Morphological case and agreement

Issues in the syntax of case and agreement
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1 Introduction

Yesterday, we talked about languages in which agreement, or more specifically, ϕ-features, determined the form of case-marking on one of the verb's arguments. In the imperfective in Kashmiri, direct objects alternate between NOM and DAT forms, and in Sahaptin, 3rd person subjects can be zero-marked, or have two distinct ERG suffixes.

For both languages, I assumed that the global case split follows from a specific ordering of Case assignment and ϕ-agreement:

(1) **Order of Case assignment and agreement in Kashmiri and Sahaptin**
[ϕ ≺ CASE]

Today, we'll look at another kind of phenomenon, namely when **(morphological) case determines agreement**. Recall our Hindi examples from Day 1:[1]

(2) a. ***Rahul*** *kitaab* ***paṛh-taa*** ***thaa.*** [Hindi]
Rahul.M book.F read-HAB.M.SG be.PST.M.SG
'Rahul used to read a/the book.'

b. *Rahul-ne* ***kitaab paṛh-ii*** ***thii.***
Rahul.M-ERG book.F read-PFV.F be.F.SG
'Rahul had read the book.' (Bhatt 2005: 759)

(3) *Mona-ne* *is* *kitaab-ko* ***paṛh-aa*** ***thaa.*** [Hindi]
Mona.F-ERG this.OBL book.F-ACC read-PFV.M.SG be.PST.M.SG
'Mona had read this book.' (Bhatt 2005: 768)

The generalisation about agreement (and morphological case) in Hindi was the following:

[1] Abbreviations: 3 = third person, ACC = accusative, DAT = dative, ERG = ergative, F = feminine, HAB = habitual aspect, M = masculine, NOM = nominative, OBL = oblique, PFV = perfective, PST = past, SG = singular.

(4) **Case-marking and agreement in Hindi**
The highest morphologically unmarked argument triggers agreement.

This generalisation explains the Hindi agreement pattern in (2) and (32). And it raises some questions we will deal with today…

? Why does morphological case block agreement? And how? Is this a regular pattern?

Today, we'll try to answer these questions and look at some typological consequences for possible case-marking and agreement systems.

2 More data on case-marking and agreement

2.1 Hindi

Again, the Hindi examples, repeated from above, show that the verb agrees with the highest morphologically unmarked argument, as in (2). When all arguments are case-marked, the verb shows default agreement (M.SG), as in (32).

(2) a. *Rahul kitaab paṛh-taa thaa.*
Rahul.M book.F read-HAB.M.SG be.PST.M.SG
'Rahul used to read a/the book.'

b. *Rahul-ne kitaab paṛh-ii thii.*
Rahul.M-ERG book.F read-PFV.F be.F.SG
'Rahul had read the book.' (Bhatt 2005: 759)

(32) *Mona-ne is kitaab-ko paṛh-aa thaa.*
Mona.F-ERG this.OBL book.F-ACC read-PFV.M.SG be.PST.M.SG
'Mona had read this book.' (Bhatt 2005: 768)

(5) **Case-marking and agreement in Hindi**
The highest morphologically unmarked argument triggers agreement.

? Do we want to say that Hindi has subject agreement? Or that is has object agreement? Or both?

2.2 Nepali

The situation in Nepali is different (Bickel & Yādava 2000, Bobaljik 2008). While the language is also split-ergative, it differs from Hindi in that **agreement is controlled by the highest ergative or unmarked argument**.

- In (6a), the subject and the object are both morphologically unmarked

  the verb agrees with the subject

- In (6b), the subject is ERG, the object is morphologically unmarked

  the verb *still* agrees with the subject

(6) a. *ma yas pasal-mā patrikā kin-ch-u.*
1SG.NOM DEM.OBL store-LOC newspaper.NOM buy-NPST-1SG
'I buy the newspaper in this store.'

b. *maile yas pasal-mā patrikā kin-ẽ / * kin-yo.*
1SG.ERG DEM.OBL store-LOC newspaper.NOM buy-PST.1SG buy-PST.3SG.M
'I bought the newspaper in this store.' (Bickel & Yādava 2000: 348)

The following examples show that DAT does not trigger agreement in Nepali either.

(7) a. *malāī **timī** man par-ch-au / * par-ch-u.*
1SG.DAT 2.M.NOM liking occur-NPST-2.M occur-NPST-1SG
'I like you.'

b. *hijo **usle** timīlāī bajār-mā dekh-yo / * dekh-yau.*
yesterday 3SG.ERG 2.M.DAT market-LOC see-PST.3SG.M see-PST.2.M
'Yesterday he saw you at the market.' (Bickel & Yādava 2000: 348)

Bickel & Yādava (2000: 348) therefore suggest that, in Nepali, the verb agrees with the highest subject, whether it is an intransitive subject (S) or a transitive subject (A).

(8) **Case-marking and agreement in Nepali**
The highest morphologically unmarked argument or ERG argument triggers agreement.

The difference between Nepali and Hindi is that Nepali allows the verb to agree with an argument in ergative, whereas Hindi does not. Crucially, Nepali nevertheless allows the verb to agree with an unmarked argument as well, as shown in (6a).

2.3 Marathi

Legate (2008), Keine (2010) also discuss the agreement pattern in another related language, Marathi. At first glance, Marathi is like Hindi.

(9) a. *mulī* *gāṇī* *mhaṇtāt.*
girl.3PL.F.NOM song.3PL.N.NOM sing.PST.3PL.F
'Girls sing songs.'

b. *mulī-ne* *gāṇī* *mhaṭlī.*
girl.3PL.F-ERG song.3PL.N.NOM sing.PST.3PL.N
'The girls sang songs.' (Pandharipande 1997: 284, *via* Keine 2010: 51)

When the subject is ERG, the verb agrees with the unmarked argument instead. But there is an additional quirk in Marathi:

- 1st and 2nd person pronouns **never** take an ERG suffix
- This happens even in the perfective (Dhongde & Wali 2009: 48, 182f.)

? So what does the verb agree with when the subject is 1st or 2nd person?

(10) a. *tyā-ne* / *ti-ne* *gāṇī* *mhaṭlī.*
he-ERG she-ERG song.3PL.N.NOM sing.PST.3PL.N
'S/he sang songs.'

b. *mī* / *tū* *gāṇī* *mhaṭlī.*
I.NOM you.NOM song.3PL.N.NOM sing.PST.3PL.N
'I / you (sg.) sang songs.' (Pandharipande 1997: 131, *via* Keine 2010: 52)

It turns out 1st and 2nd person **cannot agree** even though we do not see ERG them.

? What's going on? On the one hand — morphologically — there is no ERG here, on the other hand — syntactically — there does seem to be something.

3 Morphological case and agreement

Based on the data from Hindi and Nepali (and other languages), Bobaljik (2008) suggests that agreement between and a predicate and its arguments is **determined by morphological case**.

He reports the following patterns (Bobaljik 2008: 305):

(11) a. no agreement (Dyirbal, Lezgian) a. *ERG only

b. ABS only (Tsez, Hindi) b. *ERG and DAT, not ABS

c. ABS and ERG (Eskimo-Inuit, Mayan) c. *DAT only

d. ABS, ERG, DAT (Basque, Abkhaz)

Similarly, we get the following patterns w.r.t. subject and object agreement from a sample based on Gilligan (1987) (Bobaljik 2008: 302):

(12)

No Agreement:	23	IO only:	0
SBJ only:	20	DO only:	0
SBJ and DO:	31	IO, DO only:	0
SBJ, IO, and DO:	25	S and IO, not DO:	(1)

- Bobaljik (2008) argues that morphological case (m-case) determines agreement
- In languages like Hindi, the choice of controller is best described by m-case rather than grammatical function (GF)
- In addition, cross-linguistically, patterns of m-case blocking or allowing agreement are regular
- Bobaljik (2008) illustrates this using (13)

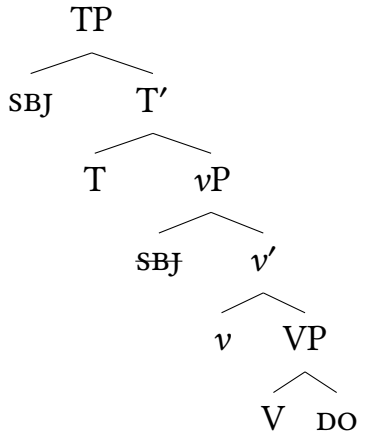
(13) Unmarked Case > Dependent Case > Lexical/Oblique Case

The levels in (13) refer to the following different types of Case.

- unmarked Case covers arguments of a verb that do not have overt case morphology
- "Dependent Case" refers to a type of Case assignment based on structural dependency relations between two arguments
- lexical or oblique case refers to case assigned based not on the structural properties of the clause but on lexical properties of a verb

3.1 A brief excursus on dependent Case

(14)



(15) **Dependent Case rule for ACC**
In a syntactic domain P, assign ACC to DP iff it is c-commanded by another DP. In (14), SBJ c-commands DO and thus DO is assigned ACC.

(16) **Dependent Case rule for ERG**
In a syntactic domain P, assign ERG to DP iff it c-commands another DP. In (15), SBJ c-commands DO and thus SBJ is assigned ERG.

➠ Both ACC and ERG "dependent" Cases

- (13) is thus similar to (17)

(13) Unmarked Case > Dependent Case > Lexical/Oblique Case

(17) ABS / NOM > ERG / ACC > DAT > INS > …

3.2 Back to m-case and agreement

The hierarchies in (13) and (17) give us two cross-linguistic generalisations:

(18) a. **Bobaljik's first generalisation**
If one type of Case on the hierarchy in (13) triggers agreement, all types of Case higher on the hierarchy will also trigger agreement.

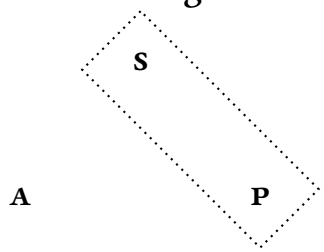
- In Hindi, only unmarked case, i.e. ABS/NOM triggers agreement
- In Nepali, ERG and ABS/NOM trigger agreement, but DAT does not

(18) b. **Bobaljik's second generalisation**
Languages with nominative-accusative case alignment cannot have ergative/absolutive agreement alignment.

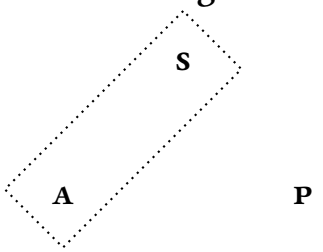
? What's alignment again? What's case alignment vs. agreement alignment?

- In NOM-ACC alignment, intransitive and transitive subjects (S and A) are marked in the same way, P is marked differently; (19a)
- In ERG-ABS alignment, intransitive subjects and transitive objects (S and P) are marked in the same way, A is marked differently; (19b)

(19) a. **ERG-ABS alignment**



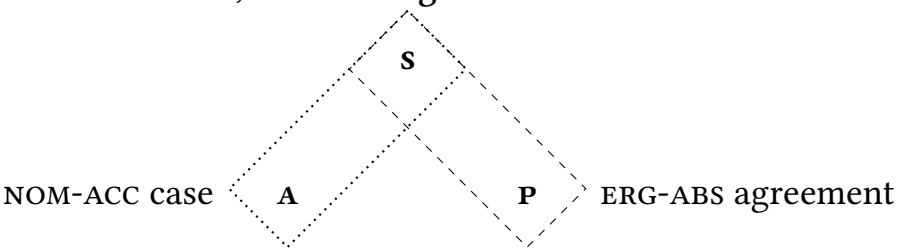
b. **NOM-ACC alignment**



- Hindi and Nepali (in the perfective) have ERG-ABS case alignment
- But they differ in their agreement pattern
  - In Hindi, **agreement is ERG-ABS as well**
  - In Nepali, **agreement is NOM-ACC**
- We have two variables with two values, giving us four logical possibilities
  1. ERG-ABS case, NOM-ACC agreement (Nepali)
  2. ERG-ABS case, ERG-ABS agreement (Hindi)
  3. NOM-ACC case, NOM-ACC agreement (English)
  4. *NOM-ACC case, ERG-ABS agreement (possibly Coast Tsimshian, Halkomelem, Semelai; see Baker 2015, Bárány to appear)

The generalisation in (13) rules out the final type. In such a language, agreement would be controlled by the unmarked subject in an intransitive, but by the case-marked *object* in a transitive. This is shown in (20).

(20) ***NOM-ACC case, ERG-ABS agreement**



✔

- Agreement is systematically blocked by certain (morphological) cases
  - **?** How do we model this?
  - **?** How do we capture Marathi?
  - **?** How do we capture the typological generalisations?

4 Analysis

4.1 Case features

We will start by using our Case features from yesterday and implementing the Case hierarchies in (13) and (17) using them.

(21) NOM/ABS = $[\mathbf{A}]$ ACC/ERG = $[\mathbf{A}, \mathbf{B}]$ DAT = $[\mathbf{A}, \mathbf{B}, \mathbf{C}]$

(22) $\{\mathbf{A}\} \subset \{\mathbf{A}, \mathbf{B}\} \subset \{\mathbf{A}, \mathbf{B}, \mathbf{C}\} \subset \cdots$

Then, we reformulate generalisation (18) about blocking case as follows:

(23) **Bobaljik's first generalisation and CASE features**
If a given set κ of CASE features includes a feature [α] which blocks agreement, any superset of κ will block agreement as well. Sets not including [α] do not block agreement.

This allows us to say the following:

- In Hindi, any case including [**B**] blocks agreement
- In Nepali, any case including [**C**] blocks agreement

? Again, what about Marathi?

4.2 Hindi

(24) NOM = $[\mathbf{A}]$ ERG = $[\mathbf{A}, \mathbf{B}]$ DAT = $[\mathbf{A}, \mathbf{B}, \mathbf{C}]$

(25) **Vocabulary insertion rules**
a. $[\mathbf{A}] \leftrightarrow -\emptyset$
b. $[\mathbf{A}, \mathbf{B}] \leftrightarrow$ *-ne*
c. $[\mathbf{A}, \mathbf{B}, \mathbf{C}] \leftrightarrow$ *-ko*

We follow Keine (2010: 60) in assuming that an impoverishment rule deletes the CASE features on the direct object when it is specific and animate.

(26) $[\mathbf{A}, \mathbf{B}, \mathbf{C}] \longrightarrow \emptyset$ / [−HUMAN, −SPECIFIC]

Keine (2010: 60) adds another impoverishment rule to derive split-ergativity in Hindi. The feature [**B**] is deleted from the set of CASE features assigned to the subject in the imperfective aspect.

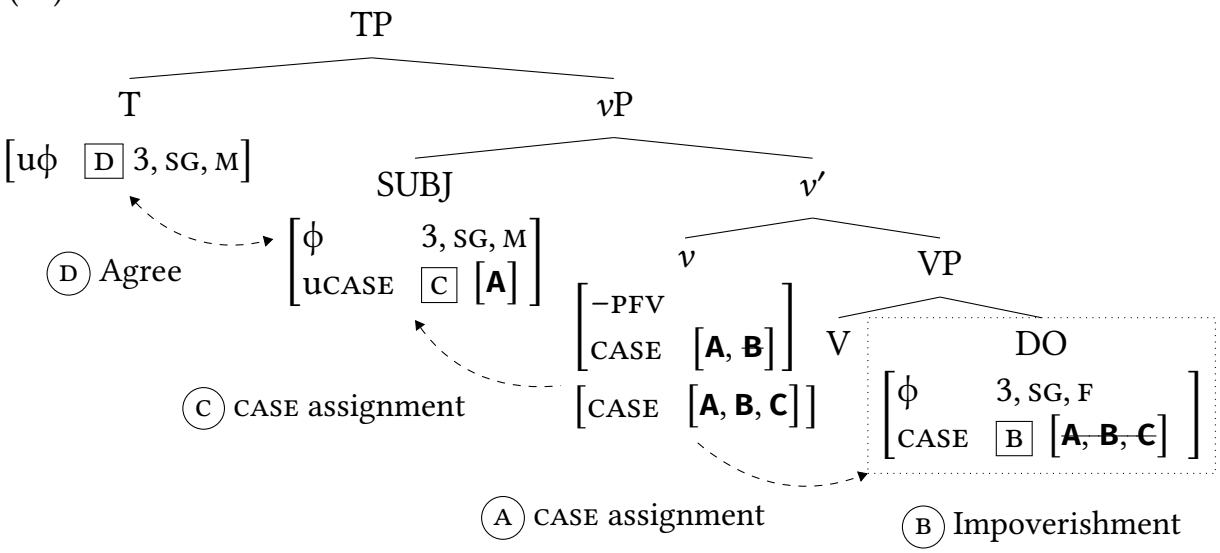
(27) $[\mathbf{B}] \longrightarrow \emptyset$ / [−PFV]

Finally, we will assume with Keine (2010) that *v* assigns **inherent Case** to the subject and structural Case to the direct object. Hindi has a single ϕ-probe on T (Bhatt 2005, Legate 2008).

(28) Imperfective, no case-marking [Hindi]

Rahul *kitaab* ***paṛh-taa*** ***thaa.***
Rahul.M book.F read-HAB.M.SG be.PST.M.SG
'Rahul used to read a/the book.'

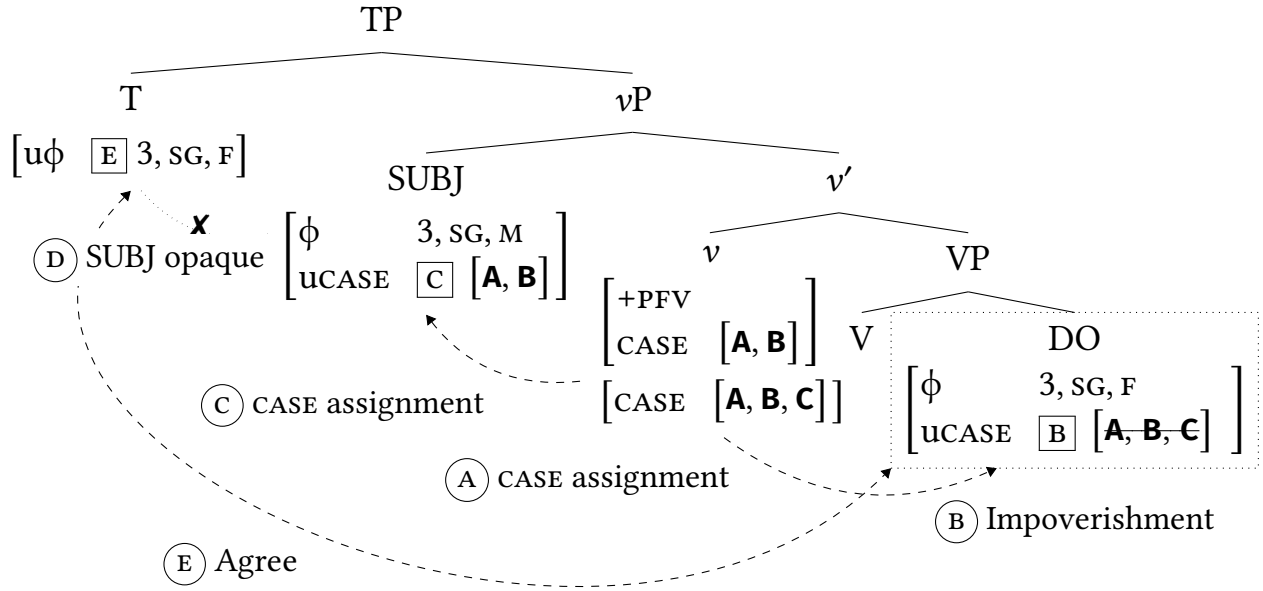
(29)



(30) Perfective, ERG on the subject

Rahul-ne ***kitaab paṛh-ii*** ***thii.***
Rahul.M-ERG book.F read-PFV.F be.F.SG
'Rahul had read the book.' (Bhatt 2005: 759)

(31)

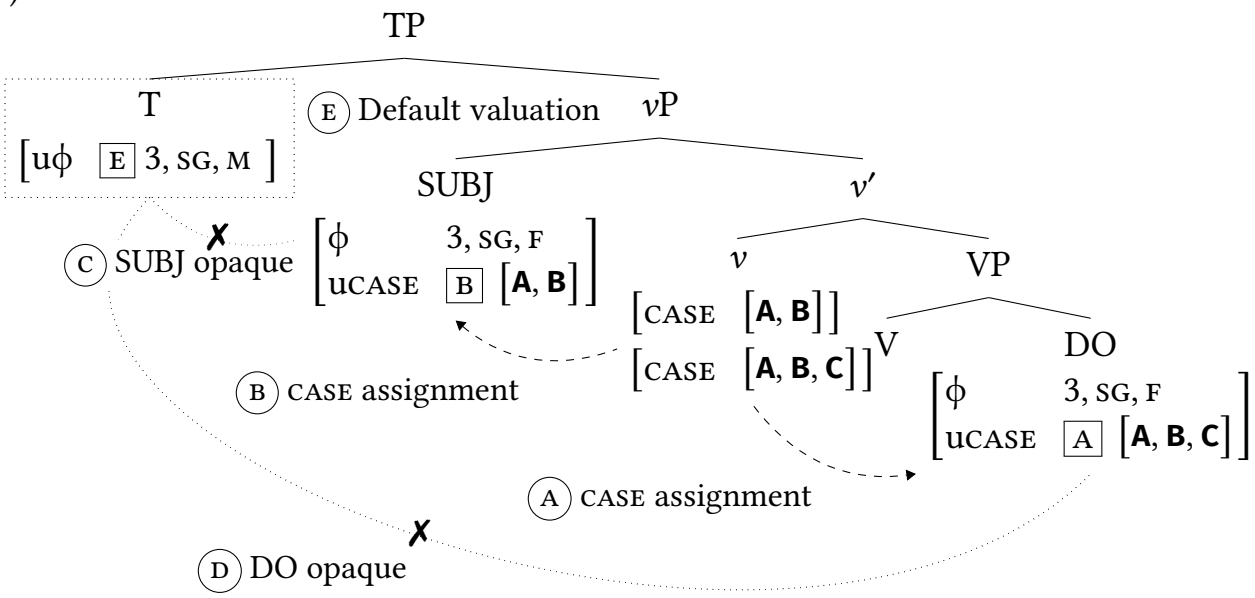


In (31), [**B**] blocks agreement between T and SUBJ, but when T continues to probe, it finds the direct object. The direct object's features have been deleted by the impoverishment rule in (26). Agreement on T will therefore reflect the person, number and gender of the direct object.

(32) Perfective, ERG on the subject; DOM, ACC on the object [Hindi]

Mona-ne *is* *kitaab-ko* ***paṛh-aa*** ***thaa.***
Mona.F-ERG this.OBL book.F-ACC read-PFV.M.SG be.PST.M.SG
'Mona had read this book.' (Bhatt 2005: 768)

(33)



In (33), T fails to agree with either the subject or the direct object, since both have the feature [**B**] and are invisible; T's ϕ-features get the default value of third person singular masculine, shown in (E).

4.3 Marathi

Hindi and Marathi show the same restriction: ergative arguments are opaque for agreement. [**B**] makes arguments opaque for agreement in both languages. The two languages differ, however, in how the spell-out of this Case is determined.

(34) a. *tyā-ne / ti-ne* *gāṇī* *mhaṭlī.*
he-ERG she-ERG song.3PL.N.NOM sing.PST.3PL.N
'S/he sang songs.'

b. *mī /* *tū* *gāṇī* *mhaṭlī.*
I.NOM you.NOM song.3PL.N.NOM sing.PST.3PL.N
'I / you (sg.) sang songs.' (Pandharipande 1997: 131, *via* Keine 2010: 52)

(35) NOM = [**A**] ERG = [**A**, **B**]

(36) **Vocabulary insertion rules**

a. [ ] ↔ -∅

b. [**A**, **B**] ↔ *-ne*

Keine (2010) suggests that an impoverishment rule modifies the set of CASE features on the subject. This rule is shown in (37). It deletes the feature [**A**] when the subject is first or second person.

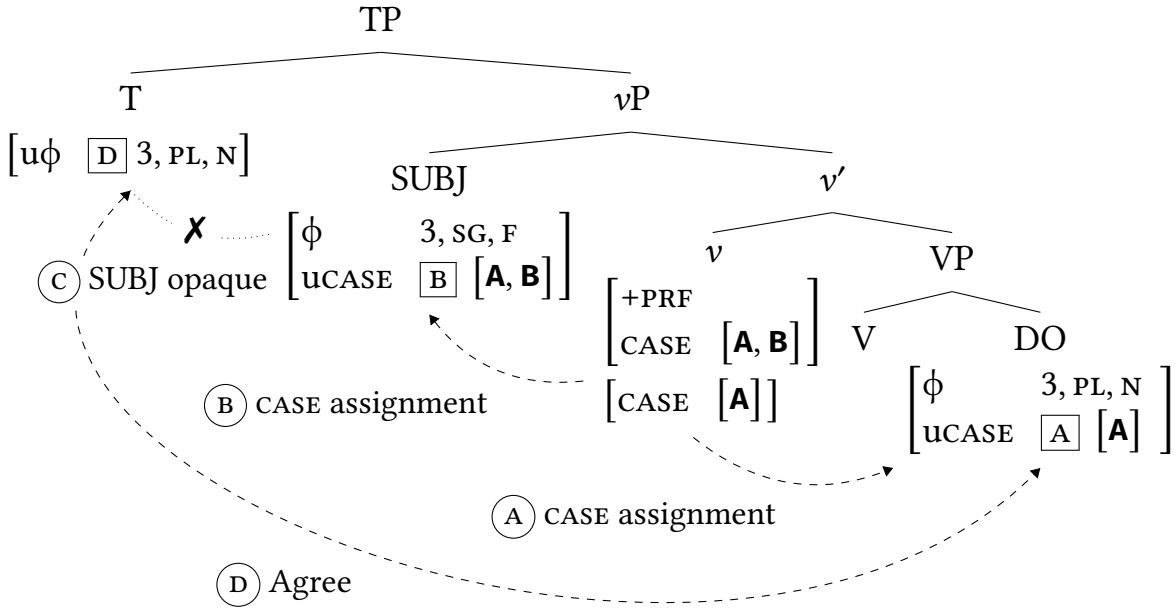
(37) [**A**] ⟶ ∅ / __ [π: 1 ∨ 2]

In (38) and (39), the subject's set of CASE features include [**B**], T will not enter an Agree relation with it.

(38) Perfective, 3rd person subject, ERG

tyā-ne / ti-ne *gāṇī* *mhaṭlī.*
he-ERG she-ERG song.3PL.N.NOM sing.PST.3PL.N
'S/he sang songs.'

(39)

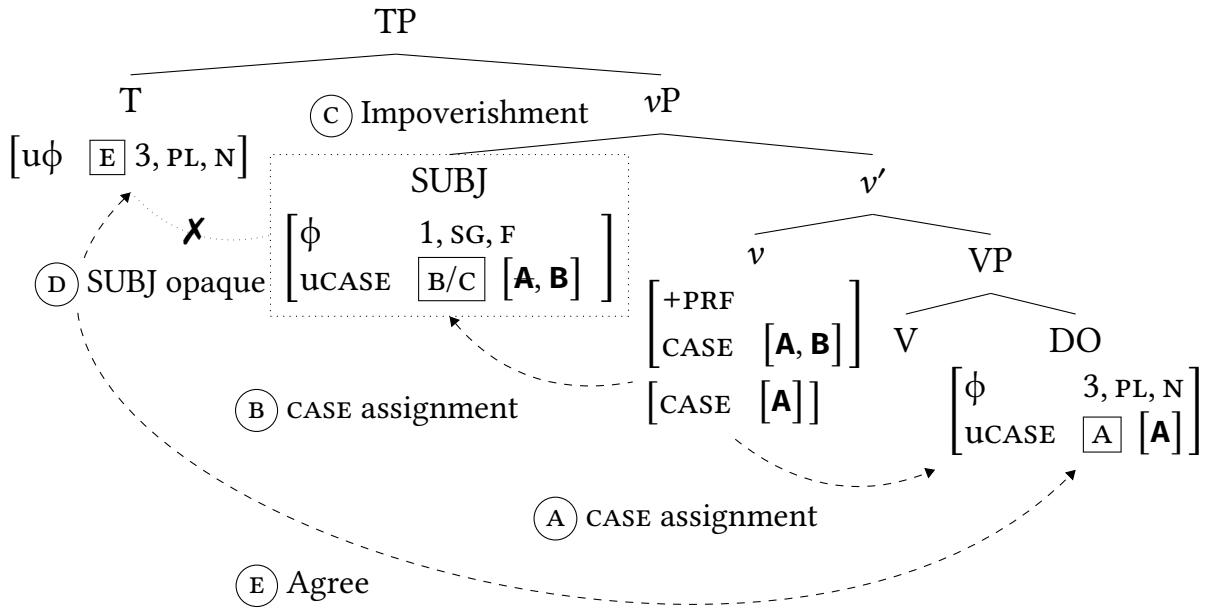


In (39b), the subject is first person, and therefore the impoverishment rule in (38) applies, deleting the feature [**A**] on the subject. This means that the ergative suffix *-ne* cannot be inserted since its vocabulary item specifies a superset of the features on the subject. Nevertheless, [**B**] is still present on the subject and makes it opaque for agreement.

(40) Perfective, 1st/2nd person subject, zero ERG?

mī / tū gāṇī mhaṭlī.
I.NOM you.NOM song.3PL.N.NOM sing.PST.3PL.N
'I / you (sg.) sang songs.' (Pandharipande 1997: 131, *via* Keine 2010: 52)

(41)



- We can use a hierarchy of Case features (based on ⊂ relations) to model case-sensitive agreement
- The logic is that any case including a certain [α] will block agreement
- This choice is language-specific: Nepali, Basque vs. Hindi, Tsez
- Now, onto the cross-linguistic generalisations!

4.4 Possible and impossible alignment types

Recall that Bobaljik (2008) rules out certain types of languages:

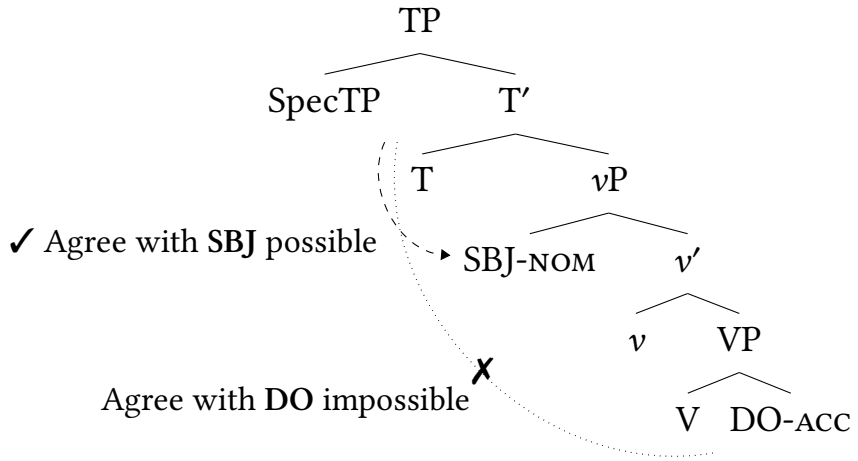
(18) b. **Bobaljik's second generalisation**
Languages with nominative-accusative case alignment cannot have ergative/absolutive agreement alignment.

We can show this as follows.

- This generalisation holds for languages with a single probe on T.
- T c-commands the subject, which in turn c-commands the object
- In order for ERG-ABS *agreement* to arise in a NOM-ACC *case* language
  - agreement needs to "skip" the NOM subject
  - and agree with the ACC object
- This is **impossible** since NOM cannot contain a feature [α] blocking agreement that is not also contained in ACC

(42) a. NOM ⊂ ACC

b.



5 Ditransitives

The same logic that applies to monotransitives and the distribution of ergative-absolutive and nominative-accusative alignment applies to ditransitive constructions in languages with **object agreement *and* subject agreement**.

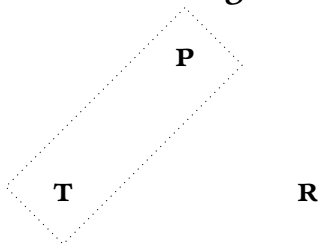
Ditransitive constructions can have different alignments, which I refer to as "indirective" and "secundative", respectively, following Haspelmath (2005), Malchukov *et al.* (2010a).

(43) a. **P** is the single internal argument of a monotransitive.

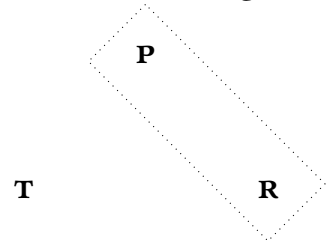
b. **T** is the theme- or patient-like internal argument of a ditransitive.

c. **R** is the recipient-like internal argument of a ditransitive.

(44) a. **Indirective alignment**



b. **Secundative alignment**



(45) **Indirective alignment**

a. I donate [$_{P}$ the book].

b. I donate [$_{T}$ the book] [$_{R}$ to the man].

(46) **Secundative alignment**

a. I equip [$_{P}$ the man].

b. I equip [$_{R}$ the man] [$_{T}$ with a book].

As with ergative and accusative alignment, languages differ in how case and agreement are aligned. Since both monotransitives and ditransitives rely on similar syntactic structures, we might expect similar **generalisations about possible alignments with ditransitives**.

- We have two variables with two values, giving us four logical possibilities
  1. indirective case-marking, indirective agreement (Hungarian)
  2. indirective case-marking, secundative agreement (Amharic)
  3. secundative case-marking, secundative agreement (Khanty, Nez Perce)
  4. *secundative case-marking, indirective agreement
- The languages in question have a probe on *v*
- *v* c-commands the indirect object (recipient), which c-commands the direct object (theme)

In Northern Khanty (Dalrymple & Nikolaeva 2011, Nikolaeva 1999, 2001), both secundative and indirective alignment are possible: case-marking and agreement match in alignment.

(47) a. Indirective case and agreement [Northern Khanty]

ma ***a:n*** *Pe:tra e:lti ma-s-**e:m*** / *ma-s-əm.*
I cup Peter to give-PST-**OBJ.1SG.SBJ** give-PST-1SG.SBJ
'I gave a/the cup to Peter.'

b. Secundative case and agreement

ma ***Pe:tra*** *a:n-na ma-s-**e:m*** / **ma-s-əm.*
I Peter cup-LOC give-PST-**OBJ.1SG.SBJ** give-PST-1SG.SBJ
'I gave a/the cup to Peter.' (Dalrymple & Nikolaeva 2011: 148)

In Amharic (Baker 2012, 2015, Kramer 2014), however, case and agreement alignment in ditransitives does not match.

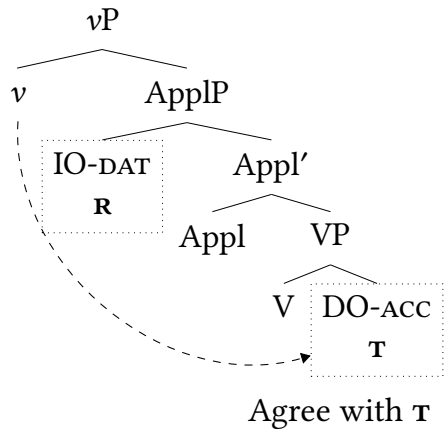
(48) a. *Ləmma* ***wiʃʃa-w-in*** *j-aj-əw-al.* [Amharic]
Ləmma dog-DEF-ACC 3SG.M.SBJ-see-3SG.M.OBJ-AUX(3SG.M.SBJ)
'Lemma sees the dog.' (Baker 2012: 257)

b. Indirective case and secundative agreement

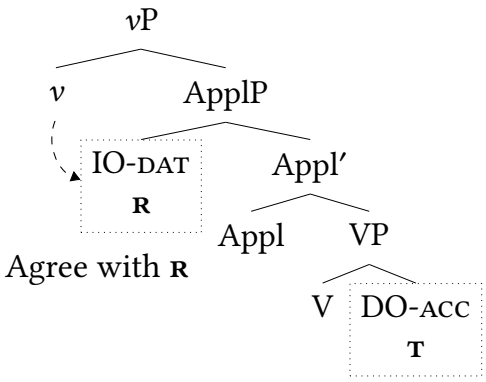
Ləmma ***l-Almaz*** *məts'haf-u-n* *sət'-at.*
Ləmma.M DAT-Almaz.F book-DEF.M-ACC give-(3SG.M.SBJ)-3SG.F.OBJ
'Lemma gave the book to Almaz.' (Baker 2012: 258)

As before, one logical possibility is ruled out: no language can have secundative case alignment and indirective agreement alignment. The following examples illustrate this.

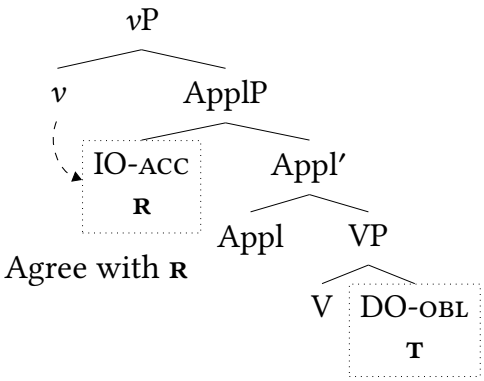
(49) a. Indirective case and agreement
e.g. Hungarian



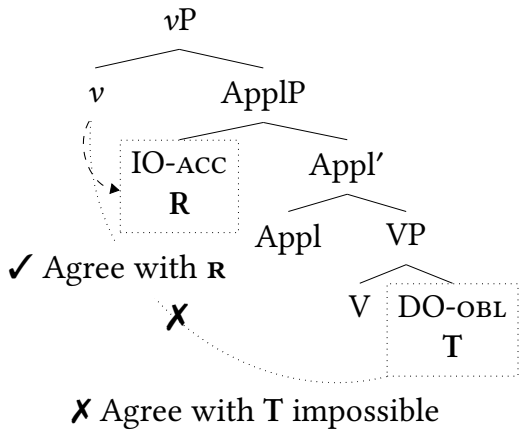
b. Indirective case and secundative agr.
e.g. Amharic



(50) a. Secundative case and agreement
e.g. Northern Khanty



b. *Secundative case and indirective agr.
I don't know of any language…



The reasoning is analogous to the reasoning w.r.t. the impossible NOM/ERG. If the features of ACC are a proper subset of the features of OBL, it is impossible that ACC has a feature that blocks agreement, but OBL does not (cf. NOM being a proper subset of ACC in (??)).

6 Conclusions

- We looked at yet another aspect of Agree: "case discrimination" (Preminger 2014)
- Case discrimination, or blocking agreement, is regular across languages
- We modelled this using proper subset relations among Case features
- Combining this with structural properties of the clause, such as
  - the number of probes (e.g. one or more instances of agreement)
  - and c-command relations between T and its arguments, and *v* and its arguments
- … allows us to derive testable cross-linguistic generalisations

7 Further reading

Hindi case-marking is discussed in an interesting back-and-forth between Bernard Comrie and Anuradha Saksena (Saksena 1981, 1985, Comrie 1984, 1985). See also Mohanan (1990), Bhatt (2005), Anand & Nevins (2006) on aspects of Hindi. The analysis here takes many ideas from Bobaljik (2008) and, again, Keine (2010). See also Keine & Müller (2008); and Deal (2017) on Hindi and other languages.

Marathi is discussed by Legate (2008), Keine (2010) relying on Pandharipande (1997). See also Dhongde & Wali (2009), Verbeke & Willems (2012).

Nepali is also discussed by Keine (2010); the data here are from Bickel & Yādava (2000).

The source(s) of ergative is discussed by, among others, Woolford (2006), Deal (2010), Legate (2012), Sheehan (2014), Deal (2016).

For dependent Case theory, see Yip *et al.* (1987), Marantz (1991), Bittner & Hale (1996), McFadden (2004), Wunderlich (1997), Kiparsky (2001), Preminger (2014), Baker (2015).

For more on ditransitives, see the papers in Malchukov *et al.* (2010b); Dryer (1986) is a classic paper and introduces very useful terminology. For discussion of VP-internal structure and applicatives see, among others, Barss & Lasnik (1986), Johnson (1991), Pylkkänen (2008), Georgala (2012).

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