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Reduplication in Arabic-based contact languages
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1. Introduction

Arabic-based contact languages refer here to Juba Arabic (Southern Sudan), Nubi (Kenya & Uganda) and Turku (Chad & NE Nigeria), three related Arabic-based Pidgins and Creoles which appeared in the mid-19th century in Southern Sudan, following the colonization of this area by the army of Muhammad Ali, the then ruler of Egypt¹. In 1888, part of the Egyptian army and their Sudanese troop fled to Uganda and Kenya. Detribalized and Islamized, they formed a new ethnic group known as Nubi whose mother tongue is an Arabic Creole variety (Ki-nubi). Turku was brought to Chad and NE Nigeria by Rabeh's soldiers around 1900. It was a military pidgin and a vehicular language during the first part of the 20th c. So far as is known it never became a Creole and no present-day Chadian Arabic variety is labeled as Turku. In Southern Sudan, the present-day variety is known as Juba-Arabic and functions as a major vehicular in rural areas and first language and/or mother tongue in urban areas. Since 1888, Nubi language was cut from its source languages, both Arabic colloquial varieties and Southern Sudanese local languages. Juba Arabic on the other hand remains in daily contact with local African languages and sporadically with Arabic colloquial. However the two varieties remain linguistically very close to each other. The specific geographic, historical and social context in which these p/c appeared and developed made them differ radically from any other Arabic dialects including the more peripheral such as Maltese, Afghan Arabic or Cypriot Arabic. One of the most striking features of these Arabic-based p/c is the lack of most productive inflectional and derivational patterns common to all other Arabic varieties (Miller 1993, Owens 1990).

Information on reduplication in Arabic p/c is limited. It has been occasionally mentioned by some authors but was never discussed in-depth. I will mainly describe reduplication in Juba Arabic (JA) and refer to Nubi when data are available. Morphological reduplication has not been mentioned for Turku (Tosco and Owens 1993 relying on Muraz 1930). In Nubi it's shortly discussed by Owens (1977) and Musa Wellens (1994). My analysis for Juba Arabic is based on data recorded in 1981 and 1984 in the town of Juba and in Equatoria Province. These data consisted of recordings of conversation and interviews, recordings in local courts, radio broadcast, religious talks and formal elicitations with informants. 13 speakers have been selected for this paper from both rural and urban background². I never focused

¹For an overview of Arabic-based Pidgins and Creoles see Owens (1996). For a more detailed account of Turku see Tosco and Owens (1993). For a description of Nubi see Heine (1982); Musa Wellens (1994) and Owens (1977, 1980, 1985, 1990). For a description of Juba Arabic see Bureng (1986); Mahmud (1979); Miller (1984, 1986, 1989, 1993); Kaye (1986 & 1994); Tosco (1995); Watson (1984)

² With each example I identify both the speaker and either the speech situation (e.g. radiobroadcast) or the place of origin of the speaker as follows: S1. Angebi = Angebi village, Baka Rural area, Equatoria. S2. Lojulo = Lojulo village, Avokaya-Kakwa rural area, Equatoria. S3. Sule = Bari elder, Juba. S4. Yaba Paulo = Bari elder,

systematically on reduplication during my field work and therefore the description which follows will remain incomplete. The morphological status of Arabic p/c reduplication is problematic and will be discussed in section 4. For the sake of exposition I will use the term reduplication but this does not entail that all the phenomena described are unequivocally morphological.

2. Reduplication in Juba Arabic

As I described elsewhere (Miller 1987), the term Juba Arabic is generally used to refer to all the local Arabic varieties spoken in Southern Sudan (and more specifically to those spoken in the Equatoria region)³. It conveys different functions according to the geographical areas and to the social status of its speakers. It functions mainly as a lingua franca in rural areas while it's the dominant language in urban areas. These functional differences lead to many collective as well as individual linguistic variation. Therefore, reduplication like any other linguistic feature varies according to speakers and language's status. From my data, all the speakers display some instances of reduplication but reduplication is more productive among speakers who speak JA as L1 (either mother tongue or main language like most urban speakers) than among speakers who speak it as L2 (vehicular like many rural speakers). The prevalence of reduplication among JA L1 speakers seems to fit with general observations on reduplication in Pidgin and Creole studies : "the morphological process of reduplication is common (but not universal) in Creole languages, but strangely enough, rare in pidgins as a productive process, even where one of the contributing languages is rich in reduplication" (P. Bakker 1994:33)⁴. As I will discuss in section 4, reduplication (iteration) among JA L2 speakers appears to be more a discourse strategy and occurs mainly with adjectives, adverbs and intensifiers (and sometimes nouns) while reduplication among JA L1 speakers appears to be more grammaticalized especially with verbs.

The available data indicate that reduplication in Juba Arabic is mainly of the inflectional and iconic type according to Kouwenberg and La Charité terminology. The very few cases of derivational reduplication are unproductive and largely lexicalized. Reduplication can affect nouns, verbs, adjectives, adverbs and numerals⁵. Reduplication always involves full copying of the base. Words are usually reduplicated once but among JA L2 rural speakers nouns, adjectives and adverbs can be reduplicated three or four times to add expressivity. The productivity of inflectional reduplication remains an open question. It's not obligatory and seems to function as a stylistic device. In natural speeches, instances of reduplication are not very frequent, about 4-5 instances in one-hour speech approximately. But the informants tend to present reduplication as a typical Juba Arabic feature which reflects the "African nature "

Juba. S5. Yei = Yei local Court, Equatoria. S6. SCC Radio = Sudan Council of Churches Radio broadcast, Juba. S7. Preaches in Churches, Juba. S8. Nyekesi : a Baka teenager, Juba. S9. Kiden: a Bari nurse, Juba. S10. Lucie = a Bari woman selling beer in the konyo-konyio market Juba. S11 Lado = a Bari teenager, Juba. S12 Wany = A Bari University teacher, Juba. S13 Kose = A Bari graduate student, Juba & Khartoum. Speakers 11,12 & 13 worked with me as informants. Other speakers have been recorded during 'natural speech'.

³ Juba Arabic is the general term used among linguists. In Sudan the local Arabic varieties are called *arabi ta junub* (Southern Arabic), *arabi ta juba* (Juba Arabic) *rutan arabi tanina* (our Arabic language). Most of the linguistic descriptions are based on the variety spoken in the town of Juba. No detailed description of other Southern regional varieties is available also Kaye (1986, 1994) speaks of a Bahr al Ghazal or Raga variety. But the variety of Juba is now well established and functions as the "standard Juba-Arabic".

⁴ See also Peter Bakker in this volume

⁵ The distinction between these categories is not always well established. Stress usually plays a distinctive role in this matter but in some cases the same word with the same stress pattern can act as a verb and a noun or as a verb and an adjective (Miller 1993).

of Juba Arabic compared to standard Sudanese Arabic dialect (i.e. Khartoum dialect). I will first present the data (section 2 & 3), then discuss the morphological status of reduplication in Juba Arabic (section 4) and then compare reduplication in Arabic-based p/c with reduplication in Sudanese colloquial Arabic and in Bari, the main African vernacular of the Juba area (section 5).

2.1 Nouns. (12 occurrences/6 speakers)⁶

Inflectional reduplication of a nominal base appears to be restricted⁷. Only seven reduplicated nouns were recorded and mostly among rural or elder speakers. These are the following :

- | | | | | |
|----|--------------|-----------|---|--------------------|
| 1) | <i>sabá</i> | 'morning' | > | <i>sabá-sabá</i> |
| | <i>grús</i> | 'money' | > | <i>grús-grús</i> |
| | <i>béle</i> | 'country' | > | <i>béle-béle</i> |
| | <i>móyo</i> | 'water' | > | <i>móyo-móyo</i> |
| | <i>kóre</i> | 'cry' | > | <i>kóre-kóre</i> |
| | <i>híta</i> | 'piece' | > | <i>híta-híta</i> |
| | <i>jamán</i> | 'time' | > | <i>jamán-jamán</i> |

The semantic interpretation is augmentative and/or distributive. Reduplication of the nouns does not seem to mark pluralization :

- | | | |
|----|---|------------------|
| 2) | <i>grús-grús-grús ligó wén fi zamán zey dé</i> | (SCC Radio, S.6) |
| | money-money-money find where LOC time like DEM ⁸ | |
| | 'Money (such an amount of) is to be found where at this time?' (Augmentative) | |
| 3) | <i>jamán-jamán-jamán-jamán de má fí má'al táni bita Baka</i> | (Angebi, S.1) |
| | time-time-time-time DEM NEG EXIST place other of Baka | |
| | 'Long long time ago, there was no other place for the Baka ' (Augmentative) | |
| 4) | <i>nás géne baráo-baráo grúúp-grúúp ma'al baráo-baráo</i> | (Angebi, S.1) |
| | people stay alone-alone group-group place alone-alone | |
| | 'People were staying far apart in (small) groups, in different places' (distributive) | |

The reduplicated noun can follow a reduplicated verb and just add emphasis to the sentence.

- | | | |
|----|--|---------------|
| 5) | <i>úmon bigáta-gáta híta-híta-híta</i> | (Lojulo, S.2) |
| | They TMA-cut-cut piece-piece-piece | |
| | 'They cut (the meat) in very small pieces' (augmentative/distributive) | |

⁶ The number of occurrences refers only to non inherited reduplicated forms.

⁷ Many nouns have a phonological reduplicated ideophone-base and have been inherited either from colloquial Arabic or from local vernaculars such as *dagdag* 'road bumps', *fasfas* 'lung', *keskes* 'small rain', *nyanya* 'baby-food', *kotkot* 'cough', *lolo* 'turning, complication' *nammam* 'button'.

⁸ The following abbreviations have been used :

TMA = Tense - Modal Aspect markers ;

NEG = Negation ;

DEM = Demonstrative,

LOC = Locative,

TOP = Topicalisator,

EXIST = existential,

VN = Verbal noun

PASS = Passive

- 6) *úman bikásuru kasur-kasúr kasába híta híta híta* (Lojulo, S.2)
 They TMA-break VN-VN wood piece-piece-piece
 'They break the branch in small pieces' (i.e. each piece symbolizes a sheep for the dowry) (augmentative/distributive)

Reduplication of the word *sabá* 'morning' is very common and can be considered as almost lexicalized : *sabá-sabá* 'early morning, dawn'.

- 7) *Talgá fi sabá-sabá úmon (furbús) bitála jámbu gós* (Nyekesi, S.8)
 You-find LOC morning-morning they TMA-came out near grass
 'Early in the morning (at dawn) they (bush-rats) will go to the grass-place'

In few other cases, reduplicated nouns can be interpreted as cases of derivational adjectives of the 'X-like quality type' but this type of derivational reduplication remains limited to few words and cannot be considered as productive e.g.

béle 'village' > *béle-béle* 'village-like, popular, violent'
móyo 'water' > *móyo-móyo* 'water-like, liquid'

- 8) *ta'ál kéli wónosu béle-béle* (Yaba Paulo, S.4)
 Come let chat village-village
 'Let's talk in a bad style'

No reduplicated nouns have been recorded in Nubi. The few phonologically reduplicated examples quoted in Turku are inherited like *poto-poto* 'mud', *suksuk* 'pearl', *semsem* 'sesame' (Tosco Ms). The last two examples are also known in Sudanese Colloquial Arabic where lexical phonological reduplication is frequent.

2.2 Adjectives, adverbs and quantifiers (29 occurrences, 7 speakers)

Reduplication of adjectives and adverbs seems to be more frequent. The following reduplicated adjectives and adverbs have been recorded⁹ :

- 9) *ketír* 'many' > *ketír-ketír* 'very many'
batál 'bad' > *batál-batál* 'very bad'
guwám 'quick' > *guwám-guwám* 'very quick'
geríb 'near' > *geríb-geríb* 'very near'
sukún 'hot' > *sukún-sukún* 'very hot, very tough'
kwés 'good' > *kwés-kwés* 'very good'
besít 'few, small' > *besít-besít* 'very few, very small'
boít 'far' > *boít-boít* 'very far'
neshif 'dry' > *neshif-neshif* 'completely dried'
swíya 'a little' > *swíya-swíya* 'little by little'
bi raá 'slowly' > *bi raá-bi raá* 'slowly-slowly'
baráu 'alone, away' > *baráu-baráu* 'apart, away, different'
fóg 'above, up' > *fóg-fóg* 'far up'
awanta 'fierce' > *awanta-awanta* 'fiercely'

⁹There are also some examples of phonological reduplication such as *tamtam* 'dumb'

Reduplicated adjectives and adverbs conveys mainly an intensive/augmentative meaning and in few cases an iterative meaning as in the last two examples.

- 10) *Majúb yaú sukún-sukún-sukún, úwo bikátul nás sedíd* (Lojulo, S.2)
 Majub TOP hot-hot-hot he TMA-kill people strong
 'Majub was very tough, he killed a lot of people'
- 11) *grús biga besít-besít* (Nyekesi, S.8)
 money become few-few
 'money became very few'
- 12) *úman baadín bikélem kalám de bi ráá-bi ráá-bi ráá* (Lojulo, S.2)
 They after TMA-discuss matter DEM slowly-slowly-slowly
 'Then they discuss the matter (very) quietly (i.e. they take their time)'
- 13) *úmon ákulu wélet be áwanta-áwanta háta já mútu* (Yei, S. 5)
 they eat boy with fierce-fierce until come die
 'They ate the boy secretly until he died'

I just came across one example with an attenuative meaning but it could be also interpreted as a X-like derivational pattern e.g. *meít* 'dead' > *meít-meít* 'almost dead, very quiet, dead-like'

- 14) *inglizi ínta besúfo meít-meít keda* (Sule, S. 3)
 English you TMA-see-him dead-dead like-this
 'You see the English man as quiet (dull, passive)'

A number of adjectives have an adverbial use cf. *guwám* 'quick, quickly', *sehí* 'true, truly'. In the adverbial use they mostly appeared in a reduplicated form but always with an intensive meaning.

- 15) *sílu guwám-guwám* (Yei, S.5)
 take it quick-quick
 'take it quickly'

The most frequent occurrence of such an adverbial use is *sehí-sehí* (*seí-seí*) 'really' < *sehí* (*seí*) 'true' which functions as an intensifier

- 16) *banát kárabu ána seí-seí* (Nyekesi, S.8)
 girls spoil I true-true
 'the girls really spoilt me'
- 17) *mótoro néjil sehí-sehí* (Wany, S.12)
 rain come-down true-true
 'It rained heavily'
- 18) *úwo kebír seí-seí* (Lado, S.11)
 He big true-true
 'He is really big'

sehí-sehí (*seíseí*) as an adverb/intensifier can follow any adjective or verb. In urban Juba the sequence adjective + *seíseí* (intensifier) is more frequent than the reduplication of an adjective to express intensive meaning. But *seíseí* can also indicate a modal value as in the following examples :

- 19) a. *bét de gerib-gerib ze dé* (Yei, S.5)
House DEM near-near like DEM
'The house is very close like this'
b. *bét de gerib sehi-sehi*
'The house is really close'
- 20) a. *sehi já?* 'did he come?' (Wany S.12)
b. *já sehi-sehi* 'he really came, indeed he came'

The quantifier *kúlu* 'all, at all' is frequently reduplicated, especially in negative sentences where it seems to be lexicalized

kúlu 'all' > *kúlu-kúlu* 'at all, (not at all)'

- 21) . *ána má bi-rája kúlu-kulu* (SCC Radio, S.6)
I NEG TMA-come-back all-all
'I will not come back at all, I will never come back'
- 22) *má bimási kúlu-kúlu* (Yei, S5)
NEG TMA-go all-all
'He will not go at all'

Adjectives can also be reduplicated in Nubi. Some reduplicated forms are inherited like *dugág-dugág* 'small' and *gódo-gódo* 'thin' (Heine 1982). Others reduplicated forms imply a semantic shift like *boi* 'far' > *boiboi* 'different' and *baará* 'alone' > *baará-baará* 'different' (Heine 1982)¹⁰. Other reduplicated forms are interpreted as attenuative forms like *kislán* 'lazy' > *kislán-kislán* 'sort of lazy' (Owens 1977). No Nubi reduplicated adjectives have been quoted with an intensive meaning.

2.3 Numerals (5 occurrences, 3 speakers)

I recorded two reduplicated numerals: *wáe-wáe* (*waed-waed*) 'one-one' and *tnín-tnín*. 'two-two'. Reduplicated numerals have an iterative/distributive meaning.

- 23) . *úman ikúbu barúd fi jówa masúra badín bidúrbu wáed-wáed* (Sule S.3)
they pour gunpowder LOC inside tap then TMA-hit one-one
'They put the gunpowder inside the gun and then they shoot one after another (the guns are single-barreled gun, each man will shot one time then he pour the gunpowder and shot again)'
- 24) . *Ansáár wódi lehum silá tnín-tnín, kúlu sultáán lehu tnín silá* (Sule, S.3)
Ansar give to-them weapon two-two, all Sultan to-him two weapon
'The Ansar (Mahdist soldiers) gave two weapons to each Sultan'

¹⁰ Juba Arabic has also *barau* 'alone' > *barau-barau* which can be translated as 'alone, apart, far away, different' according to the context. In all the recorded sentences, *barau* follows a nominal plural and has a distributive meaning cf. example 4 in this paper and also *aburu hilaj al nua barau barau* (they-swallow-medicine-REL-kind-alone-alone) "they swallow different kinds of medicines" (S.7 Preach).

But the reduplicated form of *wáe-wáe* (one-one) can also have a deictic-referential meaning : 'this very one, the one we just mentioned'. This meaning was found among two speakers from Baka (i.e a Bongo-Bagirmi language belonging to the Nilo-Saharan phylum) background, an old rural speaker and a young urban speaker.

- 25). *kamán káli bitó wáe-wáe dé gáál* (Angebi, S.1)
 Also uncle of-him one-one DEM say
 'Then his uncle (the one we just talked about) said:'
- 26). *ay, assét wáe-wáe dé* (Nyekesi, S.8)
 yes, lion one-one DEM
 'Yes this very lion'

2.4 Particles and pronouns

Usually grammatical words such as demonstratives, pronouns and particles are not reduplicated. However, among a group of young teenagers in Juba I recorded the following occurrences in a free discussion between two young lads¹¹.

- 27) *úwo bikélem gál dé má táe-táe, dé tó-tó* (Nyekesi, S.8)
 He TMA-speak say DEM NEG my-my DEM his-his
 'He says it's not mine it's his'

2.5 Verbs (60 occurrences /13 speakers)

In my data, verbal reduplication is the most frequent type of reduplication, especially among JA L1 urban speakers. The verb is reduplicated as a simple stem, without reduplication of the TMA markers *bi/ge/kan*

- 28). *úmon bilífu bét* < *úmon bilífu-lífu bét*
 they turn house < they turn-turn house
 'they turn (several times) around the house'

Reduplicated verbs have a repetitive/iterative/habitual or distributive meaning. Sometimes they have an intensive meaning. In isolation, without the discourse context, the following sentence can have three interpretations:

- 29). *úmon be dúgu-dugu nás ta bét kúlu*
 They TMA hit-hit people of house all
 'they hit them several times/one by one/strongly'

The interpretation given for the examples that follow is therefore determined by their larger discourse context :

- 30). *namán beljík wósulu fi Rejáf / úman dósoman-dósoman sedíd* (Sule, S.3)
 when Belgium arrive in Rejaf / they fight-fight strong
 'When the Belgian arrived in Rejaf they fought a lot (with the Mahdist army)'
 (intensive/iterative)
- 31). *dé degíd el kamirú tímu-tímu sába yóm* (Lucie, S.10)
 DEM flour REL ferment (Passive) finish-finish seven day

¹¹ This group of teenagers was also speaking a specific slang language where many words were created using a reduplicated pattern : *futfut* 'to go' *fufu* 'to fuck'

This is (a kind of) flour which remained seven days for fermentation' (iterative)

- 32). *málu inta ge ásalu-ásalu kéde* (SCC Radio, S.6)
 What you TMA ask-ask like this
 'Why are you asking (all these stupid questions) like this?' (iterative, intensive)
- 33). *yála be gésimu-gésimu belíla de* (Kiden, S.9)
 then TMA-distribute-distribute grain DEM
 'Then they distribute all the grain' (iterative/distributive)
- 34). *bágara de ge mútu-mútu* (Wany, S.12)
 cow DEM TMA die-die (iterative/distributive)
 'The cows are dying one after the other'
- 35). *ána gáta-gata lahám de kalás* (Lado, S.11)
 I cut-cut meat DEM finish
 'I have cut all the meat in pieces' (iterative/distributive)
- 36). *ána ge jére-jere kúlu ma-yóm* (Lado, S.11)
 I TMA run-run every with day
 'I run every day/I am running every day' (habitual)
- 37). *wókit úman ámsuku béle árabi bi gáta-gáta ida bita nás* (Lojulo, S.2)
 When they take country Arab TMA cut-cut hand-of-people
 'When they took the country, the Arabs, they used to cut the hands of the people'
 (habitual/iterative)
- 38). *kiláb de yaú báámsiku-ámsiku hayawanáát de wa be-jíbu le éta* (Nyekesi, S.8)
 dogs DEM TOP TMA take-take animals DEM and TMA bring to you
 'Those dogs collect all the animals and bring it to you' (habitual /distributive)
- 39). *kamán úwo bi búlu-búlu fi júwa salá úwa biga kebír* (Kidden, S.9)
 Also he TMA piss-piss LOC house even he became big
 'He will continue to piss inside the house even if he is big' (habitual)

With verbs of motions, the semantic value of reduplication is often not clear. The following example has been given two different interpretations, of which the second seems not to involve any semantic effect :

- 40). *íntakum gi fútu-fútu wéén* (Nyekesi, S.8)
 you TMA go-go where
 a. 'Where are you people aimlessly walking'
 b. 'Where are you going?'

Again in the following example the reduplication of *já* 'come' has no clear semantic effect :

- 41). *yalá ita já-ja ája táki fi bét* (Nyekesi, S.8)
 there you come-come thing of you in house
 'then you come home by yourself (alone)'

As mentioned by Huber (in this volume) for West African Pidgin English, there is no clear distinction between iterative/habitual and distributive meanings. Informants tend to

emphasize the habitual/iterative interpretation but in most examples the reduplicated verb has a plural subject or a plural object and the interpretation can thus be distributive.

- 42). *úwo kásuru-kásuru kubayát* (Wani, S.12)
 he break-break glasses
 'he broke all the glasses one by one' (iterative, distributive)
- 43). *úwo kan ge kéyetu-kéyetu gomás tómon* (Lado, S.11)
 He TMA TMA sew-sew textile their
 'He used to sew their clothes' (habitual/distributive)
- 44) a. *ána ámuta séjara* (Kose, S.13)
 I pull out tree
 'I uproot the tree'
- b. *ána ámuta-ámuta rís ta jedád* (Kose, S.13)
 I pull out-pull out feather of hen
 'I pluck the hen'

Additional informations are needed to understand exactly the semantactic constraints of verbal reduplication in Juba Arabic. My own list of verbs (35 verbs) is too small to draw conclusions but it seems that verbal reduplication is not unrestricted. A number of verbs are frequently reduplicated by all speakers. These include the following:

- 45) *gáta* 'cut' < *gáta-gáta* 'cut in pieces',
dúgu 'hit' < *dúgu-dúgu* 'hit for a long time, frequently, several times'
jére 'run' < *jére-jére* 'run fast, run several times'
kátalu 'kill' < *kátalu-kátalu* 'kill all of them, kill frequently'
álabu 'play' < *álabu-álabu* 'play (i.e. dance and play music) continuously'

But some other verbs cannot be reduplicated and informants refuse the following verbal reduplication:

- 46). * *zol de bi kelem-kelem* but *zól de bi wónosu ketír (seísei)*
 man DEM TMA speak-speak man DEM TMA talk much
 'This man talk a lot'
- 47) * *moyo ge furu-furu* but *móyo fúru min gibel*
 water TMA boil-boil water TMA boil from before
 'the water is boiling' the water is boiling since early'

For some verbs, reduplication entails a semantic shift :

kóre 'cry' < *kóre-kóre* 'quarrel with somebody'

- 48) a. *mára de já kóre gáli ána áwuju grús táe* (Nyekesi, S.8)
 woman DEM come cry say I want money mine
 'the woman came crying saying I want my money'
- b. *úma táe kóre-kóre ma ána* (Nyekesi, S.8)
 mother mine cry-cry with me
 My mother quarreled (with) me

In *Nubi*, verbal reduplication has been quoted by Owens (1977) and Musa-Wellens (1994). For Owens (1977:42) : "reduplication of verbs conveys the idea of diffuseness and plurality vis a vis the unreduplicated form. With verbs of mental states reduplication suggests vagueness of feeling and comprehension". (***) here need an example from Owens). Musa Wellens (1994:113) states that she did not record any example of reduplication with verbs expressing mental state. She provides 8 examples without semantic analysis. Two of these examples follow, the last one having an attenuative interpretation:

- 49). *rutáán tóumon báádulu-báádulu mára miláán* (Musa Wellens)
 language of them change-change times many
 'their language changed many times'
- 50). *sáátáán anáás fíi gi bío-bíó* (Musa Wellens)
 maybe people EXIS PROG buy-buy
 'maybe they are the people who are buying occasionally'

Musa Wellens (1994) notes that the form *léke-leké* 'struggle hard' is always reduplicated and that there is no single form **leke*. Both Owens (1977) and Musa Wellens (1994) note that there is no semantic difference between the simple form and the reduplicated form of the verbs *já* (> *jája*) 'come' and *sóó* (> *sóósoo*) 'do'

2. Syllabic constraints and suprasegmental rules of reduplication.

The reduplicated words can be of monosyllabic, bisyllabic or trisyllabic forms :

- 51) *já* > *já-ja* 'come'
fóg > *fóg-fóg* 'up'
gáta > *gáta-gata* 'cut'
kebír > *kebír-kebír* 'big'
ákulu > *ákulu-ákulu* 'eat'
dósomán> *dósomán-dósomán* 'fight'

However the majority of the reduplicated forms are of a CvCv pattern especially reduplicated nouns, adjectives and adverbs (cf. section 2.1 & 2.2). Reduplicated forms of trisyllabic bases are all verbs with the exception of *awanta* (cf. 2.2). Whereas deverbal nominals may be created from reduplicated CvCv-CvCv verb forms, deverbal nominals of reduplicated trisyllabic verbs are unacceptable as if reduplicated trisyllabic verbs were considered too long for conversion.

With single unreduplicated forms conversion from verb to deverbal nominal involves stress shift as in the following:

- 52) *jére* 'to run' > *jeré* or *jere* 'running'¹²
gáta 'to cut' > *gatá* or *gata* 'cutting'
kóre 'to cry' > *koré* or *kore* 'crying'
ákulu 'to eat' > *akúlu* 'eating'
kúruju 'to cultivate' > *kurúju* 'cultivating'.

The same process of conversion involving a stress shift applies to CvCv-CvCv forms but does not work for trisyllabic reduplicated forms :

- 53) *jére-jere* 'to run' > *jere-jére* 'running'

¹² The stress pattern of deverbal nominal CvCv forms need further investigations. From my data I recorded both stressed and unstressed deverbal nominal CvCv forms.

gáta-gata 'to cut' > *gata-gáta* 'cutting'
kóre-kore 'to quarrel' > *kore-kóre* 'quarreling'
dúgu-dugu 'to hit' > *dugu-dúgu* 'hitting'
ákulu-ákulu 'to hit' > **akúlu-akúlu* 'eating'

54) *úwo ge jére-jere* vs. *zól ta jere-jére* (Lado S11)
 he TMA run-run person of run-run
 'he is running' 'he is a runner'

55) *úwo ge ákulu-ákulu* vs. **zól ta akúlu-akúlu*¹³

However the suprasegmental rules of reduplication are still unclear and seem to vary according to speakers. Reduplicated nouns, adjectives and adverbs always keep their stress cf. *kebír-kebír* 'big'. Trisyllabic verbs keep also their stress cf. *ákulu-ákulu* 'eat'. Variation in stress patterns occurs only with reduplicated CvCv verb forms. Some informants retained the stress patterns of disyllabic verbs on the individual members of a verb reduplication, e.g. *jére-jére* 'to run'; others on the other hand assigned a single main stress to such a form, e.g. *jére-jere* 'to run'. The latter stress pattern has been recorded with two informants (Lado S.11 & Kose S.13) who were JA L1 urban speakers with Bari as their mother tongue. Assignment of a single main stress indicates that the reduplicated form is perceived as a single unit. It could be an indication of the morphological status of the verbal reduplication. But more systematic investigation on stress rules is needed to determine the extent of this phenomenon. The recorded examples of a single intonation contour are limited to few reduplicated verbs which happen to be the most frequently reduplicated in my data (cf. examples 45). Assignment of a single main stress could therefore be determined either by the syllabic pattern (only CvCv form) or by the lexicalisation of the reduplicated forms (e.g. *kóre-kore* 'to quarrel') or by the socio-linguistic status of the speaker.

In Nubi, the members of reduplication (both bi- and trisyllabic forms) always keep their individual stress. Stress variation seems to only occur with monosyllabic form like *ja* 'to come':

56) *úmon já-já seli fi másjid* (Owens 1977)
 They come-come pray in mosk
 'They came and prayed at the mosk'

57) *anás ali gi já-ja gum jedidín* (Musa Wellens 1994)
 People REL PROG come-come wake up new
 'The people who will start as new'

3. Problems of Interpretation.

So far, reduplication in Juba Arabic seems to have mainly an intensive/augmentative function with nouns, adjectives and adverbs and an iterative/habitual or distributive function with verbs. These findings is quite similar to what can be found in many languages including contact languages (cf. Parkvall and other contributions to this volume). But a number of questions remains concerning the semantic interpretation and the morphological status of reduplication in Juba Arabic. In other word is it possible to determine if reduplication is a stylistic or a grammatical feature of Juba Arabic? Does reduplication has the same status among all speakers?

¹³ However series like *zól ta akúlu-akúlu* have to be checked

4.1 Arguments in favour of a discourse status of reduplication are the following :

- iteration is not limited to reduplication but may involve triplication or quadruplication as in example 2 (*grús* 'money REDUPx3) or example 3 (*zamán* REDUPx4). However triplication or more has been recorded almost exclusively among JA L2 rural speakers¹⁴ and effects mainly adverbs, adjectives and nouns and rarely verbs. It has an augmentative meaning with nominals and an iterative meaning with verbs :

- 58) *dé tiráb bitána, ána kúruju-kúruju-kúruju, éna bitó tála* (Yei S.5)
 DEM seed of-our, I cultivate-cultivate-cultivate, fruit of-it come out
 'This is (like) our seed, I cultivate for a long time, it's fruit are growing'

- iteration is not limited to words but may affect phrases or entire sentences. In this case iteration may have a repetitive/distributive interpretation. Again iteration of sentences has been mainly recorded among JA L2 rural speakers in narratives (folktales, historical narratives).

- 59) *nás bi-géne nús kéde-nús kéde fi táref kóro-táref kóro* (Angebi, S.1)
 people TMA-stay half like-this half like-this, in side river-side river
 'people were living half here and half there, on each side of the river'

- 60) *kúl wáe bijére / kúl wáe bijére* (Angebi, S.1)
 All one TMA-run / all one TMA-run
 'Each one (everybody) is running away'

The stylistic effect of reduplication/iteration appears clearly in sentences with multiple reduplications e.g.:

- 61) *nás géne baráo-baráo grúúp-grúúp ma'al baráo-baráo* (Angebi, S.1)
 people stay alone-alone group-group place alone-alone
 'People were staying far apart in small groups, in different places'

- in most cases the members of a reduplication keep their individual stress (cf. section 3) which means that they are under separate intonation contours- which may be indicative of their separate word status.

- reduplication is never obligatory. Sentences with reduplicated verbs alternate with sentences without reduplicated verbs. A good example is to be found in a folk tale analyzed by Watson (1989) :

- 62) *gurabáát rúwa le fil u báda dúgu-dúgu fil*
 hawks went to elephant and began peck-peck elephant
 "Then the hawks went to the elephant and began pecking him"

Watson interprets the reduplicated verb as denoting a continuous action and indicated that "reduplication of the verb is the usual form of the continuous aspect in Bari and some other languages of the South". However the same sentence is repeated in the folk tale without reduplication *gurabaat gi dugu fil*. The same phenomenon occurs very often in my data. I indicated that the interpretation of reduplicated verbs can be iterative/habitual and distributive (see examples 6, 34, 38, 42, 43 above). However the notions of an iterative, habitual and

¹⁴ 14 examples of tri-quadruplication have been recorded : 2 in Angebi (S1), 10 in Lojulo (S2), 1 in Yei (S5), 1 in SSC Radio (S6). 3 examples involved a verb, 11 involved a noun, an adjective or an adverb.

continuous process are also expressed through verbal particles such as *bi* and *gi* (Mahmud 1979, Miller 1986, Tosco 1995). Reduplication in these cases may either add a distributive connotation to a process already ascribed an iterative/habitual/continuous aspect by the verbal particle or emphasizes the notions of iterative/habitual (cf. examples 36, 39).

4.1 Arguments in favor of a morphological status are the following :

- prefixation of reduplicated verb is possible whereas prefixed verbs are not iterated (e.g. *bi-gata-gata* [TMA-cut-cut] not **bigata-bigata*)
- in cases of CvCv verb, there can be a single stress for reduplicated form (cf. section 3 above)
- reduplication can lead to semantic shift that points to a process which takes place in the lexicon e.g.

béle ‘country’ > *bele-bele* ‘country-like violent’
méit ‘died’ > *méit-méit* ‘dead-like’
baráu ‘alone’ > *baráu-baráu* ‘different’
kóre ‘to cry’ > *kóre-kóre* ‘to quarrel’

At this point of observation, I will tend to think that reduplication/iteration in Juba Arabic has a mixed status. It’s mainly a discourse strategy among JA L2 (rural) speakers and emphasizes intensive/repetitive/iterative notions. However some reduplicated forms have entered the lexicon such as *seísei* ‘really’, *kúlu-kulu* ‘at all’, *baráu-baráu* ‘different’, *gáta-gata* ‘cut in many pieces’, *jére-jere* ‘run all over’. Among JA L1 speakers it’s more grammaticalised and the use of reduplicated forms in habitual/continuous sentences may have been influenced by similar features in regional African vernaculars.

4. Substrate vs. adstrate influences?

Among the languages relevant in the genesis of Juba Arabic and Nubi are Arabic, the lexifier language and Bari, the main vernacular of the Juba-Rejaf area. For Arabic, I will not consider Classical Arabic which did not play any role in the formation of Juba Arabic but rather Colloquial Arabic and specifically Sudanese Colloquial Arabic (SCA)¹⁵.

5.1 Arabic

Reduplication/iteration in Colloquial Arabic (including SCA) is not unknown but has mainly a rhetoric/stylistic status and is far less spread than in Juba Arabic. However some Arabic structures may have serve as a basis for the extension of reduplicative processes in JA. To begin with, numerous words have a phonological reduplication in both Classical and Colloquial Arabic e.g. *washwasha* ‘to whisper’, *tabṭaba* ‘to pat, to caress’. The phonological base may exist in the lexicon but with a totally different meaning (e.g. *ṭabba* ‘to treat medically’). As far as I know there is no direct semantic relation between the simple base and the reduplicated form considered as quadriliteral form. But in Nigerian Arabic (Owens 1993)¹⁶, a dialect spoken by the Shuwa Arabs, a number of quadriliteral verbs are based on CvCv or CvCCv stems and have a frequentative or distributive meanings such as

shara ‘buy’ < *sharshar* ‘buy a lot

¹⁵ A mixture of Egyptian Arabic and Sudanese Arabic (including West Sudanese varieties) is generally considered to have been the lexifier language.

¹⁶ Nigerian Arabic is considered a peripheral dialect but not an Arabic p/c.

gashsha 'sweep' < *gashgash* 'sweep everywhere'
lamma 'gather' < *lamlam* 'gather together'.

These latter forms may have been reduced forms of former reduplicated verbs (e.g. *shara* > [*shara-shara*] > *sharshar*)

Non phonological reduplication/iteration has in SCA an expressive/stylistic function mostly used in narratives to indicate augmentative/repetitive/iterative notions. Iteration can effect a sentence or a word (adjectives, adverbs or verbs principally).

63) *ṣalattun kitaal moot kabir-kabir* (Reichmuth 1983:79)
 Salattun murder death big-big
 Salattun is a big varior (killer)

64) *ar-rajil maasha maasha maasha sanaat katiira* (Miller's fieldwork)
 the man walked walked walked years many
 the man walked for many years'

Reduplication of the word is often associated with lengthening of the long vowel and the above example is to be read as

[*ar-rajil maaaasha maaaasha maaaaasha sanaat katiiiiira*]

Another SCA structure is the succession verb + verbal noun (known as *masdar* in Arabic) e.g.: *zi^cil za^cal* (V + VN) 'he was very angry' or *ti^cibt ta^cab* V + VN 'I got so tired'. This structure could have been a model for the verbal reduplication of the type *gáta-gata* in JA.

But Arabic has many other morpho-phonological means to express intensification or iteration. In SCA lengthening of the vowel alone can express intensivity and, as a stylistic strategy, is more frequent than reduplication.

65) *kabiir* 'big' < *kabiiiiiir* or *kabiir jiddaan* 'very big' (Miller's field work)

66) *shaaf hajaat katiira* / *al-balad ba'iiiiiiid*/ (Miller's field work)
 he saw things many / the country far
 'he saws many-many things / the country is very-very far'

In both Classical and Colloquial Arabic nominal and verbal derivational patterns are created from a consonantic root through lengthening of the vowel and/or reduplication of the intermediate consonant. These derivational patterns are grammaticalized and a number of them have an intensive meaning like the CvCCvC verbal pattern or the CvCCaaC intensive adjectival pattern e.g. .

67) *kasar* 'to break' > *kassar* 'to break in small pieces'
darab 'to hit' > *darrab* 'to hit strongly'
katal 'to kill' > *kattal* 'to massacre, to butcher'
naḍam 'to talk' > *naḍḍaam* 'talkative'
akal 'to eat' > *akkaal* 'greedy' etc. (Reichmuth 1983)

The phonological reconstruction (e.g. lack of vowel length and geminated consonants) which occurred in the Arabic-based contact languages (Owens 1990, Miller 1993) does not enable such derivational patterns. Therefore iteration and reduplication in JA & Nubi may have been used as substitute for such derivational patterns.

5.2 Bari

In Bari (Eastern Nilotic language), the major vernacular of Juba area, inflexional reduplication is a productive phenomenon, especially with verbs. But productive derivational reduplication is not recorded as “Bari does have a rich system of derivational morphology which makes it possible to productively derive trisyllabic and longer-verb stema” (Yokwe 1987:11). A number of Bari structures are very similar to JA structures.

- According to Spagnolo (1933:14) “many nouns make use of reduplications e.g.”

- 68) *meje* ‘red ochre’ > *meje-meje* ‘red widow bird’
gör ‘to span’ > *göri-göri* ‘rainbow’

But no case of reduplicated nouns to indicate augmentative/distributive has been recorded unlike JA (but this should be checked with native speakers).

- Repetition of adjectives (Spagnolo 1933:70) “gives the sense of extremeness” e.g.

- 69) *Kijakwa joré joré* ‘very many wilds animals’,
pion ku’dik ku’dik ‘very little water’.

This structure is similar to the examples quoted in JA (cf. examples 9 to 12). But the adverb *parik* ‘very’ can also express augmentative e.g. *l’dit parik* ‘very small’. Another phonetic means is “a heavy accent on each of the two syllables of the adjectives combined with a pause between syllables” e.g. *kare paj-j-j o* ‘the river is very far away (Spagnolo 1933:70).

- The expression of distributive ‘each’ is very similar to sentences recorded in JA with reduplication of the numerals (ex. 24) or iteration of the sentence (ex. 60). :

- 70) *Ðwajik atu, lu kanyit mede, lu kanyit mede* (Spagnolo 1933:96)
 Children went, that-one at home, that one at home
 ‘Each child went home’

- 71) *kakitak ati gurut, lu puök, lu puök* (Spagnolo 1933:96)
 the-workers were-given money, this-one ten, this-one ten
 ‘each worker received ten piastres’

-Partial reduplication of the verbal stem (i.e. reduplication of the initial syllable of the verb) is systematic to form present and future tenses (Spagnolo 1933:105 & Yokwe 1987:92-94). According to Spagnolo “in both Present Tense and Future Tense reduplication means continuous action or plural subject. In fact a plural subject usually demands reduplication”. But partial verbal reduplication does not work with negative :

- 72) *Nan kən* ‘I do’, *nan kəkən* ‘I am doing it’, *ηutu kəkən* ‘the people are doing it’
Wörö ‘to walk’, *nan wöwöro* ‘I am walking’, *nan ti wörö* ‘I ‘m not walking’.
 (Spagnolo 1933:105)

- 73) *Jada de-dep* ‘Jada holds it’, *Jada me-met* ‘Jada sees it’
Jada lo ta-tan ‘Jada is touching it’, *Wani tu ku-kurup* ‘Wani will roast them’
 (Yokwe 1987: 93)

- Partial or full reduplication of the verb indicates a continuous or an habitual/iterative process:

- 74) *Jada a ‘bu-‘buk-u piong i katuran* (Yokwe 1987:96)

Jada pour water frequently on the flower (cf. 'buk 'pour')

75) *lɔ kiko jera jera* 'the road is always being cleaned' (Spagnolo 1933: 140)

76) *ansar atuturjō ħutu ti Bari a rerembi rerembu* (Spagnolo 1933: 140)
'The Arabs used to hunt the Bari and kill them'

JA has no partial verbal reduplication to form tenses, but the use of a reduplicated verb to indicate habitual/repetitive processes may have been a transfer from the Bari structure.

Conclusion

The morphological status of reduplication in Arabic-based contact languages remains debatable. As far as we know, there is no productive reduplication in Turku, a former military pidgin of Chad-Niger area. Reduplication does exist in both Nubi and Juba Arabic and affects mainly verbs. It conveys a sense of iterative, repetitive, frequentative, duplicative. In Juba Arabic, reduplication is more productive among L1 JA speakers than among JA L2 speakers. Among the latter it's mainly a discourse strategy to emphasize augmentative or iterative. Among the former, it's more systematic and is often interpreted as having an habitual meaning. However, reduplication as a grammatical process is in competition with other features in the language such as use of TMA markers, quantifiers and adverbs. The use and interpretation of verbal reduplication to indicate an habitual process have been recorded among JA L1 and mainly Bari speakers and informants. Reduplication as a stylistic device is not unknown in Arabic dialects but remain limited to specific context : expression of augmentative or repetitive in narratives. The present use of reduplication in JA seems more influenced by the Bari semantaxe than by Arabic semantaxe. However JA reduplication is not a mere transfer of Bari reduplicative processes as partial reduplication, a very productive Bari verbal feature is non-existent in JA.

The interesting point is that in case of reduplication like in other cases of grammatical and syntactic processes (such as grammaticalization of verb 'say') the influence of Bari semantaxe is more profound at a latter stage of development, i.e. at a stage that I would call the vernacularization stage when JA is not only the first language of the community but plays an important symbolic function as a vector of identification. The 're-appearance' of Bari semantactic categories at this stage of development seems to corroborate the idea that the shift from pidgin to creole (or vehicular to vernacular) is characterized by the resurgence of latent semantactic substrate categories (Manessy 1995:229).

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