The (in)compatibility of Anaphora and Agreement

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Abstract

In this paper, I argue that Rizzi’s anaphor agreement effect is in fact not universal as there are languages that show violation to this effect. To the question of why some languages follow anaphor agreement effect and why certain other languages violate it, I demonstrate that this is an independent consequence of whether in a given language the functional head that carries the agreement probe merges first in the structure or the subject DP that that serves as antecedent to the anaphor merges first in the structure. In the former case, the order is Agree > Binding, where the anaphor do not have any ϕ features to control the agreement resulting in anaphor agreement effect and in the later case, the order is Binding > Agree, where the anaphor will have acquired the required ϕ features to control the agreement resulting in violation of anaphor agreement effect.

1 Anaphor Agreement Effect

Rizzi (1990) proposed a generalization called anaphor agreement effect (henceforth, AAE). According to this generalization, anaphors do not occur in a position construed with agreement. Rizzi further claims that this generalization holds ‘systematically across natural languages’ (Rizzi 1990: 28). The main argument for AAE comes from the dative subject construction in Italian and Icelandic. In this construction (1a), it is not the dative subject but the nominative object that controls the agreement. However if the nominative object is reflexive (1b), then the sentence becomes ungrammatical.

(1) a. Henni leidust þer
   She.Dat bored.3Pl they.Nom
   ‘She was bored with them.’
   b. *Konunum leidust sig
      Women.Dat bored.3Pl Refl.Nom
      ‘Women were bored with themselves.’

   (Icelandic; Taraldsen 1995: 307 (1))

The same facts can be observed in Italian as well, where the reflexive from an agreement controlling nominative object position is ruled out (2a) and the same construction is rescued by having the reflexive in the genitive case, which does not control the agreement (2b).

(2) a. *A loro solo se-stessi
    To them.Dat matters-3Pl only Refl.Nom
    ‘They only matter to themselves.’
    b. A loro import-a solo di se-stessi
      To them.dat matters-3Sg only of Refl.gen
      ‘They only matter to themselves.’

   (Italian; Rizzi 1990: 33 (15))

Rizzi reasons out that ungrammaticality of (1b) and (2a) can be explained neither by the binding theory nor by the empty category principle. The principle A of the binding theory requires that anaphors be locally bound by the antecedent. In these constructions, the dative subject serves as a local antecedent for the anaphor, which satisfies the principle A. Similarly, the empty category

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principle (ECP) requires that the trace of the moved argument should be properly governed. If the trace is governed by the tense, then it is not properly governed but if the trace is governed by the lexical verb, then it is considered to be properly governed. On the assumption\textsuperscript{2} that the anaphor moves from its base position to the position adjacent to its antecedent at LF, the trace of the moved anaphor would have violated the ECP if the anaphor is moved from the subject position, which is governed by the Tense. On the other hand, if the anaphor is moved from the object position, then it would not have violated the ECP because the object position is governed by the lexical verb, which qualifies as a proper governor. Given that the anaphor in (1b) and (2a) is in object position, it would not constitute as the violation of ECP. Having ruled out both the binding theory and the ECP, Rizzi proposes that this ungrammaticality is due to the inability of the anaphor to control the agreement on the verb. If the anaphor cannot control the agreement on the verb, then it cannot occur in those agreement controlling positions in (1b) and (2a).

Though Rizzi claims that AAE is universal, I will show from languages like standard Gujarati, Archi and Ingush that AAE is not universal. To the question of why some languages follow AAE and why certain other languages violate it, I demonstrate that this is an independent consequence of whether in a given language the functional head that carries the agreement probe merges first in the structure or the subject DP that that serves as antecedent to the anaphor merges first in the structure. In the former case, the order is Agree $\succ$ Binding, where the anaphor do not have any $\varphi$ features to control agreement resulting in anaphor agreement effect and in the later case, the order is Binding $\succ$ Agree, where the anaphor will have acquired the required $\varphi$ features to control agreement resulting in violation of the anaphor agreement effect.

The paper is structured as follows: in Section 2, I discuss empirical facts from Shona and Kutchi Gujarati, which follow AAE and in Section 3, I discuss empirical facts from Standard Gujarati, Archi and Ingush that violate AAE. In Section 4, I propose an analysis that derives both the AAE and the violation of AAE. In Section 5, I discuss the prediction and falsification of the proposed analysis and section 6 is the conclusion.

## 2 AAE following patterns

Woolford (1999) tests AAE generalization to typologically different types of languages and she suggests that there is no counter-example to this generalization. In this section, I discuss couple of languages that are not discussed in Woolford (1999) but nevertheless prove the robustness of AAE.

### 2.1 Shona

Shona is a Bantu language belonging to Niger-Congo language family spoken in Zimbabwe. It has both subject marking (SM) and object marking (OM) occurring as a part of verbal morphology. As shown in (3a), SM and OM corresponds to the the noun class of the subject and the object respectively. When the arguments are personal pronoun (3b), they are obligatorily pro dropped and information about them are recovered from the SM and the OM.

\begin{align*}
\text{(3)} & \\
\text{a.} & \text{Mufaro a-zi-ri-bik-a} & \text{bota} \\
& \text{Mufaro Sm.1-Pst-Om.5-cook-Fv porridge.5} & \text{(Storoshenko 2016: 161 (5))} \\
& \text{‘Mufaro cooked porridge.’} \\
\text{b.} & \text{pro ndi-nó-mù-gèz-bvùnz-à} & \text{pro} \\
& \text{1sg Sm-Pres-Om-question-Fv 3Sg} & \text{(Dechaine & Wiltschko 2012: 17 (37a))} \\
& \text{‘I question him.’}
\end{align*}

\textsuperscript{2}The proposal that anaphors move to INFL at LF comes from Lebeaux (1983), which was subsequently assumed in Chomsky (1986).
Following Storoshenko (2016), I take the SM and OM as the agreement markers with the subject and the object respectively. If this indeed the case, then when the reflexive pronoun occurs as the object, an invariable -zvi morpheome occurs in the object agreement slot, which does not ϕ covary with the reflexive.

(4) Shona reflexive marking:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Present</th>
<th>Object</th>
<th>Marking</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1Sg</td>
<td>nði-</td>
<td>nò-</td>
<td>zvi-</td>
<td>gëz-á ‘I wash myself.’</td>
</tr>
<tr>
<td>2Sg</td>
<td>ù-</td>
<td>nò-</td>
<td>zvi-</td>
<td>gëz-á ‘You wash yourself.’</td>
</tr>
<tr>
<td>3Sg</td>
<td>à-</td>
<td>nò-</td>
<td>zvi-</td>
<td>gëz-á ‘She washes herself.’</td>
</tr>
</tbody>
</table>

(Dechaine & Wiltschko 2012: 17 (35))

At this point, it is unclear what exactly this -zvi morpheme is as it can be analyzed either as an incorporated reflexive pronoun or it could be analyzed as an object agreement marker. However Storoshenko (2016) points out that -zvi marker is in fact a class 8 marker that typically occurs in the context of default agreement. As shown in (5a), when the object is a conjunct DP made nouns belonging to the different noun classes, the -zvi morpheme occurs in the object agreement slot. Similarly, in (5b), -zva³ morpheme occurs in the subject agreement slot, when the subject is not a proper DP but rather a clause.

(5) a. Nda-∅-zvi-tor-a [sadza no-mu-riwo] Sm.1-Pst-Om.8-take-Fv Sadza.5 and-3-relish
    ‘I took them (sadza and relish).’

    b. [Ku-tsav-ir-a mu-mba ma-zuva e-se] zva-ka-kosh-a
      [Inf-sweep-Appl-Fv house day every] Sm.8-Pst-important-Fv
      ‘Sweeping the house every day was important.’

(Storoshenko 2016: 170 (22))

If -zvi is indeed a default agreement marker, then its occurrences in reflexive context in (4) can also be explained straightforwardly if we assume along with Kratzer (2009) that anaphors are born without ϕ features and as a result they cannot control the ϕ or class co-varying agreement and therefore results in default agreement. So the default agreement that obtains with the anaphor confirms Rizzi’s AAE.

2.2 Kutchi Gujarati

Kutchi Gujarati belongs to the western Indo-Aryan language, spoken in the Rann of Kutch in the state of Gujarat, India. It exhibits a split agreement pattern: the agreement is with the subject in the imperfective and with the object in the perfective, well described by Patel-Grosz (2014), and Grosz and Patel-Grosz (2014). In this paper, I concentrate only on the perfective aspect as it gives ideal test case scenario to check if the reflexive from the object position can control the agreement or not. First to illustrate its basic agreement pattern in perfective aspect, as shown in (6), the DOM marked object controls the agreement on the verb for number and gender.

(6) a. John Mary-ne jo-y-i
    John Mary-Dom see-Perf-Fsg
    ‘John saw Mary.’

(Patel-Grosz 2014: 2 (2))

By replacing the DOM marked object with a reflexive pronoun instead of a proper noun, the agreement facts does not change as the normal expected agreement still obtains as shown below.

3-zva is an allomorph of -zvi that shows up in certain subject agreement contexts.
(7) Mary potha-ne jo-y-i
Mary Refl-Dom see-Perf-Fsg
‘Mary saw herself.’ (Patel-Grosz 2014: 4 (10))

At the face of it, the agreement facts in (7) looks like its the anaphors that control the $\varphi$ co-varying agreement. However, Patel-Grosz argues that it is not the reflexive that controls the agreement but the subject DP. She argues that in Kutchi Gujarati, whenever the reflexive occurs in the agreement controlling position, the agreement shifts to the subject DP. Her evidence for the agreement shift comes from the following facts in Kutchi Gujarati, where the reflexive object with the dative subject controls the default neuter agreement rather than $\varphi$ co-varying agreement. If it is the reflexive object that controls the agreement, then change in the case of the subject should not matter to the agreement, however, since the change in the case of the subject to dative case affects the expected agreement pattern, Patel-Grosz establishes that agreement obtains with the subject rather than with the object.

(8) Raj-ne potha-ne jo-vu par-y-u
Raj-Dat Refl-Dom see-N had-Perf-N
‘Raj had to see himself.’ (Patel-Grosz 2014: 5 (12))

Given this evidence, I take Patel-Grosz’s observation to be true in which the agreement target shifts from the object to the subject, whenever the object is reflexive. This fact further attests the empirical validity of the AAE which predicts that anaphor can never control the agreement on the verb.

3 AAE violating patterns

In the last section, we have seen the empirical patterns from Shona and Kutchi Gujarati, where AAE is followed and in this section, I will illustrate the empirical patterns from standard Gujarati, Archi and Ingush, where AAE is violated.

3.1 Standard Gujarati

Standard Gujarati is a closely related language to Kutchi Gujarati. It also exhibits a split agreement pattern: the agreement is with the subject in the imperfective and with the object in the perfective. As shown in perfective aspect in (9), the DOM marked object controls the $\varphi$ co-varying agreement on the verb. An important difference between Kutchi Gujarati and standard Gujarati is that the subject DP in perfective aspect is marked with the overt ergative case in standard Gujarati but unmarked in Kutchi Gujarati.

(9) Raaj-e sudhaa-ne uṭhaaṛ-i
Raj(M)-Erg Sudha(F)-Dom awakened-Fsg
‘Raj awakened Sudha.’ (Mistry 2000: 344 (18))

Again, when the object is reflexive, it does not affect the agreement pattern as normal agreement obtains.

(10) a. raaj-e potaa-ne sanḍ-o-yo
Raj(M)-Erg Refl-Dom involved-Msg
‘Raj involved self.’

b. Sudhaae potaa-ne sanḍo-vi
Sudha(F)-Erg Refl-dom involved-Fsg
‘Sudha involved self.’ (Mistry 2000: 344 (19))
However, the question with regard to (10) is whether it is the reflexive that controls the agreement or is it the case of agreement switch like Kutchi Gujarati. It can be easily established that it is the reflexive object that controls the agreement rather than subject. In (11), when there is a clausal object and ergative subject, there is a default agreement. This shows that ergative subject can never control the agreement. If ergative argument can never control the agreement, then there cannot be any agreement switch in (10).

(11) Raaje, janaav-yù [ke Sita jarur aavše]  
    Raj-Erg informed-N that Sita definitely come.Fut.3  
    ‘Raj informed that Sita will definitely come.’  

Further evidence for the reflexive object controlling the agreement can be seen by comparing the dative subject construction in standard Gujarati (12a) with that of Kutchi Gujarati (12b). In (12a), the $\varphi$ co-varying agreement suggests that it is the reflexive controlling the agreement rather than the subject because if the subject controls the agreement, then it would result in default neuter agreement with the dative subject as in the case of Kutchi Gujarati in (12b).

(12) a. Sita-ne pota-ne apnav-i che  
    Sita(F)-Dat Refl-dom adopt-Fsg be  
    ‘Sita wants to adopt herself.’  

b. Raj-ne potha-ne jo-vu par-y-u  
    Raj(M)-Dat Refl-Dom see-N had-Perf-N  
    ‘Raj had to see himself.’  

The empirical facts prove that it is the reflexive that controls the agreement in Gujarati and thereby, violating AAE.

3.2 Ingush and Archi

Ingush, a Nakh-Daghestanian language, also presents a clear case of AAE violation. It is also an ergative-absolutive language, where only the absolutive argument can control the agreement. In (13), the letters B and J in the gloss of the verbal morphology corresponds the morphological gender of argument in the absolutive case.

(13) a. aaz jett aara-b.oala-b.yr  
    1Sg.Erg cow(B).Abs out-B.go-B.cs.wp  
    ‘I led the cow out.’  

b. aaz Mariem aara-j.oala-j.yr  
    1sg.Erg Mariem(J).Abs out-J.go-J.sc.wp  
    ‘I led the Mariem out.’  

Given this agreement pattern, it can be shown that reflexive occurs as an absolutive argument and then controls the agreement.

(14) Muaaaz learrha shie xoaada-veav  
    Muusa.Erg on-purpose Refl.Abs cut-V.caus nw.V  
    ‘Musa cut himself on purpose.’  

The source of verbal agreement in (14) can be shown to be from the reflexive object rather than from the ergative subject by changing the case of the subject DP into dative case as in (15). The change in the case of the subject doesn’t affect the agreement pattern because the agreement is from the reflexive object.
(15) Suona sie kizjga-chy bwarjga+j-eira
1Sg.Dat Refl.Abs mirror.Gen-in eye+J.see.wp
‘I(female speaker) saw myself in the mirror.’  
(Ingush; Nichols 2011: 641 (22))

Again, there is no agreement switch in (15) by comparing it with (16), where it is shown that the argument in dative case cannot control the agreement. If dative argument can never control the argument, then it must be the case that it is the reflexive in absolutive case that controls the agreement (14) and (15). All these facts in Ingush point to the fact that it is a clear case of AAE violation like standard Gujarati.

(16) Suona [yz dika sag voliga] xou
1sg.Dat 3Sg good person V.be.Sbj know.Pres
‘I know he is a good person.’  
(Ingush; Nichols 2011: 547 (40))

Archi, an another Nakh-Daghestanian language, also presents an AAE violation. It is also an ergative-absolutive language, where only the absolutive argument controls the agreement4.

(17) zari noťš darc’-li-r-ši e-b’t’ni
1Sg.Erg horse(III)Sg.Abs post-Sg.Obl-Cont-All III.Sg-tie.Perf
‘I tied the horse to the post.’  
(Archi; Chumakina, Bond and Corbett 2016: 60 (29))

Similar to Ingush, reflexives occur as an absolutive argument in Archi and then controls the agreement.

(18) a. Zalik-li-s ińza-w w-ak:u daçon-n-aš
Zalik(I)-Sg.Obl-Dat Refl.Abs-1.Sg see.Perf mirror(IV)-Sg.Obl-In-El
‘Zalik saw himself in the mirror.’  
(Archi; Bond and Chumakina 2016: 69 (52))

b. laha-s ińž-w w-ak:u
child(I).Sg.Obl-Dat Refl.Sg.Abs-1.Sg see.Perf
‘A boy saw himself.’  
(Archi; Sadler 2016: 158 (19))

To conclude this section, we have seen empirical patterns in Standard Gujarati, Ingush and Archi presenting a clear case of AAE violation, which is to be contrasted with the empirical patterns in Shona and Kutchi Gujarati which presents a case where AAE is strictly followed. These two contrasting patterns raise the interesting question of why AAE behaves the way it is in these languages and how to account for them. I will present an analysis in the following section that accounts for this question.

4 Analysis

In this section, I will demonstrate that AAE or the violation of AAE arises as an independent consequence of whether in a given language the functional head that carries the agreement probe merges first in the structure or the subject DP that that serves as antecedent to the anaphor merges first in the structure. When the agreement probe that seeks to agree with the anaphor merges in the structure before the subject DP, the agreement with the anaphor precedes before the binding of the anaphor as schematized in (19). In this order of derivation, the anaphor will not have the required $\phi$ features to control the agreement on the verb and as a result AAE holds.

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4The roman letter III in the verbal morphology refers to an agreement marker.
On the other hand, when the subject DP that serves as antecedent to the anaphor merges first in the structure before the agreement probe, the binding of an anaphor will precede the agreement with the anaphor as schematized in (20). In this order of derivation, the subject DP will have acquired the required $\varphi$ features from binding and can then value the probe from the functional head and eventually resulting in violation of AAE.

(20) Binding $\succ$ Agree $\rightarrow$ AAE violation

Given this proposal, first, I will specify the set of assumptions that are needed for the analysis before actually deriving the AAE facts in the languages.

4.1 Assumptions

I assume that anaphors are born without any $\varphi$ features (Kratzer 2009) and they acquire their $\varphi$ features as a result of undergoing agree with their antecedent in syntax. Therefore I take binding to be nothing but an agree operation that operates between the anaphor and its antecedent (Reuland 2001, 2011). Similarly, for the actual verbal agreement, I follow the standard approach of Chomsky’s (2000) agree that operates between the uninterpretable and the unvalued features of a probe and the interpretable and the valued features of a goal and as result of agree, the probe’s features get checked and valued. For the sake of concreteness, I will continue to refer the agree relation between anaphor and its antecedent as ‘binding’ and the agree relation between the functional head and its DP as ‘agree’. In addition, I assume the direction of agree can be both upward (Zeijlstra 2012) and downward. I also assume the earliness principle (Pesetsky 1989), which demands that an operation apply as soon as its context are met.

4.2 Default agreement in Shona

Given the background assumptions that I have highlighted above, first, I’ll derive the AAE facts in Shona. As we have already seen in (3), Shona has both subject and object agreement. I take this agreement configuration in syntax as T agreeing with the subject and v agreeing the object as shown in (21).

(21) Shona agreement: 

(22) Agree $\succ$ Binding :

An important thing to note from the structure in (21) is that by the time v agrees with the object, the subject would not have merged in the structure. So in the structure with reflexive (22), there is no way that binding could have happened before agree because the subject merges later in the structure. As a result, when v probes down to agree with the reflexive object, the reflexive would not have the required $\varphi$ features to value the uninterpretable feature of v. As a result, default agreement obtains with the reflexive.
4.3 Agreement switch in Kutchi Gujarati

We have already seen that Kutchi Gujarati employs the agreement switch strategy to get around the violation of AAE. It turns out that Kutchi Gujarati is also a language with two agreement probes and this is seen overtly in analytic tense in (23), where the overt tense auxiliary agrees with the subject and the perfective verb agrees with the object.

(23) Hu chokra-ne jo-y-a ha-is  
I boys-Dom see-Perf-Pl be--Fut.1Sg  
‘I will have seen the boys.’ (Grosz & Patel-Grosz 2014:11 (9b))

This would again translate in syntax as T agreeing with the subject and v agreeing with the object as in (24) and in the reflexive construction in (25), it is first v that agrees with the object and only then subject DP merges in the structure. So the order of derivation is Agree $\succ$ Binding.

(24) Kutchi Gujarati agreement:  
(25) Agree $\succ$ Binding:

Further to derive agreement switch, here, I follow Béjar and Rezac's (2009) cyclic architecture of agreement. In the first cycle, v agrees with the internal argument and if there are features of v that have not undergone agree with the internal argument, then the domain of agree expands to second cycle, where the features that have not undergone agree in earlier cycle, would now undergo agree with the external argument. This cyclic expansion of agree allows the choice of agreement controller to switch from the object to the subject$^5$.

4.4 AAE violation in standard Gujarati

Compared to the nested pattern of agreement in Kutchi Gujarati, there is no nested pattern of agreement in standard Gujarati because when the verb agrees with the object (26), the auxiliary also agrees with the object rather than with the subject.

(26) mene khasi av.t-i ha-ti  
I-Erg cough(F) come.Prog.-Fsg was.Prog.Fsg  
‘I have had a cough.’ (Gujarati; Suthar 2005 :58 (279))

This pattern is very similar to object agreement in Hindi as reported in Bhatt (2005).

(27) Rahul-ne kitaab parh-ii th-ii  
Rahul-Erg book.F read-Perf.Fsg be-Pst.Fsg  
‘Rahul had read the book.’ (Hindi; Bhatt 2005 :759 (2b))

$^5$I would like to refer the readers to Patel-Grosz (2014) and Murugesan & Raynaud (to appear) for different approaches regarding the exact implementation of agreement switch.
For constructions such as (27), Bhatt (2005) proposes that there is just one probe on T that establishes agree not with the subject DP (because of its ergative case) but with the object DP through v. Therefore when the object DP values the ϕ features of T, v also get its ϕ features covalued (though v by itself is not a probe). One way to think about it is that agreement on v is parasitic on T. Following Bhatt (2005), I assume the same for Gujarati as illustrated in (28). And for the construction with reflexive (29), the subject DP merges in the structure before the agreement probe T. Therefore the order of agree operation would be Binding ≻ Agree, which predicts AAE violation.

(28) Gujarati: Binding ≻ Agree

4.5 AAE violation in Ingush and Archi

For Ingush and Archi, I adopt the same analysis proposed for Gujarati, where T is the actual probe and v gets its value as a result of co-valuation. The evidence for T being the only probe in these languages comes again from the analytic tense, where both the overt auxiliary and the perfective verb agrees with the object. As a result of T being a probe, subject DP would be merging in the structure before T and this would result in the order of derivation Binding ≻ Agree and eventually resulting in AAE violation.

(30) a. Aaz gazat dieshazh dy
1Sg.Erg newspaper.Abs D.read D.Prog
‘I am reading a newspaper.’ (Ingush; Nichols 2011: 497 (168))
b. laha-s dija w-ak:u-r-ˇ si w-i
child(II).Sg.Obl-Dat father(I).Sg.Abs I.Sg-see-Imperf-Cvb I.Sg-be.Pres
‘A girl sees (her) father.’ (Archi; Chumakina and Bond 2016: 92 (30))

5 Conclusion

In this paper, first, I have shown that Rizzi’s AAE is not universal as there are languages like standard Gujarati, Archi and Ingush, where there is a violation of AAE. I have argued that this violation comes about as a natural consequence of subject DP merging in the structure before the agreement probe that seeks to agree with the anaphor. Given this derivational timing of merge, the binding of an anaphor will precede the agreement with the anaphor and as a result, the anaphor will have acquired its required ϕ feature to control the agreement. It should be, however, noted that the reason why AAE violation does not come about in all the languages is because following three things need to hold for it to happen: (1) T must be an active probe and v should be an inactive probe. (2) The subject should not act as a suitable goal (3) The language should not resort to default
agreement at the first instance of failed agree with the subject. I have shown in this paper that all these three condition holds in standard Gujarati, Archi and Ingush leading to AAE violation.

6 References


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