The Syntax of Transitive Reciprocal Constructions and Polysemy with Reflexives

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This talk will be prefaced by a brief summary of the resources that have been gathered for the Anaphora Project and the state of the work on those resources. The presentation that follows is an illustration of how those resources can be put to use.

We begin with a puzzle. In (1) we present transitive constructions that are ambiguous between reciprocal and reflexive readings. The Yoruba example even permits a literal interpretation, 'their bodies'.

1a) Àwọn obìnrin-náà   rí   ara   wọn   (Yoruba **ID1912**)
    they   women-the   see   body   their
    The women see themselves/each other/their bodies.

b) Náwè lɔ́   lɛ́   ná   hù   yé-ɖé   (Gungbe **ID3597**)
    womanDET   PL   FUT   kill   3PL-ɖé
    The women will kill each other. / The women will kill themselves.

c) pŭ-nʒwɪ̄   lɔ̀fɛ́n   nā   jɔ̀ɓ̀   (Fe'efe'e **ID8237**)
    c2-woman   PST2-sell   body   POSS.DET.c1
    The women betrayed themselves/each other.

Many other languages of Africa (many represented in Afranaph, including Babanki, Bafut, Ga, Ibibio, Limbum, Saari and Urhobo) have transitive reciprocal polysemy of this kind and that is the puzzle we begin with: **Where does reciprocal interpretation come from?**

It is certainly possible to hypothesize that direct object anaphors are assigned a feature that somehow induces reciprocal meaning, but we argue there is good reason to take a different tack. We hypothesize instead that there is an affix on little v bearing reciprocal meaning, an affix that surfaces morphologically in some languages and not others. We posit that in every transitive reciprocal construction, the direct object is a variable with no contribution to reciprocal meaning, but that may have reciprocal form by virtue of shape concord with a Reciprocal Marker (RCM) on little v (see also Bruening, 2006). We will show that the silent RCM we posit in cases like (1a-c) is not only overt in some languages, but can even co-occur with a direct object reciprocal anaphor or with direct object anaphor that is neutral for reciprocity. One telling such example is from Limbum (ID6727).

2) Wèe   tʉr   à   rjà'se   mnyor
    2PL   have   INF   inf-help-PL.RCM   c6-bodies
    You (pl) must help each other.

The consultant (Francis Ndi Wepngong) notes that without the RCM *se* on the verb, the reading is simply reflexive. In our analysis, the anaphor *m-nyor* is merely a bound variable to the subject and the RCM *se* imposes reciprocal meaning.

By positing the origin of reciprocal semantics as an RCM on v, rather than drawing the semantics from the argument anaphor, we derive the locality effects associated with reciprocal constructions because the domain of little v is phase-bounded; Long range reciprocal anaphors

do not exist (we will review some of the evidence), but long range 'reflexives' do (since reflexive readings are not necessarily induced by an RFM). The mediation of anaphoric relations by the RCM necessary to generate reciprocal readings is not necessary for long distance bound variable readings that do not require any special mapping of identity relations, so even if there is reason to posit a reflexive marker (RFM) on little v, there is an alternative bound variable structure at a distance that still permits non-reciprocal bound anaphora (and in the local context as well, given the Limbum example in (3) with *se* missing). (We set aside intransitive reciprocals and lexical reciprocals which will not be discussed here except by contrast. Siloni (2012) provides a theory of intransitive and lexical reciprocals and we will have nothing to say about these.)

The analysis of transitive reciprocal constructions that we propose has the following characteristics:

A) **Reciprocal interpretation has two pieces:** An anaphoric relation between DPs and a mapping relation (introduced by the RCM) between the arguments in the anaphoric relation.

B) **Reciprocal syntax has two pieces:** A variable bound by the antecedent and RCM on little v.

C) **Because RCM is on little v, shape concord and the mapping function are limited by phases.**

D) **Typology**
   i. In some languages the variable shows shape concord with the RCM
   ii. In some languages the variable is whatever the local anaphor is
   iii. In some languages the variable is null
   iv. In some languages the RCM is null

This analysis commits us to regard the direct object anaphor in a transitive reciprocal construction, even if it bears distinctive reciprocal morphology, to be semantically empty. For example, English has a transitive reciprocal with an overt argument in direct object position.

3a) The men praised each other.

b) The men [$_{VP}$ t [RCM-v [$_{VP}$ praise [each other]]]]

There is evidence, however, that *each other* does not decompose to provide a compositional reading, but is only an idiomatic expression, as the contrast in (4a,b) shows.

4a) The men told each other a different story.

b) The men told each girl a different story.

The preferred interpretation of (4b) is one where each girl hears a story that the other girls do not hear, but there is also a reading where they hear the same story, which is a story different from some discourse salient one. Example (4a) has only the second reading, where all the men tell and are told the same story. If *each other* were compositionally interpreted, then there would be a reading of (4a) where every boy tells a story different from the one every other boy tells and each boy hears a story that other boys do not hear. We conclude that the argument anaphor *each other* does not contribute the reciprocal meaning, it only marks it. It is the silent RCM we posit for English, like the overt Limbum one, which introduces reciprocal semantics.

The semantic role of the RCM is to specify mapping relations between subject (*the men*) and the direct object variable (*each other*), perhaps by specifying whatever one takes to be the

correct representation of reciprocal semantics such that it can capture both strong and weak reciprocal readings. The following indicates the strong reading and a possible weak reading for (3a) as means of illustration.

5a) **Strong Reading**: Every atom A of the set M denoted by *the men* is mapped in the *praise* relation with every other atom other than A in M (strong reading).

b) **(One) Weak Reading:** A lot of praising was going on and every man in M was involved in praising other men in M, but not every man in M praised every other man in M.

If reciprocals are interpreted according to the mapping function of RCM, then we predict that all weak readings are local (because RCM is phase bounded), that all reciprocal anaphors are local (again, because RCM is phase bounded) and that non-local reciprocal interpretations are not obligatorily anaphoric and do not permit weak readings. There are other ways of expressing reciprocity that do not involve anaphora and we need to distinguish the cases where we make a prediction from those where we do not. Non-anaphoric reciprocals like (6a) in English contrast with anaphoric reciprocals.

6a) Each of the boys thinks that Mary likes the others.

b) *The boys think Mary likes each other.

The only reciprocal reading of (6a) is a strong one, but there is also a non-anaphoric, non-reciprocal reading where *the others* in (6a) does not refer to the other boys. By comparison, (3a) requires a reciprocal reading, permits weak reciprocal readings, and must be local.

As a means of inviting counterexamples, we over-reach with the following claim:

7) All transitive reciprocal constructions have exactly the same structure in every language where they are found.

It is necessary to show, however, as part of the burden of proof for (7), that a given construction is indeed a transitive reciprocal which means that the argument anaphor is in a complement position and not in an adjunct position. If the anaphor is not in a complement position, then the construction is not a transitive reciprocal construction, unless the overt form is related to a null pronominal form in argument position. We will always provide evidence for the position of the anaphor and for the transitivity of the predicate interpreted as reciprocal. The argumentation required to show that a reciprocal construction is a transitive one and that it has the syntax we propose will be challenged by the fact that in most languages, either the RCM or the argument anaphor is phonologically null. The typology we predict is in (8), where italics represent anaphoric antecedent-dependent relations and bolding indicates that the form is overt. 'RCA' is the reciprocal-marked argument, 'ANA' is an unmarked argument anaphor (null or overt), and 'RCM' is the reciprocal affix.

8a) [$_{vP}$ *DP* [**v-RCM** [$_{VP}$ **V** *RCA*]]] – both RCM and RCA overt. (Lubukusu, Tamil…)

b) [$_{vP}$ *DP* [**v-RCM** [$_{VP}$ **V** *ANA*]]] – RCM overt and ANA silent (Lubukusu, Tamil…)

c) [$_{vP}$ *DP* [v-RCM [$_{VP}$ **V** *RCA*]]] – RCM silent and RCA overt (English, Scandinavian)

d) [$_{vP}$ *DP* [**v-RCM** [$_{VP}$ **V** *ANA*]]] – RCM overt and ANA overt (Lubukusu…)

e) [$_{vP}$ *DP* [**v-RCM** [$_{VP}$ **V** *ANA*]]] – RCM silent and ANA overt (Yoruba, Urhobo…)

f) [$_{vP}$ ***DP*** [**v-RCM** [$_{VP}$ **V** *ANA*]]] – Both silent, probably ineffable.

The difference between (8a,c) and (8d,e) is whether shape concord is required or not. We take (8f) to be ineffable, apart from lexical reciprocity (e.g., *The boys argued,* which appears to be more like (9b)). The structure in (8b) needs to be distinguished from an intransitive reciprocal, such as (9a).

9a)　　[$_{vP}$ ***DP*** [**v-RCM** [$_{VP}$ **V**]]] – RCM overt (Chichewa)

b)　　[$_{vP}$ ***DP*** [**v-RCM** [$_{VP}$ **V**]]] – RCM silent (lexically limited, like *argue* in English)

Insofar as we limit our claims to transitive reciprocals, we must show that the transitive reciprocals we are making a claim about, namely, those in (8c,d), cannot properly be analyzed as having the structure in (10).

10)　　[$_{IP}$ [$_{IP}$ ***DP*** [$_{vP}$ *t* [**v-RCM** [$_{VP}$ **V**]]] [**RCA**]]]

In a case like (10), RCM and RCA are both overt, but RCA is not a direct object as indicated by the bracketing.

The RCM is not only the source of reciprocal interpretation, but it is also the trigger for reciprocal morphology on the anaphor in argument position. We introduce the relation we call 'shape concord', which holds where features or properties of a head influence the morphology of a DP in the domain of that head. We argue that the argument DP is only licensed to have a reciprocal shape in transitive reciprocal constructions if it is in the phase domain of a little v that hosts an RCM. The essential idea is that shape concord is like Agree with a reverse flow of information. See Zeijlstra (2004) for a compatible theory of shape concord for negative concord.

There are further reasons for locating the source of reciprocal interpretation on an abstract RCM as opposed to an abstract feature on an argument anaphor. In languages like Urhobo four different anaphors (*ohwowho* 'person-person', *oma-X* 'body-AM-PRN', *omarobo-X* "Body-AM-hand-AM-PRN", and *oma-oma-X* 'body-body-PRN') can be interpreted as reciprocal or reflexive when they have a plural antecedent and there is no anaphor that is restricted to only a reciprocal reading (though there are preferences, see Aziza and Safir, 2006). A null RCM as the source of the reciprocal reading makes for a more economical lexicon.

A large portion of our presentation will demonstrate that all of the reciprocal types described in (8a-e) are in fact attested based on Lubukusu data collected for Afranaph which show that RCM and RCA can both be overt and that the RCA is indeed in direct object position (based on Sikuku, 2010, Safir and Sikuku, 2011, and Baker, Safir and Sikuku, 2012). A similar argument is made for Tamil and other Dravidian languages. If there is time, we will also present evidence that the RCM is an affix that must be introduced before the external argument is merged and so the highest head position on which it could be located is v.

As further evidence that the RCM in transitive reciprocal constructions does not detransitivize or act as a clitic pronoun, we present Lubukusu examples like (11) where both the RCM and the reflexive marker (RFM) can be overtly present and regulate the same antecedent dependent relation (i.e., between the same two theta-roles).

11)　　ba-khasi　　ba-a-i-yeet-an-a　　　　　　(ba-b-eene khu ba-b-eene)
　　　　c2-woman　　SM.c2-PST-RFM-help-RCM-fv　　c2-c2-own on　c2-c2-own
　　　　The women helped each other (and themselves).

In (11), the direct object position is (optionally) filled by the RCA. Reciprocal mapping from RCM provides a list of relationships xRy and yRx, etc., where x and y are in the set of atoms W denoted by the subject (the relevant set of women). When the RFM is also present, as in (11), the set of relations xRx are added to the set of distinct participant relationships (xRy, yRx, etc.) to give the reading in (11). If the RFM were missing in (11), the interpretation of (11) would not allow for xRx relations, i.e., where each woman helps herself. This construction appears to be productive in Lubukusu where verb meanings are compatible.

Our approach explains the source of reciprocal interpretation in transitive reciprocal constructions, accounts for the locality of those relations and the correlation of weak readings with local reciprocity. It applies very generally to all such constructions and accounts for those languages (like Tamil, Limbum and Lubukusu) where both the RCM and the RCA/ANA can be overt and does so without any extra machinery. The semantic emptiness of the direct object anaphor in transitive reciprocal sentences, apart from its role as a bound variable, is shown to dovetail neatly with a broader approach to local anaphora proposed in Safir (2014) in which shape concord figures prominently. Further consequences of our approach to mapping affixes (of which the RCM is only one) will be explored in the talk.

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