Approaching Body Part Reflexives

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1. Introduction

Body Part Reflexives (BPRs) are common across languages (Schladt 2000), especially in certain language families represented in Africa, but as yet relatively little attention has been paid to them within generative approaches to binding and anaphora. Much of the generative literature deals only with SELF-anaphors, e.g. *himself* in English, *zichzelf* in Dutch and its cognates in Scandinavian. The present paper addresses the commonalities and differences between BPRs and SELF-anaphors. In particular it sketches a common framework for their analysis – based on Reuland (2008, 2011a) and Reuland & Winter (2009) (henceforth R&W) - and discusses a number of open issues that require further investigation to be resolved.

As the data on African Body Part Reflexives provided by the Afranaph resources show, like SELF-anaphors, BPRs must be locally bound in canonical argument positions. Unlike complex anaphors such as Georgian *tav tavis* (e.g. Amiridze 2006) or modern Greek *o eaftos tu* (Anagnostopoulou and Everaert 1999) the BPRs in the present sample are not used in the subject position of finite clauses). There is no evidence for them being used as long-distance anaphors (roughly, allowing a binder in a higher clause), or logophors (Clements 1975, Sells 1987).

For this paper we are concentrating on the languages Ibibio, Urhobo and Yoruba, all belonging to the Benue-Congo subbranch of the Niger-Congo languages. All three of them use BPRs as reflexive strategies. All the data below is taken from the African Anaphora database, unless indicated otherwise.

2. Reflexivity and the analysis of SELF reflexives

2.1 The syntax of reflexive-marking

One of the questions any binding theory striving for explanatory adequacy has to address is why particular expressions have to be bound (roughly: are "anaphors"), and why certain of these anaphoric expressions must be locally bound. With the demise of indices as elements of grammar (see Chomsky 1995, Reuland 2001, Reuland 2011a, 2011b) both the binding requirement and locality have to follow from properties available within (minimalist) syntax. Moreover, the notion "bound" has to be properly semantically interpreted.

We take the approach in Reinhart and Reuland (1991), and Reuland (2001) as our starting point. In this approach locality follows since the SELF-morpheme covertly head-moves onto the predicate head/verb. The resulting SELF-V is semantically interpreted as reflexive (see the next section for details). Although a role of specific morpho-syntactic triggers for SELF-movement cannot be excluded, for current purposes a general economy principle preferring an interpretive dependency to be encoded in the syntax if possible will suffice as a trigger.

Given the claim that a SELF-anaphor reflexive-marks a predicate by covert movement, SELF can only enforce binding if it is in a position from which movement is possible. In positions where syntactic constraints such as the CSC, or the CED – whatever their ultimate explanation – block movement, the SELF-anaphor cannot enforce reflexivity, hence – from a macro-perspective – is exempt from a binding requirement (Reuland 2008, 2011a), as in the contrast illustrated in (1):

(1) a. *Max was happy that the queen invited himself for a drink (*invite* → REFL → *)

b. Max was happy that the queen invited [Mary and himself] for a drink (no REFL)

In general we assume that the binding behavior of an expression is determined by its morphosyntactic make-up in relation to its syntactic environment. In particular we assume that the internal structure of English SELF reflexives is as in (2), where *him* is in the specifier of a functional projection in the left periphery of the extended projection of the SELF-noun:

(2) $[_{FP}$ him $[_{NP}$ SELF]]

2.2 What makes SELF a suitable reflexivizer?

There is a venerable tradition in the semantic literature (for instance, Keenan 1988) to analyze pron-self as an operator that applies to a two-place predicate R (=a relation between atomic entities) and generates a one-place predicate over sets A of atomic entities, formalizing the interpretation of *themselves* in (3a), as in (3b). For reasons explained in Reuland (2008, 2011a), under syntactic reflexivization the arity of a predicate must be preserved. This is what requires the presence of a complex anaphor in the relevant environments. Hence (3c) is a better approximation of the interpretation of (3a) than (3b). The question is what makes elements such as SELF suited for this role.

(3) a. The girls admire themselves.

b. REFL:= λR. λA. ∀x∈ A [R (x, x)]

c. REFL:= λR. λA. ∀x∈ A [R (x, f(x))]

The intuition pursued in Reuland (2008, 2011a) and Reuland and Winter (2009) is that SELF is inherently relational: a SELF is intrinsically some individual's SELF. In this respect it differs from nouns such as *mountain*, *tree* or *cat*, but is similar to nouns such as *head*, *body*, or *soul*, but of course, also to *mother*, *father*, or *sister*. The core intuition is, then, that an expression such as (3a) has the logical syntax representation in (4):

(4) The girls (λx (admire (x, SELF(x))))

Here SELF maps an x onto x's SELF , which, in turn, is such that it can stand proxy for x. Generalizing (4) as in (5), we can say that an inherently relational Noun is in principle suited as a reflexivizer if it can be interpreted as a functor f such that ||f(x)|| can stand proxy for ||x||.

(5) a. DP (λx (V (x, N(x))))

b. DP (λx (V (x, f(x))))

Common sense pragmatic restrictions on what are possible proxies entail that *SELF*, and body-part nouns such as *head*, *body*, *soul* will yield possible proxies, but kinship terms (though also relational) in general will not.

This brings us to the question of how to represent the binding requirement of SELF-anaphors in a compositional semantics. Moreover the semantics of SELF should be such that it generalizes over exempt and non-exempt positions. A proposal to this effect is presented in R&W.

2.3 Interpreting SELF

R&W's analysis of reflexives is formulated in terms of Jacobson (1999)'s variable free semantics. The crucial factor allowing the generalization over exempt and non-exempt positions is that Jacobson analyzes pronominals as denoting the identity function. That is, they are expressions of type <ee> rather than type <e>. As observed by Safir (2004a,b) pronouns do allow as values proxies of their antecedents. Pursing this, R&W propose that pronouns are interpreted as functions mapping individuals to their proxies, where the proxy-set is contextually determined. More formally, they denote a *Skolem function*: a function from entities to entities that takes a relation as a parameter. This parameter determines the range for each possible entity argument:

(6) *A function f of type* (*ee*) *with a relational parameter PR is a* ***Skolem function*** *if for every entity x: PR*$(x, f_{PR}(x))$ *holds.*

The noun *self* composes with the Skolem function denoted by the pronoun through the binding mechanism, the Z-function in Jacobson's (1999) theory, as in (7). So the VP in (7a) (from Jackendoff 1992) is interpreted as in (7b):

(7) a. (Upon a visit in a wax museum:) All of a sudden *Ringo* started undressing *himself*.
b. Z^{self} (*undress*)(*him*) = Z^{self} (*undress*)(*f*) = $\lambda x.$ *undress*$(x, f_{self}(x))$
= $\lambda x.x$ undressed one of x's self proxies (by definition of f as a Skolem function)

Or if reflexive-marking is not possible (when the complex anaphor is in an exempt position), *self* composes with the Skolem function directly, as in (8).

(8) himself = f_{self} = a function mapping every entity x to one of its proxies in *self*(x)

In the case of (8), *himself* receives the same type interpretation (modulo the effect of discourse conditions) that a non-reflexive pronoun would get; it can either be bound or free. Thus, R&W's account offers a unified semantics for the occurrence of reflexives in different syntactic environments, i.e. reflexive-marking of the predicate on the one hand and the exempt reflexives on the other hand.

Interestingly, simplex anaphors such as Dutch *zich* in *Ringo waste zich* 'Ringo washed' do not allow the statue interpretation. As argued in Reuland (2001), *zich* in these cases enters a syntactic chain with its antecedent. In R&W this chain relation is interpreted as follows: the *zich*-function composes directly with the chain head.

3. Understanding BPRs

As already indicated above, inherent relationality, a core property of SELF, is also a property of body part expressions. It should come as no surprise, then, that typological studies (e.g. Faltz 1977, Schladt 2000, Heine 2000) show that many languages use BPRs, reflexives that are derived from the noun *body* or terms denoting body parts, e.g. *head*, *bone*, *skin*, *face*. BPRs usually consist of a (possessive) pronoun and the respective body part noun and are the most frequent reflexive markers (85%) in African language families according to Schladt (2000).

Data from the African Anaphora database shows that BPRs in our selection pattern with SELF reflexives in their distribution over different syntactic environments. They are locally bound as an argument of a predicate, in line with the Condition A, as in (9a), are able to be bound by a quantificational antecedent, as in (9b) and do not allow long-distance binding, as in (9c).

(9) a. Ijọni mrẹ oma-rẹ-ọyen **[Urhobo]**
John see.PST body-AM-him
'John saw himself'

b. Emeshare na ọvuọvo ni oma-rẹ-ọyen
boys the each.one looked body-AM-him
'Every/each boy looked at himself'

c. * Ijini ta nẹ Imeri oma-re-ọyen vwo ẹguọnọ kẹ
Jean said that Mary body-AM-him has love for
Jean said that Mary loves himself

Besides Urhobo, data on Yoruba, (10) and Ibibio, (11), in the African Anaphora database exemplify this distribution as well.

(10) a. Olú feran ara rẹ̀ **[Yoruba]**
Olu like body his
'Olu likes himself'

b. Ọmọkùnrin kọ̀ọ̀kan wo ara rẹ̀.
Boy each-one look body his
'Every boy looked at himself'

c. * Olú fura pé Màríà fẹ́ràn ara rẹ̀
Olu suspect that Mary likes body his
Olu suspected that Mary likes himself

(11) a. Okon á-má ídém ọ́mọ́ **[Ibibio]**
Okon Agrs-love body his
'Okon loves himself'

b. àfitówò é-mà-é-sé ídém ọmmộ
All.person/everybody SM-TM-SM-look body their
'Everybody looked at himself'

c. * Okon á-diọ́ngọ ké Edem á-ma idém ọ́mọ́
Okon Agrs-know that Edem Agrs-like body his
Okon knows that Edem likes himself

3.1. Reflexive subjects

Certain languages, e.g. Modern Greek (Anagnostopoulou & Everaert 1999), see (12a), and Georgian (Amiridze 2006), see (12b), allow anaphors as subjects of finite clauses.

(12) a. [O eaftos$_j$ tu$_i$]$_j$ton provlimatizi [ton Petro]$_i$. **[Greek]**
The self his CL.ACC puzzle-3SG the Petros.ACC
'Himself puzzles Petros'

b. [tavis-ma$_i$ tav-ma$_j$]$_j$ ixsna [p′rezident′-i]$_i$. **[Georgian]**
POSS.REFL-ERG head-ERG he.saved.him president-NOM
'The president was out of the hard situation only because of himself (his past doings, personal charm, etc.'

Anagnostopoulou and Everaert (1999) claim that (12a) does not violate the conditions on chain formation discussed in Reinhart and Reuland (1993). *O eaftos tu* is headed by a noun (*eaftos*) which acts as a SELF-element while, at the same time, it is fully specified for phi-features ([masc],[3-pers], inflected for [number/case]). Hence, being [+R] it meets Reinhart and Reuland's requirements on chains. Following the line of explanation in Reuland (2001), we can say that the reflexive shows all morpho-syntactic properties of a fully specified DP, hence it allows checking of all phi-features of a finite T. Analogically to Greek Amiridze (2006) argues that subject anaphors are allowed in Georgian thanks to their structure and properties as [+SELF,+R] elements, again allowing full feature checking.

This would predict that BPRs, being fully specified DP's should be fine in the subject position of a finite clause. However, the BPRs in our selection of African languages are not allowed to appear in such positions. This is illustrated by the Yoruba example in (13); the same holds for Urhobo and Ibibio. This may indicate that the BPRs in these languages have to be deficient in some respect, which prevents them from occurring in subject position. The precise source of their deficiency is in need of further investigation.

(13) a. * Ara rẹ̀ lo sí ọjà ní àná **[Yoruba]**
body his go to market at yesterday
'Himself went to the market yesterday'

b. * Òpọ̀ ènìyàn kò fẹ́ràn Alóńgé, ṣùgbọ́n ara rẹ̀ fẹ́ràn wọn
many people NEG like Alonge but body his like them
'Many people do not like anchovies, but he likes them'

3.2 Non-coargument positions

BPRs are also allowed to occur in non-co-argument positions (locative PPs) as shown in (14a-c). We can see from the database that a pronominal can be used in these positions, as well, see Urhobo (14a), and Yoruba (14b). For Ibibio judgments on the acceptance of the pronominal in these positions are not provided. This is then in need of further investigation.

(14) a. Isali mrẹ ọrodeko kere oma-re-ọyen / re-ọyen **[Urhobo]**
Sally see.PST snake near body-AM-her / AM-her
'Sally saw a snake near her'

b. Òjó rí ejò ní ègbé ara rẹ̀ / rẹ̀ **[Yoruba]**
Ojo see snake at side body his / his
'Olu saw a snake besides him'

c. Mary á-má-kít wèd ké èdém ọ́mọ̀ **[Ibibio]**
Mary SM-TM-see book LOC body her
'Mary saw a book behind her'

3.3 Exemption and Logophoricity

3.3.1 Exemption

As discussed in section 2.1., SELF anaphors are exempt from the binding requirement in positions from which the SELF cannot move onto the predicate. This raises the question if there are similar exemption effects in the three languages and if equivalents to (1b), repeated for convenience, where SELF movement is blocked in a coordinated structure, is well-formed.

(1b) Max was happy that the queen invited [Mary and himself] for a drink (no REFL)

Note that whether exemption is expected or not, does not only depend on the nature and position of the head, but also on the nature of the specifier/POSS element. For instance, in Dutch exemption is limited to SELF-anaphors with 1st and 2nd person pronominals. Unlike English *him*, the canonical 3rd person anaphor in Dutch, *zich*, carries its own dependency requirement. So, where *pron-zelf* is exempt in the relevant contexts in Dutch, for independent reasons *zich-zelf* never is (see Reuland 2011a for discussion). Thus, there are always two possible factors to consider: each of the two elements of which a complex anaphor is composed may play a role in encoding the dependencies into which it enters.

As mentioned before, SELF reflexives can also occur in non-coargument positions. Given the movement analysis of reflexive marking by SELF, SELF reflexives in these positions in English are expected to be exempt as well. That this is in principle the case is shown by the grammaticality of (15) below.[1, 2]

From the analysis of the SELF marker by a movement analysis follows that the argument holds for any SELF reflexive in a non-coargument position. Consider (15) which allows the reading where Lucie sees herself. The predicate formed of the preposition *next* cannot attract the SELF (for reasons discussed in Reinhart and Reuland 1993, and more fundamentally in Reuland 2011a) and *saw* is not a possible attractor either due to the invention effect, i.e. the preposition *next*. Consequently we expect that *herself* is indeed in exempt position which the binding by *Lucie* shows.

(15) *Lucie* said that Max saw a ghost next to *herself*.

The interpretation of "anaphors" in exempt positions may depend on discourse factors, such as perspective, which may be reflected in the choice of the matrix verb. In the next section we introduce such logophoricity effects.

3.3.2 Logophoric use[3]

Some languages are reported to have logophoric pronouns, e.g Ewe (Clements 1975). We can also find logophoricity in Germanic languages, e.g .Icelandic allows logophoric

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[1] Note that in such environments judgments may somewhat vary due to discourse factors whose role is not always entirely clear.

[2] It should be noted, that examples like (i), are different from (15), as the preposition is not lexical and the *herself* is an argument of the 3 place predicate *explain*.

(i) **Lucie* said that I explained Max to *herself*.

[3] We use the term *logophoric* in the sense of Clements 1975, who gives the following characterization:

(i) logophoric pronouns are restricted to *reportive contexts* transmitting the words or thought of an individual or individuals other than the speaker/narrator;

(ii) the antecedent does not occur in the same reportive context as the logophoric pronoun;

(iii) the antecedent designates the individual or individuals whose words or thoughts are transmitted in the reported context in which the logophoric pronoun occurs.

interpretations of the SE anaphor *sig*. For *sig*, two factors have been claimed to play a role, namely the presence of subjunctive mood, and again discourse factors such as the availability of a discourse entity holding the perspective of the sentence (e.g., Hellan 1988, Thráinsson 1991). Crosslinguistically, subjunctive mood is not a necessary condition, and only the discourse factors appear to be relevant.

As is well-known, even in English the SELF reflexive can be used logophorically. The discourse status of the antecedent is relevant for the contrast in (16) (Pollard & Sag 1992). In (16a) John's viewpoint is expressed, and in (16b) Mary's viewpoint.

(16) a. John$_i$ was going to get even with Mary. That picture of himself$_i$ in the paper would really annoy her, as would the other stunts he had planned.
b. *Mary was quite taken aback by the publicity John$_i$ was receiving. That picture of himself$_i$ in the paper had really annoyed her, and there was not much she could do about it.

For a detailed analysis of BPRs we would need to see if this contrast turns up in these three African languages. It would be interesting to see if exemption is possible in examples like (15) and especially if logophoric use, determined by discourse factors, is possible in the three languages discussed here just like in the English (16).

3.4 Proxy readings

One of the intriguing properties of reflexive pronouns is their ability to have "proxy readings". This is illustrated in (17) (Jackendoff 1992):

(17) (Upon a visit in a wax museum:) All of a sudden Ringo started undressing himself.

Himself in (17) can refer to the "real" Ringo, but also to a statue of the Ringo denoted by the subject. Proxy readings are also available with BPRs, e.g. Yoruba in (17a) and Ibibio. Some languages don't appear to allow this reading, for instance Urhobo in (17b).

(17) a. Olú rọra wẹ ara rẹ̀ kí amọ̀ nà má ba à bàjẹ́ **[Yoruba]**
Olu carefully wash body his COMP clay the NEG damage
'Olu washed himself carefully, so as not to damage the clay.'

b. ọ mre oma-rẹ-ọyen kasa-kasa **[Urhobo]**
3SG saw body-AM-3SG everywhere
'He saw himself everywhere' (no 'his statue' interpretation possible)

c. Me mre oma-mẹ vwẹ oma-wen **[Urhobo]**
1SG see myself LOC body-2SG.POSS
'I see myself in you'

To properly interpret this difference, it is important to have more information. For instance, what is the range of proxy-interpretations of pronominals in Urhobo in general? Does Urhobo allow proxy-readings at all, i.e. are sentences like (18) well-formed with a statue-reading?

(18) a. Ringo is made of stone, whereas Yoko is made of wax
b. Suddenly, every pop icon started taking off the shirt he was wearing

If proxy readings are available, it still has to be investigated, if there are restrictions on proxy-readings specific to reflexive predicates and of what nature these restrictions are. Three possible options are:

i) There are pragmatically conditioned limitations on the range of admissible proxies ('proxies must be sufficiently similar', as suggested by (17c)), e.g. the lexical meaning of the nominal head of the reflexive is still prominently available, which could restrict the availability of statue-readings.
ii) There is a syntactic restriction, due to chain formation with the antecedent, as with Dutch *zich*.
iii) A morphological mismatch would occur if a language has e.g. a classifier for animate and inanimate. Then in a statue-reading the reflexive would need an inanimate classifier, and thus could not be a proxy of the animate *Ringo*. These are all questions that come up, but require more extensive investigation for an answer.

3.5 Object-centered readings

Rooryck & Vanden Wyngaerd (2011) discuss some interesting data on the difference in object- and observer centered readings[4]. Looking at the picture, one can describe it by either taking the view of the observer or of one of the objects (e.g. Eleonora). The SELF reflexive only allows for Eleonora's perspective, in which Giovanni is seated to her own right, i.e. the reflexive only allows an object-centered perspective, and not an observer-centered perspective.

Agnolo Bronzino (1503-1572)
Eleonora of Toledo and Giovanni de Medici
c. 1544, Uffizi

(19) a. *Eleonora* has positioned Giovanni to the right/*left of *herself*.
b. *Eleonora* has positioned Giovanni to the right/left of *her*.

This contrast is explained on the assumption that *herself* is semantically transparent to some relevant degree. As discussed above, SELF as well as BPs are relational nouns. More specifically, assume that use in locative expressions activates the literal *SELF/BODY-of* features of *self*. If so, an explanation of (19a) follows. Given that *her* has the value Eleonora, *herself* will be valued as Eleonora's SELF/BODY. Hence the position denoted is defined with respect to Eleonora's SELF/BODY. This naturally yields the Eleonora (object)-centered

[4] Rooryck & Vanden Wyngaerd give a different analysis. For details see their 2011 book

reading of the place PP. It would be important for our understanding to find out whether similar contrasts hold in languages such as Yoruba, Urhobo and Ibibio.

4. Syntactic and Semantic Analysis

As noted in section 2, body part nouns are intrinsically relational, just like SELF. This entails that just like SELF they are amenable to composition with the Skolem function denoted by the pronoun. So, the generalization from SELF-anaphors to BPRs is trivial. As BPs are combined with (possessive) pronouns to more complex noun phrases, the BP can be interpreted through the Z-function in case of reflexive-marking.

(20) Z^{BP} (V)(Pron) = Z^{BP} (V)(f) = λx. V(x, f^{BP}(x))
= λx.x V-ed one of x's body's proxies (by definition of f as a Skolem function)

In cases where due to some syntactic constraint no reflexive-marking is possible, the interpretation is as in (21):

(21) his body = f_{body} = a function mapping every entity *x* to one of its proxies in *body*(*x*)

Generalizing the analysis of SELF-anaphors to BPRs in this manner leads us to expect similar exemption effects as found in English. The question is then, are the equivalents of (1b) in the languages under investigation well-formed? So far, we don't know whether this is the case, and further research is needed.

Note, that whether exemption is expected or not does not only depend on the nature and position of the head, but also on the nature of the specifier/POSS element. For instance, in Dutch exemption is limited to SELF-anaphors with 1st and 2nd person pronominals. Unlike English *him*, the canonical 3rd person anaphor in Dutch, *zich*, carries its own dependency requirement. So, where *pron-zelf* is exempt in the relevant contexts in Dutch, for independent reasons *zich-zelf* never is (see Reuland 2011a for discussion).

5. A Comparative Perspective

BPRs in African language families also raise interesting issues from a comparative perspective. While the BPRs in the Afranaph data base all appear to exhibit a local binding requirement (that is, they all obligatorily reflexivize the predicate they are construed with), this does not hold for all BPRs cross-linguistically.

A language reported to have BPRs with no binding enforcement is Peranakan Javanese (PJ), illustrated in (22) (Cole et al. 2008). In PJ the reflexive *awake dheen* 'body his' can be used in local contexts to license reflexivity (informally, it keeps the arguments distinct, thereby preventing the forbidden arity reduction), (22a), but does not obligatorily enforce reflexivity (22b). From the current perspective, to be able to license reflexivity it is sufficient that *awake dheen* is syntactically and semantically complex (see Reuland 2008, 2011a for discussion), which seems straightforward. To account for the fact that it does not enforce reflexivity, it would be sufficient to show that *awake* cannot move onto the verb. Note next, that there is another complex anaphor in PJ, *awake dheen dhewe* 'body his self'. As (22c) shows, this anaphor is obligatorily locally bound.

(22) a. Tono$_i$ ketok awake dheen$_i$ nggon kaca. **[Peranakan Javanese]**
Tono see body-3 3sg in mirror (Cole et al. 2008)
'Tono saw himself in the mirror'

b. Ali_j ngomong nek aku pikir [$Tono_i$ ketok awak-e $dheen_{i/j/k}$ nggon kaca]
Ali N-say COMP 1sg think Tono see body-3 3sg in mirror
'Ali said that I thought that Tono saw himself/him in the mirror'

c. $Bowo_j$ ngomong nek aku pikir [$Tono_i$ ketok awake dheen $dhewe_{i/*j/*k}$ nggon kaca]
Bowo N-say COMP 1sg think Tono see body-3 3sg self in mirror
'Bowo said that I thought that Tono saw himself in the mirror'

In (22c) SELF appears to be in a canonical head position of the NP. If so, SELF-movement is expected to be available. In the case of *awake dheen*, no overt element is in the canonical head position of the NP; if *awake* is merged in a specifier position in the left periphery, one may expect that left branch condition effects might prevent movement onto the verb. A similar binding behavior cannot be found in African Anaphora resources. No standardly exempt uses are reported, (23).

Given what we said about PJ, the internal structure of anaphoric expressions in the African languages discussed merits attention. In Yoruba, for instance, the BPN is also in the left periphery. There are a variety of options that require sorting out. They all depend on the details of the structure. For instance, if in Yoruba *ara* ends up in its PF position by head-movement, further – covert – movement into the verbal domain would indeed be expected to be as fine as it is, and thus long-distance binding is ruled out, (23).

(23) * Olú fura pé Màríà fẹ́ràn ara rẹ̀ **[Yoruba]**
Olu suspect that Mary likes body his
'Olu suspected that Mary loved him'

Consider also the following binding phenomenon, referred to as inclusive reference anaphora, which is reported with BPRs in some African languages e.g. Hausa (Newman 2000).

(24) $Laadì_1$ taa soòki káàn-$sù_{1+x}$ **[Hausa]**
Ladi 3SG criticize head-3PL
'Ladi criticized themselves'

Of interest for further investigation is whether the pronominal in these cases is ruled out. Note that the predicate in (24) is not forced to be reflexive (if it were, the sentence should be ill-formed, since subject and object don't match in features). The first question is why special marking is necessary at all. The answer is that one of the instantiations of the predicate is reflexive (assuming a distributive reading). That is, in terms of licensing we have the same case as in *John admired [Mary and him*(self)]*, where *self* is required since otherwise the reflexive instantiation of the predicate would not be licensed. This fact will follow if there is a syntactic factor blocking reflexivization (for instance, since the head is in an XP on a left branch), and the conditions for chain formation are not met either (*sù* is fully specified for Φ-features and mismatches with the antecedent in number). Clearly, in order to evaluate the viability of such an approach further investigation both of the binding patterns in Hausa and of its DP structure is required.

Also, Hausa *káàn-sù* has a possible literal interpretation wherever it cannot get an anaphoric interpretation. The relatively strong literal meaning in Hausa provides an option to escape the binding obligation in inclusive reference cases.

Note that BPRs in Yoruba cannot be used with inclusive reference, see (25), which is consistent with general local binding obligation of *ara won*, as discussed above. Yoruba does have a literal meaning of the reflexive available, but the question remains how strong this literal interpretation is.

(25) * Olú fẹ́ràn ara won **[Yoruba]**
Olu likes body their
'Olu likes themselves'

6. Conclusion

In this paper we saw how a number of minimal assumptions about the syntax and semantics of complex reflexives allow us to generalize over SELF-anaphors and BPRs. By using data of the Afranaph database we provided a more detailed analysis of BPRs in selected African languages and their binding behavior. Looking at the different syntactic environments, different readings and possible differences in the internal make-up of the BPRs provides a good starting point to arrive at a further understanding of the patterns found.

As is to be expected if one sets out to generalize from patterns in well-described languages to patterns in less-well described languages, crucial data points are lacking. The goal of this contribution is therefore three-fold; i. to show that a number of basic properties of the anaphoric systems in the languages discussed follow from the theory as developed so far; ii. identify issues that require further investigation, but also iii. provide a perspective on what we will have to look for in order for these issues to be resolved.

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