# First Conjunct Agreement as Agreement Displacement\*

Pritty Patel-Grosz

Eberhard Karls Universität Tübingen

#### Introduction

This paper discusses an intriguing case of agreement displacement in Kutchi Gujarati (an Indo-Aryan language<sup>1</sup>), which arises from a conspiracy made up of three interacting factors: (i) the syntactic behaviour and distribution of reflexives, (ii) the presence of object agreement and lack of subject agreement in the perfective aspect, (iii) the fact that subjects in the perfective are not *unable* to agree (in contrast to Hindi, where case marking makes them inert to agreement, *cf* Kachru 2006, Bobaljik 2009). I argue that the data from Kutchi Gujarati support *second cycle* effects as argued for by Rezac and Bejar in their various articles, most recently in Bejar and Rezac (2009). Unlike Rezac and Bejar, who argue that second cycle agreement occurs instantaneously after the first, I argue on the basis of Kutchi Gujarati that the second cycle possibly occurs once the CP is completed, relying on PF to repair the shortcomings.

# Background: Agreement & Reflexives in Kutchi Gujarati The General Agreement System of Kutchi Gujarati

Similar to the majority of Indo-Aryan languages (see Mahajan 1990, Masica 1991), Kutchi Gujarati displays a split agreement system that correlates with aspect. In the imperfective, verbal agreement (in gender and number) is with the nominative subject, as shown for transitive clauses in (1a-b).

- (1) a. Mary John-ne ad-th-i t-i. Imperfective Mary John-ACC touch-IMPFV-F.SG past-F.SG 'Mary was touching John.'
  - b. John Mary-ne ad-th-o t-o.

    John Mary-ACC touch-IMPFV-M.SG past-M.SG
    'John was touching Mary.'

The examples in (2) show that in the perfective aspect, verbal agreement (in gender and number) in transitive clauses is with the direct object.

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<sup>&</sup>lt;sup>1</sup> Kutchi Gujarati is an Indo-Aryan language, spoken in the Rann of Kutch, in the State of Gujarat, India.

- (2) a. Mary John-ne ad-y-o
  Mary John-ACC touch-PFV-M.SG
  'Mary touched John.'
  - b. John Mary-ne ad-y-i
    John Mary-ACC touch-PFV-F.SG
    'John touched Mary.'

### 1.2 Reflexives

Kutchi Gujarati has two object reflexive NPs, which are illustrated in (3). The form in (3a), *e-na potha-ne*, takes singular antecedents, whereas the form in (3b), *pot-potha-ne*, takes plural antecedents.

Perfective

- (3) a. Chokro [e-na potha-ne] jo-y-o boy.M.SG 3.sg-GEN self-ACC see-PFV-M.SG 'The boy saw himself' (reflexive)
  - b. Chokra pot-potha-ne jo-y-a children.PL themselves-ACC see-PFV-PL 'The children saw themselves'

In what follows, I argue that the reflexive component *potha* in (3a) is grammatically plural even though its antecedent is singular and does not co-vary with its binder in phi features.

The argument is based on the following observations. Typically, possessors or modifiers inside the NP agree with the noun, as shown in (4). To emphasise this point, examples are given in the imperfective where (as expected), verbal agreement is with the subject.

- (4) a. *John* [e-ni moti bakri]-ne jo-th-o t-o
  John 3.sg-GEN big.F.SG goat-ACC see-IPFV-M.SG past-M.SG
  'John was watching his big goat'
  - b. John [e-na mota kutra]-ne jo-th-o t-o
    John 3.sg-GEN big.PL dog-ACC see-IPFV-M.SG past-M.SG
    'John was watching his big dogs.'
  - c. John [e-nu motu galoryu]-ne jo-th-o t-o
    John 3.sg-GEN big.N.SG puppy-ACC see-IPFV-M.SG past-M.SG
    'John was watching his big puppies.'

In contrast, the agreement on possessor and modifier of *potha* is always plural<sup>2</sup>, as illustrated in (5). Crucially, if we force the elements within the DP to agree with the subject, ungrammaticality results.

<sup>&</sup>lt;sup>2</sup> It could be that *potha* historically originated as a body part reflexive, which might explain that it is grammatically plural.

(5) a.\* John [e-no moto pothal-ne jo-th-o t-o self-ACC John 3.sg-GEN big.M.SG see-IPFV-M.SG past-M.SG John [e-na b. mota potha]-ne jo-th-o t-o self-ACC John 3.sg-GEN big.PL see-IPFV-M.SG past-M.SG 'John was watching his fat self' c.\* Mary [e-ni moti potha]-ne jo-th-i t-i Mary 3.sg-GEN big.F.SG self-ACC see-IPFV-F.SG past-F.SG Mary [e-na potha]-ne jo-th-i d. mota t-i Mary 3.sg-GEN big.PL self-ACC see-IPFV-F.SG past-F.SG 'Mary was watching her fat self.'

The fact that we typically find possessor and modifier agreement with the noun inside of the DP, and that the agreement of the possessor *ena* or modifier *mota* of *potha* is always plural, indicates that *potha* is grammatically plural. It is not unprecedented that an anaphor does not share features with its antecedent, cf. Iatridou (1986); in Modern Greek, the anaphor is masculine singular regardless of the gender and number features of its antecedent.

However, it is not the case that plural is simply the default form of agreement in Kutchi Gujarati; the language has a distinct default agreement marker which is the same as the neuter singular marker, -u. Default agreement can be observed in clauses containing restructuring predicates such as par ('have to'), which gives rise to multiple agreement. Both the restructuring predicate and the embedded infinitival verb agree with the direct object, as shown in (6a). In the absence of an object in the perfective aspect, (6b), the infinitive and the restructuring predicate show default agreement.

(6) a. John-ne kutro jo-v-o par-y-o
John-DAT dog.M.SG see-INF-M.SG had-PFV-M.SG
'John had to watch the dog'
b. John-ne av-u par-y-u
John-DAT come-DEF had-PFV-DEF
'John had to come.'

Another instance of (expected) default agreement can be observed in examples that involve *modified pronouns* (which Schütze 1997:55 shows to be default case environments). Note also, that the modifier *sachu* 'real' in (7) has the default agreement marker -u and not the plural agreement marker  $-a^3$ ; this rules out the

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<sup>&</sup>lt;sup>3</sup> Note that in general, the form *sacha* can be observed, as can all other inflected forms of the stem *sach-*.

i. sacha kutra "(the) real dogs(pl)"

ii. sachu galoryu "(the) real puppy(n.sg)"

iii. sacho kutro "(the) real dog(m.sg)"

iv. sachi bilari "(the) real cat(f.sg)"

possibility that default *nominal* agreement is marked by -a whereas default *verbal* agreement is marked by -u.

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(7)
         sachu
                     hu
    a.
                            av-v-u
          real DEF
                      1 SG
                            come-PFV-DEF
          'The real me arrived'
     h.* sacho
                     hu
                            av-v-o/i/u
                            had-PFV-M.SG/F.SG/DEF
          real.M.SG
                     1.SG
          'The real me arrived' (where the speaker is male/female)
     c.* sachu
                     hu
                            av-v-o/i
          real.DEF
                     1 SG
                            had-PFV-M.SG/F.SG
          'The real me arrived' (where the speaker is male/female)
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Crucially, (7) contrasts with (8), in which the unmodified pronouns obligatorily trigger agreement.

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(8) a.* hu av-y-u

1.SG come-PFV-DEF

'I arrived'

b. hu av-y-o/i

1.SG had-PFV-M.SG/F.SG

'I arrived' (where the speaker is male/female)
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## 2. The Puzzle

Recall that in the perfective the verb agrees with the object. Interestingly, the presence of the singular anaphor affects verbal agreement. As we saw in the previous section, the singular anaphor [e-na potha-ne] is grammatically plural. Naturally, we would expect plural agreement on the verb, reflecting the plural number of potha, but this is not what we find. The data in (9) shows that the (object-agreeing) verb is in the singular, while the modifiers of the object (the reflexive) are in the plural. At first sight, this looks like an agreement mismatch.

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(9) John [e-na mota potha]-ne jo-y-o
John 3.sg-GEN.PL big.PL self-ACC see-PFV-M.SG
'John saw his fat self'
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However, it should be clear that we are not dealing with a true mismatch. On the one hand, the modifiers of the reflexive are plural simply because the anaphor is grammatically plural. On the other hand, it can be assumed that the verb is singular because it reflects the features of the subject; this becomes apparent when we vary the gender features of the subject as shown in (10). In other words, in perfective clauses the presence of an object reflexive triggers verbal agreement with the subject - even though it is typically with the object.

(10) Mary [e-na mota potha]-ne jo-y-i / \*jo-y-a
Mary 3.sg-GEN.PL big.PL self-ACC see-PFV-F.SG see-PFV-PL
'Mary saw her fat self'

To swiftly summarise the puzzle, the presence of an object anaphor in the perfective aspect alters the verbal agreement. When an anaphor is present, verbal agreement that in all other cases obligatorily targets the object appears to displace to the subject.

## 3. Pieces of the Reflexive Puzzle

Rizzi (1990) and Woolford (1995) suggest that cross-linguistically, reflexives fail to agree. The precise generalisations regarding the cross-linguistic distribution of anaphors remain unclear to this day, though I refer you to the above works for possible explanations.

# 3.1. Failure to Agree.

In Kutchi Gujarati, when a reflexive is in the argument position with which the verb is supposed to agree, one of two possible things occur; either displacement occurs, forcing verbal agreement with the subject, or alternatively if the subject is unavailable for agreement, default agreement appears on the verb. The data in (11) show that in the presence of an anaphor, the agreement displaces to the subject.

(11) John [e-na mota potha]-ne jo-y-o / \*jo-y-a
John 3.sg-GEN.PL big.PL self-ACC see-PFV-M.SG see-PFV-PL
'John saw his fat self'

However if the subject is unavailable for agreement, the verb exhibits default agreement morphology. Consider the examples in (12). In both (12a) and (12b) the objects are anaphors, therefore the verb cannot agree with them. Since the subject is unavailable for agreement<sup>4</sup>, there is no other argument available for the verb to agree with. The result: default agreement morphology occurs on the verb.

(12) a. Raj-ne e-na potha-ne jo-vu/\*vo
Raj-DAT 3.sg-GEN.PL self-ACC see-INF.DEF/M.SG
par-y-u/\*o
had-PFV-DEF/\*M.SG
'John had to see himself'

b. *Chokra-ne pot-potha-ne jo-vu/\*a par-y-u/\*a* children-DAT themselves-ACC see-INF.DEF/PL had-PFV-DEF/\*PL 'The children had to see themselves'

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<sup>&</sup>lt;sup>4</sup> Generally speaking, dative subjects do not trigger verbal agreement (cf. Bobaljik 2009).

The examples in (12) crucially contrast with those in (13), which show that lack of agreement on the lower verb is not due to it being infinitival. Here, we find ("long distance") agreement with the object on both the verb *par* 'have to' and the infinitival.

- (13) a. Reena-ne Raj-ne jo-vo par-y-o
  Raj-DAT Raj-ACC see-INF.M.SG had-PFV-M.SG
  'Reena had to watch Raj'
  - b. Raj-ne chokra-ne jo-va par-y-a
    Raj-DAT children-ACC see-INF.PL had-PFV-PL
    'Raj had to watch the children'

The observations in this section show that non-canonical agreement results when either the agreement displaces to the subject, or, as a last resort, default morphology appears on the verb.

# 4. Conjunction and Agreement Displacement

Canonically, in clauses with conjoined DPs that trigger verbal agreement, the verb shows plural agreement. This is illustrated for the imperfective with a conjunction phrase in subject position in (14b), and for the perfective with a conjunction phrase in object position in (15b).

*Imperfective* 

- (14) a. *Bill* [John ane Mary]-ne jo-th-o \*(t-o)

  Bill John and Mary-ACC see-IPFV-M.SG past-M.SG
  'Bill saw John and Mary.'
  - b. [John ane Mary] Bill-ne jo-th-a \*(t-a)

    John and Mary Bill-ACC see-IPFV-PL past-PL

    'John and Mary were watching Bill.'

Perfective

- (15) a. [John and Mary] Bill-ne jo-y-o (\*t-o)
  John and Mary Bill-ACC see-PFV-M.SG past-M.SG
  'John and Mary saw Bill.'
  - b. Bill [John ane Mary]-ne jo-y-a (\*t-a)
    Bill John and-ACC Mary-ACC see-PFV-PL past-PL
    'Bill saw John and Mary.'

The question that naturally arises at this point is: what do the interactions between an object anaphor and agreement look like in the past perfective aspect? As previously observed, agreement with anaphors is not possible in Kutchi Gujarati, therefore the expectation would be for agreement displacement to surface. This may indeed be the case for the past perfective counterpart of the imperfective example in (14a), given in (16); here the verb can be assumed to reflect the plural features of the subject *chokra* "children"

(16) Chokra pot-potha-ne jo-y-a Perfective children.PL themselves-ACC see-PFV-PL 'The children saw themselves'

However, in the perfective version of the imperfective example in (14b), something unexpected happens. Given the above observations, we would expect agreement displacement to occur; therefore the verb should appear in the plural, identical to (16); we saw above that a conjunction triggers plural agreement. However the data in (17) show that the result is something that superficially resembles first conjunct agreement.

- (17) a. [John and Mary] pot-potha-ne jo-y-o Perfective
  John and Mary themselves-ACC see-PFV-M.SG
  'John and Mary saw themselves'
  - b. [Mary ane John] pot-potha-ne jo-y-i
     Mary ane John themselves-ACC see-PFV-F.SG
     'Mary and John saw themselves'

# 5. Analysis

# 5.1 Deriving the General Agreement System.

In this section, I show how to derive the general agreement system in Kutchi Gujarati. Recall that in the imperfective, the verb agrees with the transitive subject and in the perfective, the verb agrees with the transitive object. In order to explain the general agreement system I make some minimal assumptions taken from the literature (specifically Bobaljik, 1993; Laka, 1993, 2000; Rezac, 2008). I assume that Kutchi Gujarati has two agreement heads, where the head responsible for subject agreement is higher than the head responsible for object agreement. Evidence for this assumption can be seen in the *future perfective* aspect, (18), where both object and subject agreement surface on different verbs/auxiliaries<sup>5</sup>. Crucially, subject agreement surfaces on the element that is higher (i.e. further to the right).

(18) a. *Hu Smiths-ne ad-y-a ha-is Fut-Perfective*1.SG Smiths-ACC touch-PFV-PL fut-1.SG
'I will have touched the Smiths'

<sup>5</sup> As for the *past perfective*, where we only see object agreement, we could assume that it has less functional structure. This might be supported by the fact that in the past perfective an overt tense auxiliary is not possible.

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b. John ma-ne ad-y-i ha-se
John 1.SG-ACC touch-PFV-F.SG fut-3.SG
'John will have touched me'

For now, I assume that the agreeing heads are T and v. I assume that T is the relevant probe in nominative-accusative alignment systems (which I have shown to include subject agreement in the imperfective aspect in Kutchi Gujarati) and that v is the relevant probe in ergative-absolutive alignment systems (which I have shown to include object agreement in the perfective aspect in Kutchi Gujarati); this has been explored previously in the literature, e.g. by Bobaljik (1993), Laka (1993, 2000) and Rezac (2008).

The implementation of the above assumptions regarding subject agreement is that in the imperfective, the probe on the T head locates the closest goal within its c-command domain and enters into an Agree relation. Correspondingly, in the past perfective, the probe on the little v head locates the closest goal within its c-command domain and enters into an Agree relation. Finally, a combination of the above results in the implementation of the analysis in the future perfective, where both subject and object agreement are present.

# 5.2 Deriving Agreement Displacement

First, I assume that &Ps in Kutchi Gujarati are asymmetric and the first conjunct is structurally higher than the second. This has previously been assumed for other languages; Munn (1999) argued that conjunction in English has the following structure:  $[DP_1 \ [\& DP_2]]$ , where the first conjunct has the highest structural position. I will show that conjunction phrases in Kutchi Gujarati also have this structure. The first argument stems from binding facts discussed in Munn (1999). In (19b), the pronoun i in the first conjunct appears to bind the possessor *John-no* in the second conjunct, leading to a condition C violation; no such violation is found in (19a).

(19) a. John-no<sub>i</sub> kutro bazaar ane g-y-a John-GEN 3.SG.NOM market dog and go-PFV-PL 'John's dog and he went to the market'  $b.* i_i$ ane John-noi kutro bazaar g-y-a 3.SG.NOM and John-GEN dog market go-PFV-PL

'He and John's dog went to the market'

An additional argument comes from extraposition. In (20b), the conjunction *ane* 'and' and the rightmost conjunct *ek kutro* 'one dog' can be extraposed to the right of the verb. This suggests that the conjunction and the second conjunct form a constituent that is independent from the leftmost conjunct. This is expected if we assume that the leftmost conjunct is structurally higher.

(20)a. John gaykale [ek hiro ane ek John yesterday one diamond.m.sg and one li-dth-a kutro] dog.M.SG buy-PFV-PL 'Yesterday John bought a diamond and one dog' b. John gaykale ek hiro  $t_i$ li-dth-a *[ane* John diamond vesterday one buy-PFV-PL and ek  $kutro_{i}$ dog.M.SG one 'Yesterday John bought a diamond, and one dog' li-dth-a John gaykale ek kutro *[ek* John yesterday one dog.M.SG buy-PFV-PL one hiro  $ane_{i}$ diamond and 'yesterday John bought one dog, a diamond and' (Examples modeled on Bhatia and Benmamoun 2009)

The second assumption is that &P's (and, more generally, all phrases) in subject position are phases. An argument in favour of this claim can be made based on the CED (Condition on Extraction Domain), cf. Huang (1982). A common approach to such extraction restrictions is to link them to phases, i.e. subjects are phases (cf. Müller 2010)<sup>6</sup>; I adopt the idea that subjects are phases based on the data below, which show that Kutchi Gujarati parallels English in that it does not allow extraction from subjects. Consider first the data in (21), which differ as to whether *rasoro saf karva* 'to clean the kitchen' is in object or subject position, in (21a) and (21b) respectively.

(21) a. John-ne lage ke hu *[rasoro* saf John-DAT seems that kitchen clean 1.SG.NOM karva1 bhuli gyi do.INF forget go.PFV.F.SG 'John thinks that [I forgot [to clean the kitchen]]' b. John-ne lage ke [rasoro saf karva] kitchen clean do.INF John-DAT seems that ma-ne *barave* 1.SG-ACC burn.CAUS.3.SG 'John thinks that [[to clean the kitchen] angers me]'

The data in (22)-(23) show typical CED effects, for we can extract from object position (as shown in (22a) and (23a)), but not from subject position (see (22b)

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<sup>&</sup>lt;sup>6</sup> Müller assumes that every phrase is a phase; I only assume that v and C are phases, and that phrases in subject position are phases.

and (23b)). Such extraction asymmetries motivate a theory in which subjects, but not objects, are phases<sup>7</sup>.

# Optional Wh Movement

- (22) a.  $Su_i$ John-ne lage hu  $\int t_i saf$ karva] what John-DAT 1.SG.NOM clean do.INF seems that bhuli gyi forget go.PFV.F.SG
  - 'What does John think that [I forgot [to clean t]]?'
    b.\* Su<sub>i</sub> John-ne lage ke [t<sub>i</sub> saf karva]
    what John-DAT seems that clean do.INF
    ma-ne barave
    1.SG-ACC burn.CAUS.3.SG

'What does John think that [[to clean t] angers me]?'

### Relativization

- (23) a. John-ne rasoro ji<sub>i</sub> lage hu saf ke  $\int t_i$ kitchen that John-DAT seems that 1.SG.NOM clean karva] bhuli gyi do.INF forget go.PFV.F.SG 'The kitchen that John thinks [I forgot [to clean t]]...'
  - b.\* rasoro ji<sub>i</sub> John-ne lage ke [t<sub>i</sub> saf karva] kitchen that John-DAT seems that clean do.INF mane barave

    1SG.DAT burn.caus.3SG

    'The kitchen that John thinks that [[to clean t] angers me]...'

# 5.3 Illustrations of the Analysis

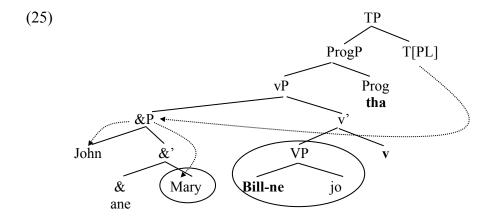
This section illustrates my analysis for the cases discussed above: Plural agreement with conjunction phrases in the imperfective, and first conjunct agreement under displacement, in the perfective aspect. Consider first the imperfective case (plural agreement). Below, I outline how we can derive the agreement pattern.

(24) a. [John ane Mary] Bill-ne jo-th-a t-a
John and Mary Bill-ACC see-IMPF-PL PAST-PL
'John and Mary were watching Bill'

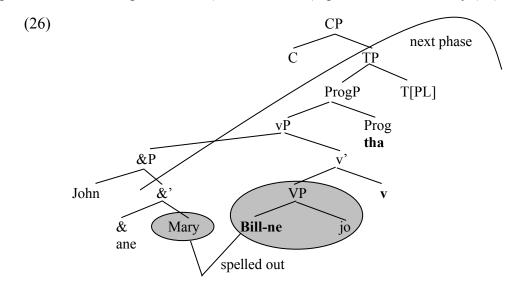
<sup>7</sup> Note that we cannot test whether &P's are phases in the same way, as the Coordinate Structure Constraint would independently block extraction. However, we can start with the assumption that all subjects are phases and deduce that subject &P's are phases, too.

In the initial step of the derivation, the &P and the VP clause are independently built by means of external merge. Note that even though VP is marked for spell out, it does not spell out until the next phase head in the clause, which is C, given the Phase Impenetrability Condition as defined by Chomsky (2001). In the second step of the derivation, the &P is merged in the specifier of v. I assume that, because it is a subject, it receives phase status, i.e. & acts as a phase head.

At this point, we have two phases that are marked for spell-out, but are not spelled out until C is merged, namely the complement of the phase head v and the complement of &. I assume that & doesn't trigger spell-out of the VP, because it is not a clausal head. In the third step of the derivation, the T head is merged; note that the &P in subject position has not been spelled out yet. Instantaneously after its merger, the probe on T enters an agree relation with &P, agreeing with both DP arguments simultaneously (John and Mary), yielding plural agreement on T, as shown in (25).



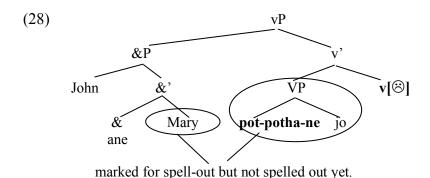
In the fourth (and for the purposes of this discussion final) step, when the next phase head C is merged, the &P (and also the vP) spells out, as shown by (26).



Consider now a case of agreement displacement, (27).

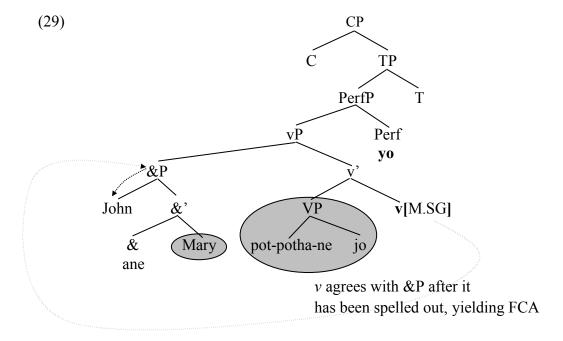
[John ane Mary] Bill-ne jo-y-o
John and Mary Bill-ACC see-PFV-M.SG
'John and Mary saw Bill'

Once the VP has been built, v is merged and probes into its c-command domain. Note that in the perfective the v head needs to agree for phi-features, which is usually satisfied by the object. However, the reflexive fails to satisfy v's requirements and so phi-agreement is suspended, cf. (28). As above, the &P is built separately and merged in the specifier of v. Again, v has marked its complement for spell out, and the subject &P acts as a phase, but spell-out is delayed until C is merged (given the Phase Impenetrability Condition).



The fact that agreement displacement does not look like regular agreement with &Ps indicates that v cannot agree with the &P in SpecvP at this point. Based on the fact that agreement displacement seems to take place after &P has spelled out, we conclude that it takes place after the next phase head C is merged. When C is merged, the complement of & and the complement of v are spelled out.

The final step of the derivation of first conjunct agreement under agreement displacement is given in (29). As a last resort, v can now look up into its specifier and agree with the &P. Recall that after a phase has been spelled out, only its edge (i.e. its head and specifier) is visible. Therefore, as the &P has already been spelled out, only the edge is visible, yielding first conjunct agreement.



One might question when this second cycle / last resort agreement takes place. Given that I assume first conjunct agreement to follow from the fact that the &P has been spelled out, the second cycle must happen after C is merged. One possible approach could be that perhaps whenever a CP is completed, PF "repairs" shortcomings; in other words, last resort agreement is PF agreement. Although it is alluding to adopt such an approach, this seems counter-intuitive, as Kutchi Gujarati does not show effects of adjacency or linear order (cf. Benmamoun, Bhatia & Polinsky 2009).

## 6. Summary & Conclusion

I would like to stress that Kutchi Gujarati does not behave like a first conjunct agreeing language such as Arabic. (Benmamoun 1992, Aoun, Benmamoun & Sportiche 1994, Johannessen 1996, Munn 1999 and more recently, Boskovic 2009). Alternatively, the pattern that looks like first conjunct agreement in Kutchi Gujarati is *not* first conjunct agreement, but rather something that arises due to a conspiracy of three factors: (i) the presence of object agreement (and lack of subject agreement) in the past perfective, (ii) the behaviour of anaphors with respect to verbal agreement, and (iii) the fact that subjects in the perfective are not inert to agreement (as opposed to ergative marked subjects in Hindi, see Bobaljik 2009). Typically, first conjunct agreement occurs with post-verbal subjects, whereas last conjunct agreement takes place with pre-verbal subjects. This symmetry is absent from Kutchi Gujarati.

On a more general note, it should be observed that we know rather little regarding similar conspiracies of factors in other languages that may give rise to partial agreement in general; one would be curious about the properties that classify true first and last conjunct agreement. Unfortunately this is beyond the scope of this project.

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