The Predicate–Based Binding Theory and the Binding Properties of Akɔɔse Reflexive Anaphors

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ABSTRACT

Reinhart and Reuland (1993) propose a predicate-based non-structural binding theory that requires a reflexive-marked predicate to be reflexive (Condition A) and a reflexive predicate to be reflexive-marked (Condition B). Their analysis predict that a complex reflexive (SELF anaphor) cannot be long-distance bound when it occupies an argument position (A-position) since it can reflexive-mark a predicate; whereas a bare or simplex reflexive (SE anaphor), which does not reflexive-mark a predicate can be long-distance bound when occupying an argument position. This paper aims at showing that, though Reinhart and Reuland's (1993) theory works in some languages, it cannot accommodate for data cross-linguistically. This is the case of Akɔɔse wherein the theory makes wrong predictions regarding the binding and referential possibilities of reflexives in Akɔɔse. If Reinhart and Reuland's typology of anaphors is extended to Akɔɔse, it would wrongly exclude the existence of reflexives like nyu (self) and echi-nyu (hisself) in Akɔɔse since they cannot only reflexivize their predicate, but echi-nyu finds both local/long-distance antecedents when it occurs in an argument position whereas nyu finds only local antecedent in whatever position it occurs. This reveals that reflexives in natural language are not of a homogeneous class and thus cannot be adequately characterized simply by the two properties given in Reinhart and Reuland (1993) predicate-based binding theory.

BACKGROUND

Akɔɔse is a coastal Bantu language of the Mbo Cluster Group (Gutherie, 1967) spoken by a people known as Bakossi. The Bakossi people are located in the Kupe-Muanenguba division in the South West Region of the Republic of Cameroon. They are situated between latitudes $4^0 36'$ and $5^0 15'$ North of the Equator and between longitudes $9^0 28'$ and $9^0 15'$ East of Greenwich (Ejedepang-Koge, 1986, p.1).

Akɔɔse is a language in which anaphors exhibit interesting differences compared to the behaviour of anaphors in English and other languages. The Akɔɔse complex reflexive, *echi-nyu* (hisself), selects both local and long-distance antecedents provided the antecedents agree with the nominal features of number and person. Furthermore, the Akɔɔse simplex anaphor, *nyu* (self), binds only locally in finite and

non-finite clauses. It does not occur in complex determiner phrases. Both the simplex and complex reflexives in Akɔɔse can occur in subject argument NP in some expressions.

(1) John$_i$ a-láárə Mary$_j$ á Peter$_k$ a-hənə   echi-nyu $_k$
      John He-told Mary that Peter He-despise hisself
   "John told Mary that Peter despises himself".

(2) John$_i$ a-láárə Mary$_j$ nkâla' mə echi-nyu$_{i/j}$
      John   He-told Mary story   of   hisself
   "John told Mary a story of herself"

 (3) John$_i$ a-láárə Mary$_j$ á   Peter$_k$ a-hənə nyu $_k$
      John He-told Mary that Peter He-despise self
   "John told Mary that Peter despises himself"

(4) Echi-nyu nə a-wáákə   elwab
      Hisself   He-rob   mud
   "He drags himself in the quagmire"
   "She drags herself in the quagmire"

(5) Nyu nə Peter a-dəŋkə
      Self   Peter He-cheats
   "Peter cheats himself".

Thus, the behaviour of anaphors in Akɔɔse is contrary to Pica (1987) generalisation that LD reflexives are morphologically simplex. Furthermore, White (2003) reports that current account on reflexive binding agrees on the following properties:

a)   Long-distance anaphors must be subject-oriented.

b)   Anaphors that allow non-subject antecedents must be local.

Property (a) above is controversial in the sense that though long-distance anaphors must be subject-oriented, it is not the case that all subject-oriented anaphors must allow long-distance antecedent. This is the case with the Akɔɔse simplex anaphor, *nyu* (self), which is subject-oriented yet binds only in the local domain. Also, as non-subject antecedent implies a locally bound reflexive as stipulated by property (b) above, there is no requirement that all locally bound reflexives permit object antecedent. This is the case of Akɔɔse simplex reflexive, *nyu,* which binds locally but does not permit object antecedent.

2. Reinhart and Reuland Predicate-Based Binding Theory

Reinhart and Reuland (1993) establish a typology of anaphoric expressions with the property *Reflexivizing* function and the property R(referential independence) as illustrated in (6).

(6) Reinhart and Reuland typology of anaphoric expressions.

	SELF	SE	PRONOUN
Reflexivizing	+	-	-
Referential independence	-	-	+

This typology of anaphoric expressions reveals that SELF and SE anaphors form one group with respect to the referential (R) property. They are referentially deficient (-R) expressions. But SE also forms a group with pronouns. They lack the reflexivising function. Thus, they function just like arguments. Argument here refers to the participants involved in the state or activity expressed by the predicate. Verbs, nouns, adjectives and prepositions all have arguments structures. For instance, the argument

structure of the verb determines which elements are obligatory in the sentence and this depends on the activity expressed by the verb as seen in (7).

(7) Max kicked David.

The verb *kick* requires two participants in the sentence (Max and David) in order to enable the arguments to be expressed. *Max* is understood here as the subject of the sentence while *David* is a VP-internal complement. In the literature, *Max* is referred to as an external argument while *David* is internal argument. Arguments always stand in different semantic relationship (theta roles) with the verb. For example, the argument–NP, *Max* in the subject position refers to the entity that is the agent of the activity of the verb *kick*. The argument-NP *David* in object position is the entity that is the beneficiary of the activity described by the verb. In this wise, Reinhart and Reuland (1993, p.678) define the syntactic predicate structure, syntactic arguments, semantic predicate, reflexive predicate and reflexive-marked predicate as follows:

a) The *syntactic predicate* structure of (a head) P is P, all its syntactic arguments and an external argument of P.

b) The *syntactic argumenst* of P are the projections assigned theta-role or case by P.

c)   The *semantic predicate* formed of P is P and its arguments at the relevant semantic level.

d) A predicate is *reflexive* iff two of its arguments are coindexed.

e) A predicate (formed of P) is *reflexive-marked* iff either P is lexically reflexive or one of its P's arguments is a SELF anaphor.

Following these definitions, the syntactic arguments of P are taken to be those realizing a grammatical function of P. That is, its theta and case assignment. In example (7) above, the predicate *kick* takes *Max* and *David* as its syntactic arguments.

Furthermore, Reinhart and Reuland (1993) hold that both SELF and SE anaphors allow discourse uses known as logophoric when they do not occupy an argument position. They argue that there are two domains for the occurrence of an anaphor: the domain of reflexivity and the domain where SE anaphors are allowed to be bound. The former is the domain where a SELF anaphor obligatorily reflexivizes a predicate, and the later is the domain where the binding of the SE anaphors must obey the tensed subject constraint (an anaphor may not be the subject of a tensed clause) (Reinhart and Reuland, 1993). In view of the foregoing discussion, Reinhart and Reuland formulate the following conditions for the theory of reflexive binding:

(8) Binding Conditions

A: A reflexive-marked syntactic predicate is reflexive.

A: A reflexive semantic predicate is reflexive-marked.

As shown above, Condition A spells out the demarcation between the bound use and the logophoric use of SELF anaphors. It requires that SELF anaphors reflexive-marking a syntactic predicate be interpreted reflexively, and also implies that SELF anaphors can be used logophorically if they do not occupy an argument position of a syntactic predicate and thus does not reflexive-mark the relevant predicate. This analysis can adequately account for the contrast between the sentences in (9).

(9a) Max boasted that the Queen invited Lucie and himself for a drink.
(9b) *Max boasted that the Queen invited himself for a drink. (Reinhart and Reuland, 1993, p.670)

In (9a) the SELF anaphor does not occupy an argument position by itself and thus, does not reflexive-mark the relevant predicate. In this wise, (9a) is grammatical because Condition A does not apply, and

the SELF anaphor cannot be used logophorically. In (9b), Condition A is violated because the SELF anaphor occupies an argument position and thus reflexive-marks the predicate. As a result of this, (9b) is ungrammatical. However, (9b) is not reflexive since it is not coindexed with its co-argument, *the Queen*.

Condition B underpins the fact that a reflexive predicate be reflexive-marked. In this wise, (10) is ungrammatical because the reflexive predicate is not reflexive-marked.

(10) *Max_i criticized him_i.

This analysis reveals that if no reflexive predicate is formed, reflexive marking is not required. Let's consider sentence (11).

(11a) Maxwell likes reports about him.

(11b) Maxwell (λx (like (x, reports about x))).

The pronoun in (11a) is not an argument of the predicate *like* but an argument of the nominal predicate report as illustrated by the semantic representation given in (11b). In this case, the coindexation between *Maxwell* and the pronoun *him* does not yield a reflexive predicate. Hence Condition B is borne out. Since condition B is a condition of reflexivization rather than on the distribution of pronouns, the theoretical predictions hold that SE anaphors, like pronouns, cannot occur as an argument of a predicate that is not lexically reflexive.

(12) John a-dəŋkə nyu

John He-cheat self

"John Cheats SE".

In Akɔɔse example (12), a reflexive predicate is formed as the two arguments of the predicate are coindexed. However, (12) is ruled out by condition B because *nyu* (self) is not assumed to be a reflexive-marker and the predicate is also not lexically reflexive-marked. This notwithstanding, it is note-worthy that the reflexive predicate formed by the coindexation of subject and *nyu* is intrinsically reflexive-marked by the inherent lexical property of the verb. In this wise, Condition B can correctly rule in the coindexation of the subject NP *John* and the SE anaphor *nyu* in (12). As a result of this analysis, Reinhart and Reuland (1993) propose a condition on A-chains which can regulate the distribution of SE anaphors and pronominals. The definition of an A-chain and the condition on its well-formedness are given in (13 and (14).

(13) Definition

An A-chain is any sequence of coindexation that is headed by an A-position and satisfies antecedent government. (Reinhart and Reuland, 1993, p.693)

(14) General Conditions on A-chain

A maximal A-chain (a_1…, a_n) contains exactly one link − a_1- that is both +R and case-marked. (Reinhart and Reuland, 1993, p.696)

Following the feature analysis given in (1), SE anaphors are different from pronouns in terms of R (referential independence). SE anaphors have the feature [-R] and pronouns, the feature [+R]. The coindexation between *John* and a pronominal (him) in the place of the bare reflexive in (12) will be illicit because the chain formed from such a coindexation will contain two [+R] elements, thus violating the chain condition; whereas that between *John* and *nyu* is licit because the tail of the chain *nyu* is [-R] which does not violate the chain condition defined in (14).

3. Predicate-Based Binding Theory and Akɔɔse Anaphors

When we apply Reinhart and Reuland's (1993) predicate-based theory of reflexives to the analysis of reflexives in Akɔɔse, it seems that *nyu* (self) should be analysed as a SE anaphor. If *nyu* is a SE anaphor, then it cannot reflexivize the predicate, and thus cannot be bound by its co-argument when the relevant predicate is not lexically reflexive, though *nyu* can obviously be locally bound by its co-argument as illustrated in (15).

      (15) John$_i$ a-dəŋkə   nyu$_i$
         John deceive   self
        "John deceives himself".

(15) indicates that *nyu* should not be a SE anaphor but can be a SELF anaphor since it can reflexivise a predicate. However, if *nyu* is a SELF anaphor, it should not be long-distance bound when it occurs in an argument position. This theoretical prediction is borne out as illustrated in (16).

      (16)) John$_i$ a-láárə Mary$_j$ á Peter$_k$ a-hənə nyu$_k$
         John He-told Mary that Peter He-despise self
        "John told Mary that Peter despises himself".

Since *nyu* is not long-distance bound as exemplified above, it then spells out that *nyu* is a SELF anaphor. If *nyu* is a SELF anaphor, another problem is that it is not a complex anaphor since it is not specified in the lexicon as a complex reflexive relation. Hence, it is not easy for Reinhart and Reuland's predicate-based binding theory to have a consistent criterion to differentiate between SELF *nyu* and SE *nyu.* This problem does not only arise for the Akɔɔse simplex reflexive *nyu* but also for Akɔɔse complex reflexive *echi-nyu*. According to Reinhart and Reuland's (1993) typology of reflexives, complex reflexives like Akɔɔse *echi-nyu* should be classified as SELF anaphor. As SELF anaphor, *echi-nyu* should reflexivise a predicate and should not be long-distance bound when it occurs in an argument position as illustrated in (17).

      (17) John$_i$ a-láárə Mary$_j$ á Peter$_k$ a-hənə echi-nyu$_k$
         John He-told Mary that Peter He-despise hisself
        "John told Mary that Peter despises himself".

Although Reinhart and Reuland's theory can correctly predict the local binding of the complex reflexive *echi-nyu* in (17), it fails to do so in (18). Their Condition A would wrongly rule out well formed sentences as the one in (18).

      (18) John$_i$ a-promisə Paul$_j$ a-kia' echi-nyu$_{i/*j}$
        John He-promise Paul He-shave hisself
        "John promised Paul to shave himself".

(18) predicts that *echi-nyu* cannot be a SELF anaphor but a SE anaphor since it can be long-distance bound when it occurs in an argument position. It is noteworthy here that one cannot account for the long-distance possibility in (18) by claiming that the occurrence of *echi-nyu* there is logophoric, as it occupies an argument position and it is not contrastive. Furthermore, although the complex reflexive *echi-nyu* can reflexive-mark the predicate in (19), the sentence should be ungrammatical according to Reinhart and Reuland's theoretical predictions since the reflexive-marked predicate in (19) is not reflexive because the co-arguments of the verb *lúmədə* (show) is not coindexed, thereby violating Reinhart and Reuland's Condition A.

      (19) Lucy$_i$ a-lúmədə Mary$_j$ edəŋ-edəŋ echə echi-nyu$_{i/j}$
        Lucy She-showed Mary   picture   of   hisself
         "Lucy showed Mary a picture of herself".

What is worse here is that *echi-nyu* can be both locally and long-distance bound.

In addition to the foregoing discussion, Reinhart and Reuland theory would have to assume that there are two kinds of *echi-nyu*: one is a SELF anaphor and the other is a SE anaphor. However, nothing in their theory can help us distinguish these two kinds of *echi-nyu* in Akɔɔse. Furthermore, in a recent paper, Reuland (2001) debunks some of the ideas in Reinhart and Reuland (1993) in the minimalist terms. Despite the fact that Reuland (2001) still maintains that only complex reflexives can license reflexivization, the question why (20) is grammatical is a difficult puzzle that still remains unsolved.

    (20) John$_i$ a-dəŋkə nyu$_i$
      John deceive   self
      "John deceives himself".

Also, Reinhart and Reuland's (1993) theoretical predictions that SE anaphors must obey the tensed subject constraint (an anaphor may not be the subject of a tensed clause), the question why (21) is grammatical remains unanswered.

    (21) Nyu nə Peter a-dəŋkə
      Self   Peter He-cheats
      "Peter cheats himself".

To conclude, Reinhart and Reuland (1993) use [±Reflexivizing function] and the [±R(referential independence)] to characterize the properties of anaphoric expressions. Although their theoretical feature characterization of anaphoric expressions is quite useful in establishing a preliminary typology of anaphoric expressions across languages, it fails to capture the binding properties of anaphors in Akɔɔse. It fails to predict local binding property of Akɔɔse simplex reflexive *nyu* and the long-binding property of Akɔɔse complex reflexive *echi-nyu*.

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