is repeated or reduplicated (c), the focus particle is repeated or reduplicated (d) or the object NP is reduplicated (e).

availability of data and also partly on the grounds that these languages and by extension several other Mabia languages, to a large extend, exhibit identical characteristics in SVCs, though a number of differences are also observable. One strand of research could be to further establish whether the shared commonalities between these languages in SVCs will be further extended in SVRs. In this section, we illustrate the possibility of creating parallel SVRs from the already established SVC types in these languages: benefactive SVCs, instrumental SVCs, deictic SVCs, causative SVCs, and inceptive SVCs. It will be shown that the various types of SVCs can have their counterpart SVRs. The major challenge, however, is that it is not all the verbs in SVRs that allow reduplication. It will be observed that reduplication of verbs in SVR targets particular group of verbs and not others. Usually the verbs that serve as the 'semantic heads' in SVCs that express unitary events are what get reduplicated in instances where all the series of verbs cannot be reduplicated in non-pluractional SVCs. Thus, all verbs that are semantically bleached do not get reduplicated. 'Non-reduplicable' verbs could be described as delexicalized verbs or 'empty verbs' in SVRs in these languages.

Another environment that stimulates reduplication in Kusaal and Dagaare is Pluractional Construction, a construction in which the reduplicated verb serves as a marked inflection for plurality, if more than one token of the action it encodes takes place. This usually occurs with plural NP arguments. Our observation to a large extent shows identical characteristics of SVRs in Dagaare and Kusaal. This notwithstanding, observed differences in the two languages will be made clear when the need arises.

We now turn to consider the various types of SVRs in Dagaare and Kusaal and form a tentative constraint after each category. We will support our argument with data from both languages.

Benefactive serialization

This type of SVC involves a benefactive verb such as 'give' or 'receive' preceded by an activity verb which creates the object or substance of giving. The following serve as illustrations:

(16) a. ***ò dà tòŋ́g lá tómá ko ́ má*** [Dagaare]
3SG PAST work FOC work give 1SG.ACC
Lit. 'He worked and gave it (work) to me.'
'S/he worked for me'

b. ***ò dà tv ́m tʊ́má tísì bà*** [Kusaal]
3SG PAST work work-NML give 3PL
Lit. 'He worked and gave it (work) to me.'
'S/he worked for them'

The data in (16) involves an initial or preceding activity verb ('work'), creating the object 'work' which is a direct internal argument of the benefactive verb 'give' as demonstrated in the literal transliteration of the data.

The data in (17) comprise the SVR rendition of what we have in (16). It is used to test for reduplication in the benefactive SVC[5].

(17) a.(i) ***ò dà tòng-tòŋ́g lá tómá kó má*** [Dagaare]
3SG PAST work-work FOC work give 1SG.ACC
'S/he worked intensively for me.'

(ii) ****O da tong la toma ko ko ma***

[5] In this kind of reduplication there is a murkiness in interpretation between iterativity and intensity, as shown in the examples here with adverbs of iteration and intensity in Dagaare:

O	da	mang	tongtong	la	toma	ko	ma	
1SG	past	always	work-work	FOC	work	give	1SG. ACC	

'He always works for me'

O		da	tongtong	la	toma	yaga	ko	ma
1SG	PAST	work	work	FOC	work	much	give	1SG.ACC

'He works a lot for me'

Obviously when adverbs are added the disambiguation can be seen between iterativity and intensity. But then it is rare, though not impossible, to see adverbs used with reduplication in the languages as there seems to be a certain amount of tautology in the intended degree of emphasis.

b.(i) ***ò dà tʊ́m-tʊ́m tʊ́ʊ́má tísì-m*** [Kusaal]
3SG PAST work-work work.NML give-1SG.ACC
'S/he worked intensively for me'
(ii) **** o da tʊm tʊʊma tisi-tisi-m***

As shown, it is possible to reduplicate the first verb, the action predicates (17ai, bi) but not possible to reduplicate the second verb, which is the benefactive verb (17aii, bii). The benefactive verbs *ko*, *tisi* 'give' in Dagaare and Kusaal respectively, are observed to have some kind of reduced semantics since they do not signal any kind of physical activity that involves handing over something or offering someone something in these contexts. Thus, the verbs *ko*, *tisi* 'give' are amenable to reduplication should they express their full semantic interpretations devoid of any kind of bleaching as shown in (18) and (19).

(18) ***ò dà tísí-m tʊ́ʊ́má́ tʊ́m*** [Kusaal]
3SG PAST give-1SG.ACC work-NML work
'S/he offered work/S/he gave me work to do'

(19) ***ò dà tísí-tísí-m tʊ́ʊ́má́ tʊ́m*** [Kusaal]
3SG PAST give-give-1SG.ACC work-NML work
'S/he severally offered me work/S/he severally gave me work to do'

Both the first and second verbs can be reduplicated in pluractional constructions. The actions can be pluralized with plural agents and plural themes/patients.

(20) a. ***Bà dà tʊ́m-tʊ́m tʊ́ʊ́má́ tísí-tísí tì*** [Kusaal]
3PL PAST work-work work-PL give-give 1PL
'They worked intensively for us'

b. ****Bà dà tʊ́m tʊ́ʊ́má́ tísí-tísí tì***
Lit. 'They worked intensively for us'

c. ***Bà dà tòng-tòńg lá tómá́ kó-kó tè*** [Dagaare]
3PL PAST work-work FOC work give-give 3PL
'They worked intensively for us'/'they did many types of work for us'

d. ****Bà dà tòng lá tómá́ kókó́ tè***
Lit. 'They worked intensively for us'/ 'They did many types of work for us'

Constraint. We may thus tentatively conclude that in benefactive SVRs, verbs which are semantically bleached are not amenable to reduplication. Pluractional benefactive constructions, however, permit reduplication of all verb types in SVRs.

Causative (or action - causation) serialization

This type of serialization usually involves causation of some sort but there are differences in the way this is expressed from language to language, as may be illustrated by the Dagaare and Kusaal sentences in (21). In this construction the participant that is pushed is the same participant that falls.

(21) a. ***ò dà dáá́ má́ lá́ lɔ́ɔ́*** [Dagaare]
3SG PAST push me FOC cause-fall
'S/he pushed me down'

b. ***ò dà dá'é́ bíí́g lá́ lɔ́b*** [Kusaal]
3SG PAST push child DEF fall
'S/he pushed the child down'

These constructions have an inherently causative verb which is expressed subsequent to an action/activity verb, hence the term action - causation serialization.

In action – causation SVRs, the 'causative verb' cannot be reduplicated possibly due to the bleach in its semantic interpretation. The verbs *lɔ́ɔ́*, *lɔ́b* 'cause-fall/throw' in both Daraare and Kusaal respectively do not involve any action of throwing

but rather a concept of 'cause-fall'. It could also be seen from the translations that these verbs are semantically weakened and conceptualized into the preposition 'on' 'down'. In the examples below (22), we illustrate the ungrammaticality of reduplicating the causative verb ***lɔ́ɔ́, lɔ́b*** 'cause-fall/throw' in Dagaare and Kusaal respectively in canonical causative SVRs as against the possibility of reduplicating ***dáá́*** 'push' in both languages.

(22)a. (i) ***ò dà́ dáá́-dáá́ má lá lɔ́ɔ́*** [Dagaare]
3SG PAST push-push 1SG.ACC FOC cause.fall
'He pushed (intensely or repeatedly) me down'
(ii) ****o da daa ma la lɔɔl***ɔɔ

b. (i) ***ò dà dá'é -*** dá›é ***bíig lá lɔ́b*** [Kusaal]
3SG PAST push-push child DEF cause-fall
'S/he pushed (intensely or repeatedly) the child down'
ii) ****o da dá'é biig la lɔb-lɔb***
3SG PAST push child DEF throw-throw/fall-fall

(23) ***ò dà dá'é -dá'é bíí***s ***lá́ lɔ́b - lɔ́b tí***ŋ[Kusaal]
3SG PAST push-push child-PL DEF throw-throw floor
'S/he pushed the children (individually) on the floor'

In the pluractional construction in (23), it is grammatical to reduplicate all the verbs. In this instance, each act of pushing and falling is suffered by one child.

Constraint. We arrive at a conclusion that causative serialization, as is the case in benefactive serialization, allows reduplication of verbs that express full forms of their semantic interpretations. All verbs, however, are susceptible to reduplication in pluractional constructions.

Inceptive take- serialization

In both of the sentences below, which illustrate the type of SVC often termed inceptive take-serialization, there is the verb 'take' which precedes virtually any kind of action verb.

Interestingly, the verb 'take' does not necessarily express the normal lexical semantics of 'take' which invariably involves getting hold of something, grabbing something and moving or lifting it. In such constructions, it rather involves inception i.e. beginning or introducing an action or preparing to release or let go of an object or marking a new phase immediately after a previous action. Compare (24) which can go either way (i.e. mere inception if the person is already holding the book or grabbing the book in order to give it, if the book was not in his/ her possession at the beginning of the act) with (25) and (26) which involve clear cases of marking the beginning of an event and not of getting hold of anything. Unlike (25) and other instances where Kusaal and Dagaare can have almost identical structures, example (26) cannot be rendered in Kusaal. Thus, the construction is (26) illustrates an instance where the two languages differ in the sense that the verb *nɔ̄k 'take'* is not used in marking the inception or beginning of an event.

(24) a. ***ò dà dé lá gánè kò má*** **[**Dagaare]
3SG PAST take FOC book give 1SG.ACC
'S/he gave me a book / S/he donated a book to me'

b. ***ò dà nɔ́k gba***ʊ́ŋ ***tísì-m*** **[**Kusaal]
3SG PAST take book give-1SG.ACC
'S/he gave me a book / S/he donated a book to me'

(25) a. ***ò nà dé lá à tómá bàrè*** [Dagaare]
3SG FUT take FOC DEF work leave
'S/he will leave (stop) the work'

b. ***ò nà nɔ́k tʊ́má la bas*** **[**Kusaal]
3SG FUT take work DEF leave
'S/he will leave (stop) the work'

(26) ***tè nàńg dà dé gèrɛ́ ná....*** *[te da nyɛ la walaa*[Dagaare]
1PL as PAST take go-IMP that [1PL PAST see FOC antelope]
'As we started to go...we saw an antelope'

Again, we have a situation where a verb drastically reduces or 'bleaches' off its lexical semantics in order to express some parts of a complex event structure.

Our prediction is that in cases of inceptive serialization where the verbal semantics of 'take' are bleached off from being one of grabbing to just indicating the beginning of the action, the verb cannot be reduplicated, as indicated in the ungrammatical SVR sentences in (27).

(27) a.(i) ****O da de-de la a gane ko-ko ma***[Dagaare]
3SG PAST take-take FOC DEF book give-give 1SG.ACC
(ii) ****o da nɔk-nɔk gba***ʊŋ ***tisi-tisi-m*** [Kusaal]
3SG PAST take-take book give-give-1SG.ACC

b. (i) ****O da de-de la a toma bare*** [Dagaare]
3SG PAST take take FOC DEF work leave
(ii)****o nɔk-nɔk biis la bas o ma***[Kusaal]
3SG take-take child-PL DEF leave 3SG.POSS mother

c. ****te nang da de-de gɛrɛ*** [Dagaare]
1PL then PAST take take go.IMPERF

However, the second verb may be available for reduplication especially if the object NP is in the plural, as shown in (28).

(28)a.(i) ***ò dà dé lá à gámà kòkò má*** [Dagaare]
3SG PAST take FOC DEF books give-give me
'S/he picked the books for me many times'
(ii) ***ò dà nɔ́k gba***ʊ́ŋ***à tísì-tísì-m*** [Kusaal]
3SG PAST take books give-give 1SC.ACC
'S/he picked the books for me many times'

b.(i) ***ò dà dé lá à tómá bàrè-bàrè*** [Dagaare]
3SG PAST take FOC DEF work(s) leave-leave
'He abandoned various jobs'

(ii) ***ɔ̀ nɔ́k bíís lá tísí-tísì bà mánámà*** [Kusaal]
3SG take children DEF give-give 3PL.POSS mothers
'S/he gave the children to their respective mothers'

c. ***tè nàńg dà dé g***ɛrɛ́gɛ̀rɛ́ ***ná...***[Dagaare]
1PL as PAST take go.IMPERF-go.IMPERF that...
'As we began to go… (as some kind of recounting with the context of storytelling)'

The 'take' verb can be reduplicated when the entire concept is assumed to have repeated itself several times.

d. ***Bà nɔ́k-nɔ́k bíís lá tísí-tísí bà mánámà***[Kusaal]
3PL take-take children DEF give-give 3PL.POSS mothers
'They gave the children individually to their respective mothers'

Constraint. We conclude, based on the data on inceptive-take serialization in Dagaare and Kusaal, that all the verbs with reduced semantics do not reduplicate. In pluractional constructions however the reduplication of all verbs is permissible.

Instrumental take- serialization

There is a second type of take-serialization in our typology. This time the lexical semantics of the verbs *de* and *nɔk* 'take' in Dagaare and Kusaal respectively are deployed to express the instrument used in carrying out an action. These verbs translate into the Indo-European preposition 'with', hence expressing the instrumental or 'means' aspects of this type. The instrumental verb then precedes an activity verb which is mainly performed by means of the object of the instrumental verb 'take'. The verbs with bleached semantics again are unamenable to reduplication.

(29) a. ***ò dà dé lá sòɔ́ ngmàà à nɛ́ǹ*** ɔ̀ɔ̀ [Dagaare]
3SG PAST take FOC knife cut DEF meat chew
'S/he cut the meat with a knife and ate it'

b. ***ò dà nɔ́k sʊ́'ʊg lá nwáas ní'ím lá ɔ́nb*** [Kusaal]
3SG PAST take knife DEF cut meat DEF chew
'S/he cut the meat with the knife and ate it.'

The following are possible and impossible renditions of (29) into SVRs in Dagaare and Kusaal, respectively. The examples marked by '?' indicate hesitant acceptability; whilst some speakers accept that they are correct, others disapprove of them.

(30)a.(i) ****o da dede la soɔ ngma a anɛn*** ɔɔ
3SG PAST take-take FOC knife cut DEF meat chew

(ii) ***ò dà dé lá sòɔ́ ngmàà-ngmàà néǹ*** ɔ̀ɔ̀
3SG PAST take FOC knife cut-cut meat chew

(iii) ***ò dà dé lá sòɔ́ ngmàà néǹ*** ɔ̀ɔ̀-ɔ̀ɔ̀
3SG PAST take FOC knife cut meat chew-chew

(iv) ***?o da de la soɔ ngmaa-ngmaa nɛn*** ɔɔ-ɔɔ
3SG PAST take FOC knife cut-cut meat chew-chew

(v) ?***ò dà dédé́ lá sɔ̀ɛ́ ngmàà-ngmàà***
3SG PAST take-take FOC knife.PL cut-cut
néǹ ɔ̀ɔ̀
meat chew

(vi) ? ***o da dede la sɔɛ ngmaa-ngmaa***
3SG PAST take-take FOC knife.PL cut-cut
nɛmɛ ɔɔ-ɔɔ
meat.PL chew-chew

b. (i) ****ɔ nɔk-nɔk sʊ'ʊg la nwaas-nwaas ni'im la***
3SG take-take knife DEF cut-cut meat DEF
ɔnb [Kusaal]
chew

(ii) ***ò nɔ́k sʊ́'ʊ́g lá nwáas-nwáas nḭ́'ḭ́m lá ɔ́nb***
3SG take knife DEF cut-cut meat DEF chew
'S/he used the knife to cut the meat (repeatedly).'

(iii) ****o nɔk sʊ'**ʊg **la nwaas ni'im la ɔnb-ɔnb***
3SG take knife DEF cut meat DEF chew-chew

(iv) ***ò nɔ́k sʊ́**›ʊ́g **lá nwáas-nwáas nḭ́›ím lá ɔ́nb-ɔ́nb***
3SG take knife DEF cut-cut meat DEF chew-chew
'S/he used the knife to cut the meat and chew (continuously, severally, repeatedly).'

(31) a. ***Bà nɔ́k sʊ́**›ʊ́g **lá nwáas-nwáas nḭ́›ím lá ɔ́nb-ɔ́nb***
3PL take knife DEF cut-cut meat DEF chew-chew
'They each used the knife to slice portions of the meat and ate'

b. **** Bà nɔ́k-nɔ́k sʊ́**›ʊ́g **lá nwáas-nwáas nḭ́›ím lá ɔ́nb-ɔ́nb***
3PL take-take knife DEF cut-cut meat DEF chew-chew
'They each used the knife to slice portions of the meat and ate'

Constraint. Again, reduplication in instrumental SVRs also conveys an interpretation of a repetitive or continuous action. Verbs with bleached semantics cannot be reduplicated not even in instances involving pluractional constructions.

Deictic serialization

Our fifth type of SVC is deictic in nature, involving pointing to a certain direction or movement from one location to another. Essegbey (2004) and Ameka and Essegbey (2013) refer to this type or similar ones in Ewe as path-SVCs. This is illustrated in the following sentence with the verbs *come* and *go*.

(32) a. ***ò dà zò wà**ɛ̀ **lá*** [Dagaare]
3SG PAST run come-PERF FOC
'S/he ran here / s/he came by running'

b. ***ò*** ***z***ó ***k*é*nn*à. [Kusaal]
3SG run come.LOC
'S/he ran here/ s/he came by running.'

c. ***ò*** ***dà*** ***k*é*nn***à ***d***í ***pʋ́'á*** [Kusaal]
3SG PAST come.LOC marry woman
'He came (here) and got married'

It is ungrammatical to reduplicate the deitic verbs that point to a particular direction in this type of SVRs. However, verbs like *run* and *marry* can be reduplicated for pluractional interpretation. The reduplication of 'marry' in Kusaal for instance implies getting engaged several times to several women where the specific number of women or marriage ceremonies cannot be inferred.

(33)a. (i) ***ò*** ***dà*** ***zò-zò*** ***wàɛ́*** ***lá*** [Dagaare]
3SG PAST run-run come-PERF FOC
'S/he ran here / s/he came by running'

(ii) ****o da zo wa waɛ la***

b. (i) ***ò*** ***z***ó***z***ó ***kúl*** [Kusaal]
3SG run-run go-home
'S/he continuously run home'

(ii) **** o zo kul-kul*** **** o zo-zo kul-kul***

(34) a. ***ò*** ***dà*** ***k*é*nn***à ***d***í***-d***í ***p***ʋ́***'áb*** [Kusaal]
3SG PAST come marry-marry women
'He came and married several women'

b. ***** ò ***da kenna-kenna di-di p***ʋ***'ab***

In pluractional constructions with deictic SVRs (34), it is equally ungrammatical to reduplicate the deitic verbs (35b, 36b).

(35) a. ***Bà*** ***zó-zó*** ***kúl*** [Kusaal]
3SG run-run go-home
'S/he continuously run home'

b. ***Ba** **zo** **kul-kul**
3PL run go-home-go-home
? 'They run home'

(36) a. ***Bà*** ***dà*** ***kénn***à ***dí-dí*** ***pʋ́'áb***
3PL PAST come marry-marry women
'They came and married several women'

b. ***Ba** **da** **kenna-kenna** **di-di** **pʋ'ab***
3PL PAST come-come marry-marry women
?'They came and got married.'

Constraint. We conclude also for this type of SVR that deitic verbs cannot be reduplicated

Constraints on SVRs

All SVRs are conceptualized to be derived from SVCs. There are two groups of SVRs: Canonical SVRs and Pluractional SVRs. These groups also have subtypes (listed under each) depending on their semantics as in Table (1).

Table 1. Types of Serial Verb Reduplications

SVRs	
Canonical SVRs	**Pluractional SVRs**
Benefactive SVRs	Benefactive SVRs
Causative SVRs	Causative SVRs
Instrumental SVRs	Instrumental SVRs
Deictic SVRs	Deictic SVRs
Inceptive SVRs	Inceptive SVRs

The difference between the two is purely functional. Whereas canonical SVRs mark repetition and intensification, pluractional SVRs mark number by virtue of the number of agents/actors in the event expressed. Verbs which have consistently maintained the full forms of their meanings, are available for reduplication in all types of SVRs. On the contrary, verbs which often are semantically bleached can only be reduplicated in benefactive and causative pluractional SVRs. This is represented in the table below where the mark (×) means impossible and (√) means possible to reduplicate.

Table 2. Reduplicative pattern of verbs in SVRs

SVRs	Semantically bleached verbs		Semantically non-bleached verbs	
Groups Types	Canonical SVRs	Pluractional SVRs	Canonical SVRs	Pluractional SVRs
Benefactive	×	√	√	√
Instrumental	×	×	√	√
Inceptive	×	×	√	√
Deitic	×	×	√	√
Causative	×	√	√	√

Conclusion

This first account of the structure of SVRs has sought to understand the phenomenon in the light of the following questions and puzzles: (i) is reduplication possible at all in all types of SVCs, (ii) what types of verbs are targets for reduplication, and (iii) why at all is the SVR necessary in the grammar?

As we have attested throughout the paper, reduplication can happen in all the five main types of SVCs we have used to illustrate the analysis: benefactive, causative, deictic, instrumental, and inceptive SVCs. Of course, these five, while being the main types, may not be the only types of serial verb reduplication in languages in general and there is, thus, the

possibility that reduplication may not be possible in these other types, and that is open to further investigation. An important finding from this research in answer to the second question is that, verbs that are semantically bleached are not amenable to reduplication in canonical SVRs whiles they can be reduplicated in pluractional SVRs of the types: benefactive, and causative. Another contribution was to have systematically defined constraints that govern reduplication, as shown below, thus suggesting why the SVR construction is necessary and possible in the grammar: it is governed by these hopefully universal rules for serializing languages which must be satisfied:

(i) All SVRs are derived from SVCs and are governed by all the constraints in SVCs.

(ii)All SVRs have at least one verb in the series reduplicated as indicated in the definition.

(iii) All types of SVCs can be transformed into SVRs in Dagaare and Kusaal. It is possible to create parallel SVRs corresponding to SVCs such that we can have the following typology:

(a) Benefactive SVC ……Benefactive SVR
(b) Inceptive SVC……..Inceptive SVR
(c) Causative SVC…….Causative SVR
(d) Instrumental SVC…….Instrumental SVR
(e) Deictic SVC…….Deictic SVR

(iv) Linear adjacency or ordering of verbs is not a barrier in SVRs. Either the first or second verbs can be reduplicated depending on the nature of the event or on the constructional semantics of the type of SVCs they were derived from.

The paper has mainly concentrated on two Mabia languages. However, it is believed that other Mabia languages like Dagbane, Gurenne, Moore, Kasem, Likpakpanli, and Buli would exhibit more or less the same or similar constrains governing SVRs as attested here. Further research might even reveal that most serializing languages also have SVRs and that these SVRs would exhibit some of the constraints attested here.

Serial verb reduplications can be the basis of a fruitful cross-linguistic or comparative study between the Mabia languages of West Africa and other serializing languages around the world.

List of Abbreviations:

ACC=Accusative, IMPERF=Imperfective SG=Singular, PL=Plural, 1SG= 1st person singular, 3SG= 3rd person singular, 1PL=1st person plural, 3PL=3rd person plural, FOC=Focus, FUT=Future Particle, Lit.=Literal, LOC= Locative NEG=Negative Particle, NP= Noun phrase, NML=Nominalized, PAST=Past Tense Particle, PERF=Perfective, POSS=Possessive, SVCs=Serial Verb Constructions, SVR=Serial Verb Reduplication, RED=Reduplication, TAP= Tense Aspect and Polarity, TAMP= Tense, Aspect, Mood and Polarity, VP= verb phrase.

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