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REFLEXIVE CONSTRUCTIONS IN BATONU:
A PROBLEM FOR THE BINDING THEORY

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Introduction

Reflexivization appears to be a syntactic process that is universally attested among natural languages. This assumption follows from the fact that many languages do not normally, repeat the subject in object position, whenever a reflexive notion is expressed in a grammatical sentence. Instead, a reflexive pronoun that is co-referential with the-subject is always preferred in the object position. Probably, it was this observation about the syntactic characteristic of reflexivization that prompted Stockwell (1977:1^4) to make the following assertion:

> NOT A SINGLE LANGUAGE known to contemporary
> scholarship expresses the reflexive notion by actually
> repeating the subject in object position.

We can illustrate this assertion about reflexivization with the sentences in (1) below;
(l)a. John$_i$ hurt   John;.
  b. John$_i$ hurt   himself.
where the subject- DP- 'John' in (la) has the same referent with the DP - 'John' in the object position. This is indicated by coindexation (i.e. attaching identical subscript letters-called indices-to the subject and object DP's). To support Stockwell's claim, sentence (Ib) above appears to be much more acceptable and semantically transparent than sentence (1 a). This is because the required 'reflexivization' is observed in sentence (Ib).

Like in many African languages, 'reflexivization'.is a common syntactic process in BatbnQ. Therefore, the concern of this paper is to
examine the Batonu clause structure involving reflexivization, and illustrate how such constructions in the language, through the use of resumptive pronouns or subject - agreement markers (Agr-S), violate the Bisection Principle of the Binding Theory, a sub theory of the GB theory.

Batonu: The Language of Study

Genetically, Batonu belongs to the Gur (Voltaic) sub-family of the Niger-Kordofanian family of languages (see Armstrong (1964), Comrie (1987), Greenberg (1970), and Welmers (1973)). Both the language and its speakers are popularly referred to by non-native speakers as "Bariba" or "Baruba". But the native speakers now insist that people use the appropriate name - Batonu

language is spoken as a first language or mother tongue in a stretch of territory lying North-West to South-West across the Nigeria
- Benin Republic boundary. In Nigeria, Batonu is widely spoken in the entire Baruten Local Government Area of Kwara State. The major Batonu - speaking areas in Nigeria include Kosubosu, Okuta, Gwanara, Yashikira, Ilesha and Chikanda. Major areas in which
BaDnU is widely spoken in the Republic of Benin include Parakou, Nikki, Kandi, and Natitingou.
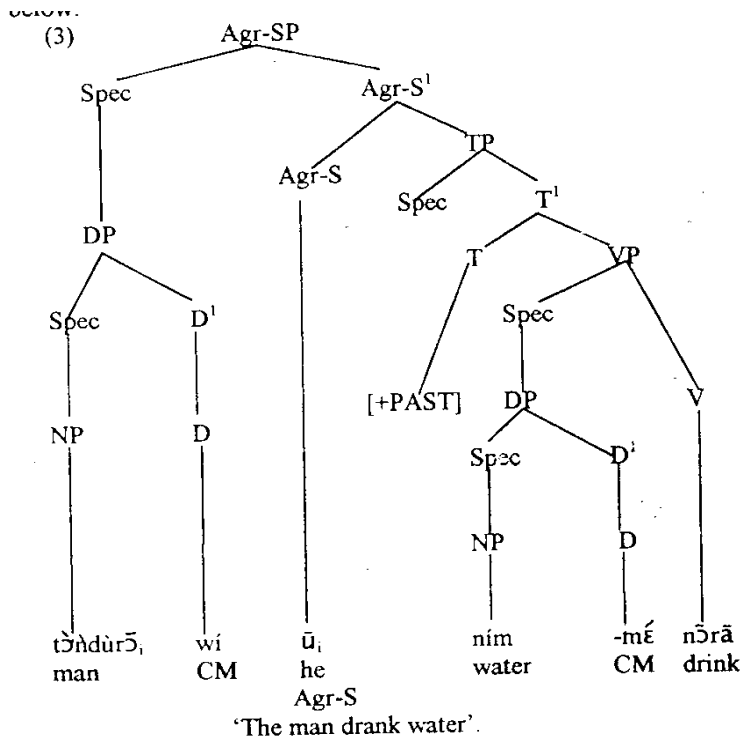
Batonu is a functional noun class language with seven prominent noun classes . Classes of nouns in the language are distinguished by means of suffixes rather than prefixes (see Welmers (1973), Comrie (1987) and Sanusi (2001)). Syntactically, the language exhibits subject - object - verb (SOV) word order in its basic clause structure.

Also, every non-pronominal subject - DP in Batonu basic sentence displays an obligatory resumptive pronoun that functions as subject agreement markers (i.e, subject concord) in the language. In other words, Batonu makes use of the resumptive pronoun strategy. It

(x) [musuku-ge ka   kirikiri - te]i   nu, gira   nË]
cat   CM and mouse   CM they   run after each other
                                  Agr-S
'The cat and the mouse ran after each other'

Given the 'Split-INFL hypothesis' of Pollock (1989), the described
syntactic position of the subject - agreement marker in Batonu, as shown in each of the examples in (2) above, can be depicted as in (3) below:

(3)

```
              Agr-SP
          _____
        Spec        Agr-S¹
                  _____
               Agr-S        TP
                        _____
                      Spec       T¹
          DP                  _____
       _____            T        VP
     Spec     D¹         ___     _____
                       [+PAST]  Spec    V
     NP       D                _____
                              DP
                           _____
                         Spec     D¹
                         NP       D

  tɔ̀ndùrɔ̄ᵢ   wí      ū ᵢ      ním     -mɛ́   nɔ̄rā
  man       CM      he       water   CM    drink
                    Agr-S
            'The man drank water'.
```

Derivation of Reflexive Pronouns

Phrasal reflexives in Batonu, such as English 'himself, 'herself, etc., are morphologically complex. This is because each of the reflexive pronouns consists of a reflexive morpheme "tii" meaning 'self and a pronoun (which usually agrees with the antecedent in case, person, and number).

As shown in (5) below, such phrasal reflexives in Batonu are derived through a combination of the genitive forms of the pronominals, as in (4a and b), with the reflexive morpheme "tii". The resultant forms of the reflexives are shown in (5a-f) below:

(4) **Pronominals:**
   a. SINGULAR

CASE TYPE	IST PERSON	2ND PERSON	3RD PERSON
NOMINATIVE	na 'I'	a 'you'	u '(s)he'
ACCUSATIVE	ma 'me'	nun ' 'you'	wii/niin 'him/her'
GENITIVE	nEn 'my'	wiinen 'your'	Win 'his/her'

b. PLURAL

CASE TYPE	1STPERSON	2ND PERSON	3RDPERSON
NOMINATIVE	sa 'we'	i 'you'	ba 'they'
ACCUSATIVE	sun 'us'	bÈÉ 'you'	be 'them'
GENITIVE	bÈsÉn 'our'	bÈÉn 'your'	ben 'their'

(5) Phrasal Reflexives:

a. [nÉn   -till] Myself
     my(lSG) self

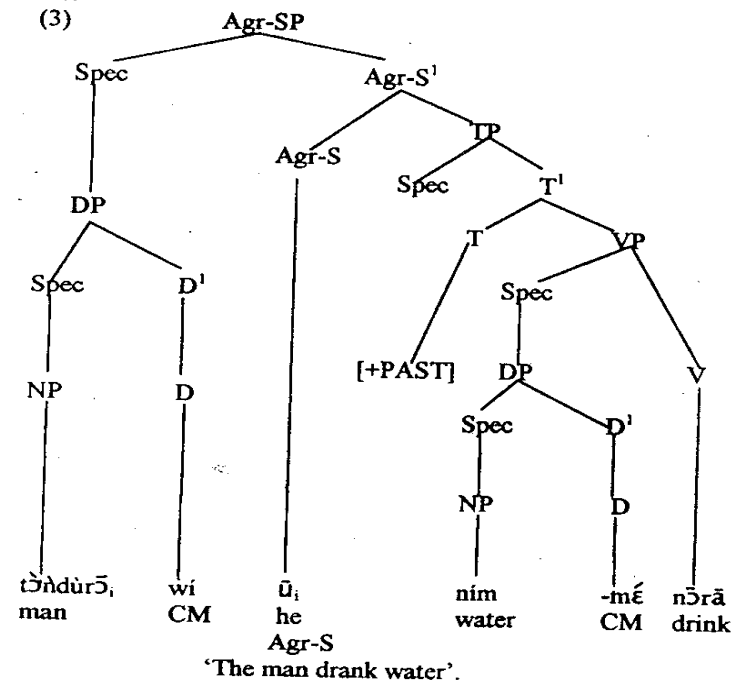b. [wunEn   -tii]- 'Yourself
     your(2SG)   self

c. [win   - tii] him 'Himself'
     him(3SG) self

(x) [musuku-ge ka   Kirikiri - te]i   nu$_i$ gira   nÊ]
          cat   CM and mouse   CM   they   run after each other
                                        Agr-S
"The cat and the mouse ran after each other.
          Given the 'Split-INFL hypothesis' of Pollock (1989), the described
syntactic position of the subject - agreement marker in Batonu, as shown in each of the examples
in (2) above, can be depicted as in (3) below:

(3)

```
                            Agr-SP
                  _____|_____
                Spec                    Agr-S¹
                  |                  _____|_____
                  |               Agr-S           TP
                  |                 |          ____|____
                 DP                 |        Spec       T¹
              ____|____             |         |      ___|___
            Spec       D¹           |         |     T       VP
              |        |            |         |     |    ____|____
              |        |            |         |  [+PAST]  Spec     V
             NP        D            |         |            |       |
              |        |            |         |           DP       |
              |        |            |         |        ____|____    |
              |        |            |        ním     Spec     D¹    |
              |        |            |       water     |       |     |
           tɔ̀ndùrɔ̄ᵢ   wí          ūᵢ                 NP       D     |
            man        CM           he                |       |     |
                                   Agr-S             ním     -mɛ́   nɔ̄rā
                                                    water     CM    drink
```
'The man drank water'.

Derivation of Reflexive Pronouns

Phrasal reflexives in Batonu, such as English 'himself, 'herself, etc., are morphologically complex. This is because each of the reflexive pronouns consists of a reflexive morpheme if' meaning 'self and a pronoun (which usually agrees with the antecedent in case, person, and number).

As shown in (5) below, such phrasal reflexives in Batonu are derived through a combination of the genitive forms of the pronominals, as in (4a and b), with the reflexive morpheme "-tif'. The resultant forms of the reflexives are shown in (5a-f) below:

(4) **Pronominals:**
   a. SINGULAR

CASE TYPE	IˢᵀPERSON	2ᴺᴰ PERSON	3ᴿᴰPERSON
NOMINATIVE	na 'I'	a 'you'	u '(s)he'
ACCUSATIVE	ma 'me'	nun ' 'you'	wii/nun 'him/her'
GENITIVE	nen 'my'	wunEn 'your'	win 'his/her'

b. PLURAL

CASE TYPE	1ST PERSON	2ND PERSON	3RD PERSON
NOMINATIVE	sa 'we'	i 'you'	ba 'they'
ACCUSATIVE	sun 'us'	bÈÉ 'you'	be 'them'
GENITIVE	bÈsÉn 'our'	bÈÉn 'your'	ben 'their'

(5) Phrasal Reflexives:

a. [nEn -tii] - 'Myself
  my(ISG) self

b. [wunEn   -tii]-
(2SG)   Yourself your

c. [win   - tii] 'Himself'
  (3SG) self

'They   hit each   other with stick'

(ix) [na, nEn-tii| so wir c]
    1SG my-se!f hit head-on
    'I hit myself on the head'
                        etc.

As could be observed in (6i-vi) above, a non-pronominal subject-DP, in each of the given reflexive constructions, takes a resumptive pronoun that is coindexed with that subject-DP. Consequently, both the subject-DP and its agreement marker serve as local potential antecedents for the anaphoric variable (i.e., their coindexed reflexive pronoun), thereby satisfying the 'Minimal Binding Requirement' (MBR), which stipulates that: "Variables must be bound by the most local potential antecedent" (Aoun and Li (1993:19).

However, the co-occurrence of such resumptive pronouns with the 'reflexive binding between the subject-DP and its anaphor violates the 'Bijection Principle' of the Binding Theory. But the examples of 'reflexive constructions in (6vii-ix) do not have such a theoretical problem in the language. This is because pronominal subject-DPs do not require any resumptive pronoun in such constructions. Therefore, the reflexive binding between the subject-DP and its anaphor (in each of the examples (6vii-ix) can be described as showing normal binding relation. In other words, the examples in (6vii-ix) can be excluded from the type of reflexive constructions under focus.

Defining the Bijection Principle

Following Lasnik and Uriagereka (1988), the 'Bijection Principle' of the Binding Theory, as proposed by Koopman and Sportiche (1982), requires that an operator binds exactly one variable and that a variable must be bound by only one operator.

A formal definition of the Bijection Principle which was stated in Lasnik and Uriagereka (1988:148) as (17), is repeated here:

(7) a. Every variable must be bound by exactly one operator.

b. Every operator must bind exactly one variable.

The Problem

Given the definition of 'Bijection Principle' as stated by Lasnik and Uriagereka (1988), it can be said that the reflexive constructions in Batonu, as exemplified in (6i-vi) violate the Bijection Principle. Simply put, in each of the sentences in (6i-vi) above, both the subject-DP and its resumptive pronoun (i.e., the two operators) simultaneously bind a single anaphor (i.e., the reflexive pronoun) within a local domain, thereby violating condition A of the Bijection Principle.

However, despite the fact that Batonu reflexive constructions in (6i-vi) violate the Bijection Principle, all the sentences are considered by native speakers of the language as being grammatically correct. Therefore, given this empirical evidence vis-a-vis the requirement of the Bijection Principle, we shall propose a modification of the
Bijection Principle to accommodate the peculiar structure of Batonu reflexive constructions.

From the available records, it appears that Batonu is not the only language in which the Bijection Principle is violated. Culicover (1997:33), for instance, while discussing the phenomenon of 'weak crossover', provides the English examples in (8) below to illustrate a violation of the Bijection Principle, even though the examples are considered to be grammatical and acceptable in English: (8) (i) He was the type of man with who, when his work would always come first.

(ii) He was the kind of man who when he loses his collar stud bellows the house down.

Following the definition of Bijection Principle, as given by Lasnik and Uriagerefca (1988: 148), the principle has been violated in each of the English examples in (8); simply because the operator - 'man', in each of the two sentences, binds more than one variable.

Evidence from Ebira

Ebira, a Kwa language spoken in Kogi State of Nigeria, is one of the African languages in which reflexive construction violates the Bijection Principle. As in Batonu, Ebira exhibits subject – agreement markers that are always co-referential with both the antecedent subject - DPs and the anaphors in reflexive constructions. This can be exemplified as in (9) below:

(9)i. [Tahir oo si   ireta [inaw £ת

Tahiru he take   stone hit himself

'Tahiru hit himself with a stone'.

ii. [Enesi ooniri Marietu], ££,   oisi   Ew£ni,]
    Enesi and Marietu   they love each other
    Enesi and Marietu   love each other

iii. [Marietu; oo   si   ireta nE wani
    Marietu she   take   stone hit herself
    Marietu hit   herself with a   stone',

                                               etc.

        In each of these Ebira examples, the antecedent subject-DP, as an operator, binds both its agreement marker and its anaphor, thereby violating the Bijection Principle of the Binding Theory.
        From the foregoing, we are of the opinion that, in order to attain both descriptive and explanatory adequacies in the syntactic analysis of Batonu reflexive constructions, as discussed above, there is a theoretical need for a proposal towards modifying the Bijection Principle. The details of our proposed modification are given below.

Proposal
Following Wiltschko (2002:181), on the need for 'double coindexction', we propose that a non-pronominal subject-DP, in a
Batonu reflexive construction,   should   carry two   indices   for the following theoretical reasons:
(i)   It is the major 'constituent in the construction that serves as the only referent for both   the resumptive pronoun and the anaphor (i.e., responsible for two different syntactic relations).
(ii)   It c-commands and is co-referential with both the resumptive pronoun and the anaphor in such

construction, thereby satisfying the required b conditions. The two major syntactic relations implied in (i) above are:
        (a)   Agreement   Relation   (between   the pronominal subject-DP and its resui pronoun),
        (b)   Reflexive Binding (between the subject and its anaphor).
To illustrate this proposal, we can, for ease of reference, some of the examples of Batonu reflexive constructions in (6i-vi) above as (9) below:
(10)   (i) [Woru u_i win-tii$_j$ Kpe-ru   so]
        Woru   he   him-self stone Det.   hit
            Agr-S
        'Woru hit himself with a stone'.

(ii)   [tonkuro -wi   u; win-tii$_j$ wa Iiki-so].
    woman   CM she her-self see   mirror-in
            Agr-S
'The woman saw herself in the mirror'.

(iii)   [Sabi ka Bake]   ba   ben-tii$_j$ ki]

81

SabI   and Bake   they them-self love
              Agr-S
'SabI and Bake love each other'.

It should be noted that the 'double coindexation' proposed for the analysis of Batonu reflexive constructions, as shown in (9) indicates that in each of the sentences, the subject-DP carry different subscripts (i.e., indices) instead of one. This is because the two subscripts indicate two different syntactic relations: while t subscript (or index) represents the 'agreement relation' between the subject-DP and its resumptive pronoun, the second represent 'reflexive binding' relation between the subject-DP and its anaphor

A major implication of attaching two indices to the non-pronominal subject-DP in a Batonu reflexive construction, as proposed in this paper, is that the constituent is now assumed to have received a much more dominant syntactic influence, over and above its resumptive pronoun, to c-command and bind its anaphor, as the only major local potential antecedent within the governing category. Carrying two subscripts also implies that the subject - DP has the power to bind two constituents (i.e., its resumptive pronoun and its anaphor) simultaneously.

Conclusion

We have discussed and exemplified the grammatical process of reflexivization in Batonu language. The way and manner in which the syntactic structure of Batonu reflexive constructions violates the 'Bijection Principle' of the Binding Theory has been the focus of this paper.

From our data analysis, we have discovered that the obligatory resumptive pronouns in Batonu reflexive constructions create a serious binding problem in such constructions.

A major syntactic fact about the resumptive pronouns in Batonu is that, contrary to the standard assumption about resumptive pronouns, resumptive pronouns in Batonu behave like real pronouns in the language. In other words, they cannot be analyzed like mere 'clitics' that have no significant grammatical status. This probably explains why a resumptive pronoun is considered in the Language as an obligatory pronoun in that peculiar syntactic position within a given reflexive construction.

Considering the theoretical need to resolve the problem of apparent violation of the Bijection Principle in Batonu reflexive construction, this writer has proposed a modification of the Bijection Principle in order to accommodate the peculiar structure of Batonu reflexive constructions. The proposed 'double coindexation' appears to completely obviate the problem, that is, the problem of having two operators/antecedents binding a single anaphoric, variable in such constructions. The proposal also provides the opportunity of explaining the two syntactic relations that are associated with the non-pronominal subject-DP in a given Batonu reflexive construction. That is, 'the agreement relation between the subject-DP and its resumptive pronoun and the 'reflexive binding relation[1] between the subject-DP and its anaphor.

We have also revealed in this paper that Batonu is not the only natural language in which the Bijection Principle is violated. For instance, Culicover (1997) provides relevant English examples to show how the effect of 'weak crossover' in English has produced an apparent

violation of the Bijection Principle. This has necessitated our proposal for a modification of the Bijection Principle.

A major claim that can be deduced from the focus of this paper is the fact that the so-called 'universal grammar' (UG) needs to be empirically re-examined, if and only if it has to be 'empirically universal. For instance, while some natural language data confirm some of the principles and parameters of UG, many invalidate such principles and parameters. On this note, this writer wishes to subscribe to the idea expressed by Sells (1985:5) that:

> It is a goal of syntactic theory to provide a descriptive
> space within which the range of variation that we find
> among languages is precisely captured. That is, we would
> like to have a theory which is flexible enough to allow us
> to characterize all the fine variation we find.

Notes

A version of this paper was read at the 24th West African Languages Congress (WALC, 2004) at the University of Ibadan, Nigeria (August 1-6, 2004). I am indeed very grateful to participants at the syntax parallel session for their helpful comments.

1. The suffix noun class markers in Batonu include - wi -te *-mE,* -ge, -ye, -ni, and -si. Each of these class markers is a definite determiner meaning 'that/the', as exemplified in each of the following noun classes:
   Class 1: [bii - wi] - 'The child'
        Child CM
   Class 2:Itire - te] - 'The book'
        book CM
   Class 3:[nim - *mE]* - 'The water'
        water CM
   Class 4: [boo-ge]   - "The goat'
        goat CM
   Class5:[d£ka-ye] - "The stick'
        stick CM Class
   6: [gbere - ni] - 'The maize'
        maize CM Class
   7: [yaka - si] - 'The grass'
        grass. CM
2. As in Igbo (Uwalaka, 1995:280), resumptive pronouns in Batonu always agree with their antecedents in the grammatical features of person and number.
3. Lasnik and Uriagereka (1988:33) define "Binding" as follows:
        A binds B iff
        (i)   A c-commands B
        (ii)   and A and B are coindexed.

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