Serial Verb Reduplication in the Mabia Languages of West Africa

Adams Bodomo Hasiyatu Abubakari Dewei Che

University of Vienna University of Vienna University of Vienna

1. Introduction

Verb serialization and verb reduplication are recurrent grammatical processes in many languages around the world, especially in the languages of West Africa that this paper focuses on. The Mabia (or Gur) languages are a sub-group of Niger-Congo languages spoken in central parts of West Africa, in countries such as Ghana, Burkina Faso and Togo[1]. 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 first and second authors of the paper. Dagaare is spoken as a first language by about two million people (Bodomo 1997) whilst Kusaal is spoken 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 two of the authors for the paper, but some of the data are also from published works on serial verb constructions, as the citations at appropriate places show.

[1] Previous works (e.g. Naden 1989) on these languages have used the term "Gur languages" (or "Langues Voltaiques" for French-speaking writers). The claim has been that there are many language names in this group beginning with the syllable "Gur" such as Gurma, Gurunshe, or Gurenne or that there are many "Gur" syllables in this language. However in many works beginning with his masters' thesis (Bodomo 1993), the first author has argued against these reasons for calling the linguistic group "Gur". There are many more languages in the group that have *non*-Gur names: Dagbane, Kusaal, Buli, Kasem, Dagaare, Sisaali, etc. We have instead used the term Mabia (coming from *ma* – mother and *bie/bia/biiga* – child in the majority of the languages) as an appropriate genetic classificatory term for these languages.

These languages, as is also the case in almost all the Mabia languages listed above, are tonal 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, 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 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). Reduplication has been defined as *a word-formation process in which meaning is expressed by repeating all or part of a word* (Urbanczyk 2011). Besides discussing the two phenomena in terms of definitional nuances, 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 these languages (besides brief illustrations of the phenomenon in Bodomo 2002)[2].

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 necessary in the grammar?

[2] For non-Mabia languages, reduplication has been mentioned, though not discussed at length, in works such as Dixon (2011), Foley (1991), Alexandre (2006) and Lichtenberk (2006).

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 an analysis of the event structure 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.

2. The Basics

2.1 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, (ii) African-Caribbean Creoles such as Sranan (Sebba 1987), (iii) South East Asian languages such as Chinese (Li 1991), Khmer (Schiller 1991), and Thai, and (iv) Oceanic, i.e. the Pacific 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)[3]:

[3] 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.

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

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

A considerable amount 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.

Diachronic and synchronic, as well as descriptive and generative, approaches exist in the literature. 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) i. Although two or more verbs are present, the sentence is interpreted as referring to a single action rather than a series of related actions...

ii. There is strict ordering relationship between the verbs...

iii. Furthermore, the first verb in a series may subcategorize for a particular verb or class of verbs...

iv. In some cases each transitive verb in the series has its own object...

Bradshaw (1982), working on Papua New Guinean languages, also outlines the following structural descriptions of serial verb constructions (4):

(4) i. All the verbs in the serial construction refer to subparts of a single overall event.

ii. There is no intonational or grammatical marking of clause boundaries between the verbs.

iii. There are tight restrictions on the nominal arguments associated with each verb.

iv. 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.

2.2 Reduplication

Reduplication is not an uncommon phenomenon in languages. As pointed out by Sapir (1921:76), "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: 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 (5).

(5) a. Indonesian *kanak kanak*
child child
'children'

b. Latin *te-tig-i*
RED-touch: PST-1S
'I have touched'

However, reduplication can also be "a formal linguistic device that can be used at all levels of linguistic structure" (Maas 2005: 395; cf. also Pott 1862), as shown in French and German in (6a&b).

(6a) French: Il a marché longtemps, longtemps, longtemps, avant d'arriver. (Vittrant & Robin 2007: 77)

(6b) German: Reiten, reiten, reiten, durch den Tag, durch die Nacht, durch den Tag. Reiten, reiten, reiten. (Rilke 1899)

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

Typologically, linguists tend to divide reduplication into the formal types and the functional types (Pott, 1862; Brandstetter, 1917). 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.

2.3 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 (7) and (8) to that in (9) below:

(7) ***ò dà mɔ́ŋ lá sááó dì***
3SG PAST stir FOC saao eat

'S/he made food (and) ate it'

(8) a. ***ò dà mɔ̀ngmɔ̀ńg 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
'He ate saao (repeatedly)'

(9a) ***ò dà mɔ̀ńg lá sááó dìdì***
3SG PAST stir FOC saao eat-eat
'S/he stirred/made saao and ate it many times'

(9b) ***ò dà mɔ̀ngmɔ̀ńg lá sááó dì***
3SG PAST stir-stir FOC saao eat
'S/he stirred saao repeatedly/intensively and ate it once'

(9c) ***ò dà mɔ̀ngmɔ̀ńg lá sááó dìdì***
3G PAST stir-stir FOC saao eat-eat
'S/he stirred saao repeatedly/intensively and ate it many times'

In (7) we have an instance of typical object-sharing serial verb construction involving two dyadic verbs 'stir' and 'eat'. As seen in (8) both verbs can be reduplicated in a non-serial verb construction. That is an instance of a verb reduplication construction. Now in (9a,b) things get a little bit more complex where one each of the verbs in the SVC is reduplicated and even more complex in (9c) where both of the verbs are reduplicated. The constructions in (9) are instances of Serial Verb Reduplications, abbreviated from now onwards as SVRs[4], and may be defined as *constructions that*

[4] We clearly define SVRs as derived from SVCs where at least one of the verbs is reduplicated. So, we are not saying it is completely unrelated to SVCs; it is however definitely a construction in itself in the same way that we find related constructions like Serial verb nominalization (SVNs) and many other constructions that are the result of at least two processes of serialization and reduplication in the case of SVRs and nominalization in the case of SVNs. The benefit of ascribing a name to it is that it is different though related to SVCs in that it has an additional process that SVCs don't have – reduplication. As a result we are happy to keep the name/abbreviation, SVRs

are derived from an SVC where at least one of the verbs in the series is reduplicated, as shown above in Dagaare sentences[5].

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.

(10) a. ***Àsíbí sà pī'à gū'è***
Asibi PAST speak fail
'Asibi spoke but could not save the situation'
b. ***Àsíbí sà pī'à-pī'à gū'è***
Asibi PAST speak-speak fail
'Asibi spoke a lot but could not solve the situation'

(11) a. ***Bà sà dā'ā*** *lád* ***kūōs***
3PL PAST buy item sell
'They bought things and sold them'
b. ***Bà sà dā'ā-dā'ā*** *lád* ***kūōs-kūōs***
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 perception of emphasis on the meaning derived from reduplicating the verbs.

(12) a. ***Àsíbí sà bù pī'à gū'è***
Asibi PAST NEG speak-speak fail
'Asibi did not fail after speaking'

[5] 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 mɔ̀ngmɔ̀ńg 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 mɔ̀ngmɔ̀ngmɔ̀ńg 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.*

b. ***Àsíbí sà bù pi'à-pī'à gū'è***
Asibi PAST NEG speak fail
'Asibi did not fail in solving the situation after speaking a lot'

(13) a. ***Bà tōm-tōm gɛ̄n *(gɛn)***
3PL work-work tired tired
'They work and work until they were tired'
b. ***Bà nà tōm-tōm gɛ̄n *(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, the interaction of verb serialization (1) with verb reduplication (2) gives us instances of SVRs (3) for Dagaare (the corresponding notion is illustrated for Kusaal in (12-15), hence the title of this section: verb serialization + verb reduplication = Serial verb reduplication.[6]

[6] 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 in below.

a. ò dà mɔ̀ngmɔ̀ng lá sááó dìdì
DEF PAST stir stir FOC saao eat eat
b. *o o da mɔng mɔng la saao di di
DEF DEF PAST stir stir FOC saao eat eat
c. *o da da mɔng mɔng la saao di di
DEF PAST PAST stir stir FOC saao eat eat
d. *o da mɔng mɔng la la saao di di
DEF PAST stir stir FOC FOC saao eat eat
d. *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).

This section has illustrated what SVRs are with just one type of SVC. In the next section we propose a typology of SVCs based on Bodomo (2002) and then use this typology to develop some constraints for SVRs involving each of the types of SVCs.

3. Types of SVRs and Constraints

In this section we propose a typological classification of SVRs with data from Dagaare and Kusaal. The choice of these two sister languages is influenced partly by the 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. The eligibility or otherwise of a verb for reduplication in SVRs depends mainly on the event structure of the verbs, as clarified in (Bodomo 2011), following earlier research such as Vendler (1957) and Verkuyl (1972) :

> Event structure grammar (Bodomo 2011):
> Verbs are grouped into two categories depending on their event structure: telic verbs and atelic verbs[7]. Verbs that express events with an end point are termed telic, while those that express events without an end point are atelic.

(14) a. The cook melted the butter

[7] See also Vendler (1957) and Verkuyl (1972).

b. The farmer pushed the wheelbarrow.

In (14) whereas the 'melting' has an endpoint, the pushing could continue forever (Bodomo 2011:293). The notions of telic and atelic expressed here correspond to what Pustejovsky (1991:34) refers to as *accomplishment* (describing activities with a logical culmination or duration) and *process* (describing activities with an indefinite length) respectively. It will be illustrated in our discussion that the event structure of a verb has a great impact on its eligibility to reduplicate in SVRs, though other considerations may also be involved.

Another environment that stimulates reduplication in Kusaal and Dagaare is Pluractional Construction, a construction in which the verb has a marked inflection 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.

In terms of theoretical notions then, the paper, as will be seen from now onwards, makes an extensive use of the lexical semantic theoretical concepts of *telicity* and *pluraction* to help us understand the nature of reduplication within the grammar of serial verb constructions in the Mabia languages studied here.

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.

3.1. 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:

(15) *a.* ***ò dà tòńg lá tómá kó má*** *Dagaare*

3Sg. PAST work FOC work give me
'S/he worked for me'

b. ***ò dà tōm tʊ́ʊ́má tīsì bà*** *Kusaal*
3Sg PAST work work-NML give 3PL
'S/he worked for them'

The data in (15) involves an initial or preceding activity verb ('work'), creating the object 'work' which is a direct internal argument of the benefactive verb 'give'.

The data in (16) comprise the SVR rendition of what we have in (15). It is used to test for reduplication in the benefactive SVC[8].

(16) a. i. *ò dà* ***tòngtòŋ́g*** *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*

b. i. ***ò dà tōm-tōm tʊ́ʊ́má tīsì-m*** *Kusaal*
3Sg PAST work-work work 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 (16ai,bi) but not possible to reduplicate the second verb, which is the benefactive verb (16aii,bii) because the first verb is an atelic verb and the second verb is a telic verb. The benefactive verbs *ko*, *tisi* 'give' in Dagaare and Kusaal respectively, are observed to have some kind of reduced semantics. Their meaning is depleted from the verb 'give' to the proposition 'with'. They do not signal any kind of physical activity that involves handing over something or offering someone something. Semantically bleached verbs do not evoke any sense of activity which can explain why they are not

[8] 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:

a. O da mang tongtong la toma ko ma
1sg past always work work foc work give 1sgACC
'He always works for me'

b. O da tongtong la toma yaga ko ma
1sg past work work foc work much give 1sgACC
'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.

amenable for reduplication. 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 (17) and (18).

(17) ***ò̩ dà tɪ̄sɪ̀-m tʊ́ʊ́má tʊ̄m*** *Kusaal*
3SgPAST give-1SG-ACC work-NML work
'S/he offered work/S/he gave me work to do'

(18) ***ò dà tɪ̄sɪ̀-tɪ̄sɪ̀-m tʊ́ʊ́má tʊ̄m*** *Kusaal*
3Sg PAST give-give-1SG-ACC work-NML work
'S/he offered work/S/he 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 or plural themes/patients.

(19) a. ***Bà dà tʊ̄m-tʊ̄m tʊ́ʊ́má tɪ̄sɪ̀-tɪ̄sɪ̀ tɪ̀*** *Kusaal*
3PL PAST work-work work-PL give-give 1PL
'They worked intensively for us'
b. ****Bà dà tʊ̄m tʊ́ʊ́má tɪ̄sɪ̀-tɪ̄sɪ̀ tɪ̀***
Lit. 'They worked intensively for us'
c. ***Bà dà tòngtòŋ́g lá tómá kókó 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 tómá kókó 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, telic verbs are not amenable to reduplication. Pluractional benefactive constructions however permit reduplication of both telic and atelic verbs in SVRs.

3.2. 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 (20). In this construction the participant that is pushed is the same participant that falls.

(20) a. ***ò dà dáá má lá lɔ́ɔ́*** *Dagaare*
3Sg. PAST push me FOC. caus-fall

'S/he pushed me down'

b. ***ò dà dā'ē bííg lá lɔb*** *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 SVCs, reduplication again, as in benefactive constructions, is available with the atelic verb but not the telic verb, hence (21ai, bi) but not (21aii, bii) are grammatical in Dagaare and Kusaal respectively. The act of pushing can be repeated several times at the same spot but the act of falling down cannot be repeated when the entity is already on the floor.

(21) a. i. ***ò dà dáádáá 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 lɔɔlɔɔ***

b.i. ***ò dà dā'ē-dā'ē bííg lá lɔb*** *Kusaal*
3Sg PAST push-push child DEF fall
'S/he pushed (intensely or repeatedly) the child down'

ii. ****o da da'e biig la lɔb-lɔb***
3Sg PAST push child DEF throw-throw/fall-fall

(22) ***ò dà dā'ē-dā'ē bíís lá lɔb-lɔb tíŋ*** *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 (22), it is grammatical to reduplicate all the verbs. In this instance, each act of pushing and falling is suffered by one child. On semantic grounds, it could also be seen from the translations that the verbs for 'falling', 'throwing' *lɔ́ɔ́* in Dagaare and *lɔb* in Kusaal are again semantically weakened and conceptualized into the preposition 'on' 'down'.

Constraint

We arrive at a tentative conclusion that causative serialization, as is the case in benefactive serialization, allows reduplication of only atelic verbs. Both telic and atelic verbs are, however, susceptible to reduplication in pluractional constructions.

3.3. 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 involve 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 (23) 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 (24) and (25) which involve clear cases of marking the beginning of an event and not of getting hold of anything. Unlike (24) and other instances where Kusaal and Dagaare can have almost identical structures, example (25) cannot be rendered in Kusaal and as such speakers do not mark the inception or beginning of events with the 'take' verb.

(23) a. ***ò dé lá gánè kò má*** *Dagaare*
3Sg. take FOC. book give me
'S/he gave me a book / S/he donated a book to me'

b. ***ò nɔ̄k gbáʋŋ tísì-m*** *Kusaal*
3Sg take book give me
'S/he gave me a book / S/he donated a book to me'

(24) 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 nɔ̄k bíís lá bās ò mà*** *Kusaal*
3Sg FUT take child DEF leave 3Sg-POSS mother
'S/he will leave the children with her/his mother'

(25) ***tè nàńg dà dé gɛ̀rɛ́ ná....*** *[te da nyɛ la walaa]* *Dagaare*
1PL as PAST take go-IMP that [1.Pl 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 (26). The verb 'take' which marks the 'beginning' is considered as a telic verb because 'begin' has a more immediate end point. Anything that occurs after the very moment of 'beginning' is a 'continuation'. It could further be observed that all the verbs with reduced semantics do not reduplicate.

(26) 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 gbaʊŋ 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*
1.PL then PAST take take go.IMP

However, the second verb may be available for reduplication especially if the object NP is in the plural, as shown in (27).

(27) 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 nɔ̄k gbáʊ́ŋà̀ tīsì-tīsì-m*** *Kusaal*
3Sg PAST take books give-give me
'S/he picked the books for me many times'
b. i. ***ò dà dé lá à tómá bàrèbàrè*** *Dagaare*
3Sg. PAST take FOC DEF work(s) leave-leave
'He abandoned various jobs'
ii. ***ɔ̀ nɔ̄k bíís lá tīsì-tīsì bà mànámà*** *Kusaal*
3Sg: take children DEF give-give 3Pl-POSS mothers

'S/he gave the children to their respective mothers'

c. ***tè nàńg dà dé gèrégèré ná...*** *Dagaare*
1.PL as PAST take go.IMP-go.IMP that...
'As we began to go… (as some kind of recounting with the context of story telling)'

Constraint

We conclude, based on the data on causative serialization in Dagaare and Kusaal, that telic verbs in this case with the inceptive 'take' are not available for reduplication. In pluractional constructions however the reduplication of the atelic verbs is permissible.

3.4. 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. This is illustrated below:

(28) 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 nɔ̄k sʊ́'ʊ́g lá nwāas nɪ'ím lá ɔ̄nb*** *Kusaal*
3Sg PAST take knife DEF meat cut DEF chew
'S/he cut the meat with the knife and ate it.'

The following are possible and impossible renditions of (28) into SVRs in Dagaare and Kusaal, respectively.

(29) a. i. ****o da dede la soɔ ngmaa a nɛn ɔɔ*** *Dagaare*
3Sg. PAST take-take FOC knife cut DEF. meat chew

ii. ***ò dà dé lá sòɔ́ ngmààngmàà nɛ́ǹ ɔ̀ɔ̀***
3Sg. PAST take FOC knife cut-cut meat chew

iii. ***ò dà dé lá sòɔ́ ngmàà nɛ́ǹ ɔ̀ɔ̀ɔ̀***
3Sg. PAST take FOC knife cut meat chew-chew

iv. ***ʔo da de la soɔ ngmaangmaa nɛn ɔɔɔɔ***
3Sg. PAST take FOC knife cut-cut meat chew-chew
v. ?***ò dà dédé lá sɔ̀é ngmààngmàà néǹ ɔ̀ɔ̀***
3Sg. PAST take-take FOC knife.PL cut-cut meat chew
vi. ? ***o da dede la sɔɛ ngmaangmaa nɛmɛ ɔɔɔɔ***
3Sg. PAST take-take FOC knife.PL cut-cut meat.PL chew-chew

b. i.****ɔ nɔk-nɔk sʊ'ʊg la nwaasnwaas ni'im la ɔnb*** *Kusaal*
3Sg take-take knife DEF cut-cut meat DEF chew
ii. ***ò nɔ̄k sʊ́'ʊ́g lá nwāas-nwāas ní'ím lá ɔ̄nb***
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. ***o nɔk sʊ'ʊg la nwaas-nwass ni'im la ɔnb-ɔnb***
3Sg take knife DEF cut-cut meat DEF chew-chew
'S/he used the knife to cut the meat and chew (continuously, severally, repeatedly).'

(30) i. ***Bà nɔ̄k sʊ́'ʊ́g lá nwāas-nwāas ní'ím lá ɔ̄nb-ɔ̄nb*** *Kusaal*
3PL take knife DEF cut-cut meat DEF chew-chew
'They each used the knife to slice portions of the meat and ate'
ii. ****Bà nɔ̄k-nɔ̄k sʊ́'ʊ́g lá nwāas-nwāas ní'ím lá ɔ̄nb-ɔ̄nb*** *Kusaal*
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. The telic verb 'take' cannot be reduplicated as against the atelic verbs 'cut' and 'chew' which can continue for as long as possible (29bii, iv). It is also ungrammatical to reduplicate the telic verbs in pluractional constructions in instrumental SVRs. Thus only atelic verbs are available for reduplication in this type of SVRs.

3.5. 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*.

(31) a. ***ò dà zò wàɛ̀ lá*** *Dagaare*
3Sg. PAST run come-PERF FOC
'S/he ran here / s/he came by running'
b. ***ò zō kúl*** *Kusaal*
3Sg. run go-home
'S/he run home'
c. ***ò dà kēnnā dī pý'á*** *Kusaal*
3Sg PAST come marry woman
'He came and got married'

It is ungrammatical to reduplicate verbs that point to a particular direction in this type of SVRs. Verbs such as *come* and *go-home* are grouped as telic since they point to a particular destination or end point from the speaker's perspective which are 'here, home'. Whereas verbs like *run* and *marry* can be reduplicated because the events they express do not portray an inherent end point in sight. 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[9].

(32) a. i. ***ò dà zòzò wàɛ̀ lá*** *Dagaare*
3. s 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 zōzo kúl*** *Kusaal*
3Sg run-run go-home
'S/he continuously run home'
ii. **** o zo kul-kul * o zo-zo kul-kul***

(33) a. ***ò dà kēnnā dī-dī pý'áb*** *Kusaal*
3Sg PAST come marry-marry women
'He came and married several women'
b. **** ò da kenna-kenna di-di pʋ'ab***

[9] The semantics/event structures of "marry" in English and Mabia may be a bit different: in English/western culture, there seems to be an endpoint when the couples put on the rings; however in Mabia culture, eventhough the verbs for "marry" are "de "take" in the case of the man taking a wife and kuli "go-home" in the case of a woman going home to a man, the process is more drawn out than just putting on rings; hence what may be a straight "telic" process in English/European cultures could easily be an atelic process in Mabia and other African cultures.

In pluractional constructions with deictic SVRs (33), it is equally ungrammatical to reduplicate telic verbs (34b, 35b).

(34) a. ***bà zō-zō 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'

(35) a. ***bà dà kēnnā dī-dī 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 the event structure of the verb determines the eligibility of a verb for reduplication in deictic serialization. Verbs that point to particular end destination (telic) are not open to reduplication, not even in instances involving pluractional construction.

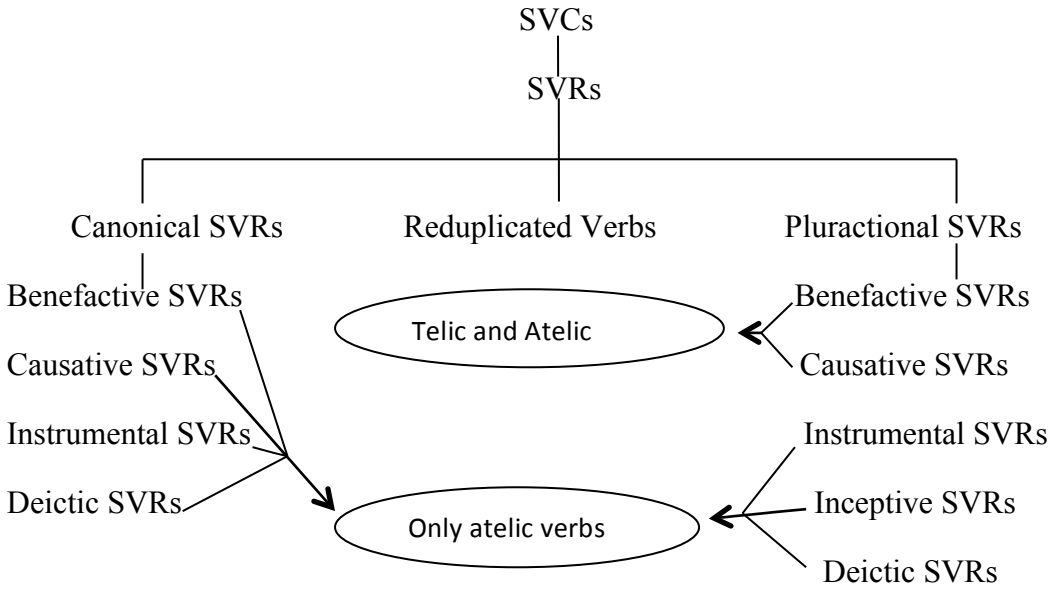
3.6 Constraints on SVRs

The figure in (36) is a summary representation of the constraints observed. In this figure, all SVRs are conceptualized to be derived from SVCs with the core possibility arising from the type of events expressed by the verbs. There are two types of SVRs: Canonical SVRs and Pluractional SVRs. The difference between the two is purely functional. Whereas canonical SVRs mark iteration, repetition, and intensification[10],

[10] We admit that it is hard to distinguish the two concepts *iteration* and *intensity* and even when we subject these distinctions to speakers it is hard for them to see the difference. We do however believe there must be some difference and maybe even overlapping scenarios. Iteration just simply means doing something repeatedly over time, while intensity can involve doing something with much force or impact, which means it can also be conceptualized that intensity could involve some iteration. For

pluractional SVRs mark number by virtue of the number of agents/actors in the event expressed. Atelic verbs, which have consistently maintained the full forms of their meanings, are available for reduplication in all types of SVRs. Telic verbs on the other hand, which often are semantically bleached, can only be reduplicated alongside atelic verbs in benefactive and causative pluractional SVRs.

(36)



4. 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?

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instance, I can run every day to school – that is iteration but I can be attacked by a virulent strand of malaria to the point of death, that's intensity. However, a group of people can also ambush a man by the way side in the village and beat him several times i.e. by hitting him repeatedly with impactful blows (that can be both iterative and intensified). We will try to tease out these two intricate meanings wherever we can.

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, are not the only types 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, in terms of event structure, telicity is crucial in determining whether or not a verb is amenable to reduplication. Telic verbs like *break* or *smash* or *kill* are not as amenable to reduplication as compared to atelic verbs like *push* or *stir*, though all verbs are subject to reduplication in pluractional verbal predicates.

Another finding 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. The event structure of the verbs in SVRs determine their eligibility to reduplication:
    a. All atelic verbs are available for reduplication in Dagaare and Kusaal.
    b. All telic verbs are restricted in reduplication in SVRs since they cannot be reduplicated alone. They are grammatically reduplicable in selected pluractional SVR constructions such as causative and benefactive SVRs when they reduplicate together with atelic verbs.

v. Pluractional constructions have different constraints regarding the types of verbs that can be reduplicated. Whereas both telic and atelic verbs are reduplicable in benefactive and causative pluractional constructions, reduplication is only licit with atelic verbs in inceptive, instrumental and deictic pluractional SVRs.

vi. 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. As an illustration with Mandarin, which is a serializing language, let us consider the SVRs in (45-46)[11]:

[11] The Mandarin data are based on the native-speaker intuitions of one of the authors of this paper.

(45) ***wo gei ni kankan jiage.***
1Sg. give you look-look price
'Let me check the price for you.'
(46) ***women shangliangshangliang zai shuo.***
2PL discuss-discuss again say
'Let us discuss first and then talk about it again.'

In both, only one verb is reduplicable, the second verb in (45) and the first verb in (46). Already we can see that linear ordering is not an issue as verbs in any position can reduplicate. Also, it is the atelic verbs "kan" and "shangliang" that are amenable to reduplication in this case.

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: SG=Singular, PL=Plural, FOC=Focus, SVC=Serial Verb Constructions, SVR=Serial Verb Reduplication, RED=Reduplication PAST=Past Tense Particle, NEG=Negative Particle, FUT=Future Particle, NML=Nominalized, ACC=Accusative, IMP=Imperfective, PERF=Perfective

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