What happened to Principles and Parameters?
July 3, 2014

Modeling the Variation in Systems of Case and Agreement
(aka Case Alternations, Case Hierarchies and the Implications for Case Theory)
Heidi Klockmann (h.e.klockmann@uu.nl)
Utrecht University

1. Introduction

Nominative case correlates with verbal agreement in English:

(1) a. He\textsubscript{NOM} drinks/*drink tea.
   b. They\textsubscript{NOM} drink/*drinks tea.

(2) a. *Him\textsubscript{ACC} drinks/drink tea.
   b. *Them\textsubscript{ACC} drink/drinks tea.

Absolutive case correlates with verbal agreement in Hindi (where absolutive arguments are intransitive subjects and transitive objects):

(3) a. Raam\textsubscript{ABS} baazaar gayaa. \textit{Agreement with absolutive subject}
   Raam\textsubscript{ABS} market go\textsubscript{PAST.M.SG}
   ‘Raam went to the market.’
   b. Raam-ne roTii khaa\textsubscript{F.ERG}yii thii. \textit{Agreement with absolutive object}
   Raam\textsubscript{ERG} bread\textsubscript{F.ABS} eat\textsubscript{PERF.F} be\textsubscript{PAST.F}
   ‘Raam had eaten bread.’
   c. BaccoN-ne siita\textsubscript{M.ERG}a-ko dekhaa thaa. \textit{Default agreement (no absolutive)}
   children\textsubscript{M.ERG} Sita\textsubscript{F.DAT} see\textsubscript{PERF.M.SG} be\textsubscript{PAST.M.SG}
   ‘The children had seen Sita.’ (Mahajan 1990: 73)

Case and agreement target do not correlate in Bardi, an aboriginal Australian language of the Nyulnyulan family:

(4) a. Ngayoo nga-lirrmi-n. \textit{I’m calling out.}
   I\textsubscript{ABS} 1SG-call.out-CONT
   ‘I’m calling out.’
   b. Ngayoo-nim nga-na-m boo-n=irr. \textit{I was spearing them.} (Bowern 2012: 395)
   I\textsubscript{ERG} 1SG-TR-PAST-spear-REMOTE\textsubscript{PAST}=3PL(DO)
   ‘I was spearing them.’ (Bowern 2012: 395)

In a small sample of the WALS (Comrie 2013a, 2013b; Siewierska 2013), we find that Bardi-type languages are more common than Hindi-type languages, making up 21% of the sample:

<table>
<thead>
<tr>
<th>Verbal alignment</th>
<th>NP case alignment</th>
<th>Pronoun case alignment</th>
<th>No. of languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accusative</td>
<td>Neutral</td>
<td>Nom-Acc</td>
<td>7</td>
</tr>
<tr>
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<tr>
<td>Erg-Abs</td>
<td>Erg-Abs</td>
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<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>52</td>
</tr>
</tbody>
</table>
See Appendix I for more patterns of variation in case-agreement systems.

Thus, we find the following case-agreement systems:
- **English:** Nominative case, agreement target, and grammatical function all line up.
- **Hindi:** Absolutive case and agreement target line up; grammatical function does not.
- **Bardi:** Agreement target and grammatical function line up; case does not.

- **Minimalism:** Case and agreement are directly related, where case is a reflex of agreement.
- **English-type languages:** Immediately derived.
- **Hindi-type languages:** Not derived; require additional assumptions, e.g.:
  - Take ergative case to be an inherent case; the ergative subject is thereby inert for agreement (cf. Woolford 1997, Legate 2008, Stepanov 2004)
- **Bardi-type languages:** Not derived – appear to be a direct counterexample.
  - Analyses often allow the agreement head to assign multiple cases (see Stepanov 2004 for discussion), or to target nominals of multiple cases contra standard Minimalist assumptions (cf. Bobaljik (2008) and Woolford (2006)).

**Problem:** Minimalism is equipped to deal with the simple case of English, where grammatical function, case, and agreement target all align. However, it faces difficulties with the dissociations of Hindi and Bardi, requiring additional assumptions.

**Question:** Can we design a case-agreement system which is equally able to deal with these systems, and flexible enough to be extended to other case-agreement systems?

**Answer:** Yes – I will assume that case and agreement are realized through independent mechanisms and demonstrate how the three systems can be derived.

The talk is structured as follows:
- Proposal: Case and agreement as independent operations on structure.
- Case studies:
  - Case/agreement aligning languages: Polish, Hindi, Icelandic
  - Case/agreement non-aligning languages: Bardi, Bantawa
- Modeling the variation in other case-agreement systems

### 2. Proposal: Case and agreement are independent

**Preliminary background:** Ergativity vs. accusativity

- **Ergativity:** Subjects of intransitives (S) and objects of transitives (O) treated similarly.
- **Accusativity:** Subjects of intransitives (S) and subjects of transitives (A) treated similarly.

<table>
<thead>
<tr>
<th>Intransitive</th>
<th>Accusative: S</th>
<th>Ergative: S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transitive</td>
<td>A O</td>
<td>A O</td>
</tr>
</tbody>
</table>
Preliminary background: Relevant structures (simplified), assuming T is the agreement head:

(a) Transitive  
(b) Unergative intransitive  
(c) Unaccusative intransitive

Proposal: Case and agreement are realized through independent mechanisms. They appear to correlate because they operate on the same structure.

Case: Two subtypes:

i. Nominals embedded within PPs, which are generally considered to have “inherent” or “oblique” case.
   - Thus, oblique case is the realization of a PP (McFadden 2004; Caha 2009; Emonds 1994 “Alternative Realization Principle”).
   - The nominals are embedded in PPs during structure building.
   - These nominals generally cannot be agreement targets.¹

ii. Nominals not embedded in PPs, which are generally considered to have “structural” case.
   - They are marked for case at Spell-Out through a dependent case mechanism (Baker in progress)
   - These nominals can be agreement targets.

Dependent Case Assignment (Baker in progress):²

Languages choose one of the following rules for clausal case assignment:

a. Ergativity: If XP c-commands ZP in the same TP, then assign ergative case to XP. Otherwise, assign absolutive.

i. Dependent (erg)  
ii. Oblique Case  
iii. Intransitive

¹ See Rezac (2008) for motivation for the existence of PP-embedded nominals which can be agreement targets. In Rezac’s system, these PPs have agreed with the nominal inside of them, and therefore carry the phi-features of that nominal; this makes them accessible to outside agreement. The implication of the study is that regardless of the category (PP, DP, NP) of an element, if it has phi-features, it is an agreement target.

² I restrict my description of his theory only to those aspects which are relevant for the data in this handout.
b. **Accusativity:** If XP is c-commanded by ZP in the same TP, then assign accusative case to XP. Otherwise, assign nominative.

i. Dependent (erg)  
ii. Oblique Case  
iii. Intransitive

![Diagram](image)

**Agreement (based on Chomsky 2000, 2001):** A Probe P agrees with a Goal G where:

i. Probe P is active by virtue of some unvalued phi-features.

ii. Goal G carries a (sub)set of those phi-features (*Matching Condition*).

iii. Upon Merge, Probe P initiates a search for a goal, driven by the need to value and delete its phi-features (*Earliness Principle*: Pesetsky and Torrego 2001):
   a. Probe P searches its c-command domain for a goal. If no goal is found, Probe P remains active.
   b. Probe P initiates a new search (upwards) when more material is merged in the structure (*Cyclic Agree*: Rezac 2003).
   c. If a goal is found, Probe P copies the phi-features of Goal G onto itself, valuing its previously unvalued features. These are later deleted.
   d. If no goal is found at all (say, some phase boundary is reached), default agreement occurs (Preminger 2011).

**Implication:** Agree targets the first encountered matching goal. This will often result in agreement with the highest nominal, if, for example, there are two possible agreement targets.

**Some Potential Points of Variation:**
- How Goals (aka “interveners”) which match only partially in phi-features are dealt with, e.g. does a probe end its search and take default agreement, or does it continue onwards, perhaps with some features stripped away?
- What can serve as a potential Goal/Intervener – PPs, DPs, anything with a phi-feature?

**Order of operations:**

1. “Oblique/inherent” cased nominals are embedded in PPs during structure building. These nominals are invisible for agreement and do not enter into the case calculation.

2. Agree occurs upon Merger for Probes. Agree can only target those nominals which have not yet been cased.

3. Dependent case assignment applies at Spell-Out (Baker in progress), assigning the so-called structural cases (nominative, accusative, ergative, absolutive)

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3 Aspects of Chomsky’s theory which are not adopted here:

i. Case is assigned during agreement.

ii. The Activity Condition on goals (i.e. Goals carry an unvalued feature (usually case) which makes them active). See Nevins (2004), Carstens (2010), and Diercks (2012) for some discussion of this condition.
3. Case-agreement aligning languages

3.1 Polish: Accusative agreement with accusative case

Case system: Nominative, Accusative, Genitive, Dative, Locative, Instrumental
Agreement system: Accusative (subject agreement; nominative arguments only)

Predictions:
- Agreement occurs with the highest non-case-marked element. Subjects are generated higher than objects, so they are the predicted agreement target.
- In transitives, dependent case marks the lower argument accusative and the higher argument nominative; in intransitives, underlying subjects and objects are nominative.

(a) Transitive

(b) Unergative intransitive

(c) Unaccusative intransitive

Unergative Intransitive:

(5) On biegł.
    He,NOM ran.3.M.SG
    ‘He ran.’

Unaccusative Intransitive:

(6) On przybył.
    He,NOM arrived.3.M.SG
    ‘He arrived.’
Transitive (no PP-embedded object):

(7) On widział mnie.

He.NOM saw.3.SG.M me.ACC

‘He saw me.’

Transitive (PP-embedded object):

(8) On kierował studentami.

He.NOM directed.3.SG.M students.INST

‘He directed the students.’

Evidence for the PP-status of the Instrumental: Negation marks objects as genitive if they have a “structural” case. It has no effect on PP cases. The object of (8) patterns with PPs.

(9) a. On nie widział dziewczyny / *dziewczynę.

He.NOM not saw.3.SG.M girl.GEN / *girl.ACC

‘He did not see the girl.’

b. Deszcz nie padał trzy godziny / *trzech godzin.

Rain.NOM not fall.3.M.SG three.ACC hours.ACC / *three.GEN hours.GEN

‘The rain was not falling (for) three hours.’ (Willim 1990: 211)

(10) On nie kierował studentami / *studentów.

He.NOM not directed.3.SG.M students.INST / *students.GEN

‘He did not direct the students.’

Thus, this model can account for the basic patterns in Polish. Now let us consider a more intricate case, involving passivization.
Passivization: Involves the linking verbs zostać ‘to get, become’ or być ‘to be’, a passive participle, demotion of the subject, and promotion of the object:

(11) a. Jan czyta książkę.
    John.NOM read.3.SG book.ACC
    ‘John is reading a book.’

b. Książka jest czytana przez Jana.
    Book.NOM is read.PASS by John.ACC
    ‘The book is being read by John.’ (Swan 2002: 312)

• Agreement: The subject is embedded in a PP and invisible to Agree. Agree thus, targets the object / derived subject.

• Case: The subject is embedded in a PP and does not interact with the case computation. Case, thus, marks the remaining nominal (object / derived subject) as nominative.

Now, compare this to the impersonal passive, where accusative case marking is retained:

(12) Wodę się gotowało.
    Water.F.SG.ACC SIE boiled.3.N.SG
    ‘Water was being boiled.’ (Swan 2002: 317)

• The Impersonal Construction: (a) Accusative present
  (b) Się present
  (c) Default agreement on the verb (Dziwirek 1990)

• Problems: (1) Accusative case occurs without nominative case.
  (2) Agreement predicted to target the accusative (since agreement occurs before accusative case marking in this system).

• Solution: There is a null subject present in the structure (Kibort 2008, Krzek 2011). This subject interacts with case assignment and agreement. It enters into the case calculation and gets nominative case, hence the accusative on the object, and is phi-defective, hence the default agreement. The object stays lower than this subject, in the canonical object position.

Evidence for the low position of the object

• Applying the negation test, the accusative wodę becomes the genitive wody (compare with the passive). This suggests that it sits low, within the scope of negation:

(13) a. Wody się nie gotowało.
    Water.F.SG.GEN SIE not boiled.3.N.SG
    ‘Water was not being boiled.’

b. Książka nie jest czytana przez Jana.
    Book.NOM not is read.PASS by John
    ‘The book is not being read by John.’

4 See also Klockmann (2014) for a similar example involving Polish numerals. There, the numeral is taken to be defective, lacking in gender, which leads to default agreement. If the probe attempts to agree with a defective target, it is unable to value all of its features, and this forces it to surface with a default (Preminger 2011).
• The raising verb zdawać ‘seem’ cannot raise the accusative (compare with the passive). Again, this suggests that it sits low:

(14) a. *Wodę zdawało się gotować.
    Water.F.SG.ACC seemed.3.N.SG SIE to.boil
    ‘Water seemed to be being boiled.’

b. Książka zdawała się być czytana przez Jana.
    Book.NOM.F.SG seemed.3.F.SG SIE to.be read.PASS by John.
    ‘The book seems to be being read by John.’

The accusative wodę presumably sits in object position.

Evidence for the presence of a subject (Kibort 2008; Krzek 2011):

• Agent oriented adverbials are permitted:

(15) Jadło się celowo dużo malin.
    Ate.3.N.SG SIE on.purpose a.lot.of.ACC raspberries.GEN
    ‘One ate a lot of raspberries on purpose.’ (Krzek 2011: 69)

• Nominative subjects and oblique by-phrases are blocked:

    Girl.F.SG.NOM boiled.3.N.SG SIE water.F.SG.ACC
    (intended) ‘The girl boiled the water.’

b. *Wodę się gotowało przez dziewczynę.
    Water.F.SG.ACC SIE boiled.3.N.SG by girl.F.SG.ACC
    (intended) ‘Water was boiled by the girl.’

• Reflexives and reflexive possessive pronouns are permitted in the construction. This also tells us that there is a c-command relation between this null subject and the object.

(17) a. Maluje się całego siebie od stóp do głów.
    Paint.3.SG SIE whole.M.ACC self.ACC from feet.GEN to heads.GEN
    ‘One covers oneself with paint from head to foot.’ (Kibort 2008: 272)

b. Nie niszczyło się swoich dokumentów.
    Not destroyed.3.N.SG SIE own[REFL].M.PL.GEN documents.M.PL.GEN
    ‘One did not destroy one’s documents.’ (Kibort 2008: 272)

Kibort (2008) and Krzek (2011) take this as evidence for a null subject in this construction.

Thus, case and agreement proceed as follows:

• Agreement: Agree targets the null subject, which we know to c-command the object (cf. (17)). The null subject is phi-defective (Krzek 2011), so default agreement occurs.

• Case: There are two elements in the case computation – the null subject and the object. The null subject c-commands the object, so the object becomes accusative (see Baker (in progress) for more on the interactions of null arguments with dependent case).
3.2 Hindi: Ergative agreement with ergative case

• Hindi: Agreement with absolutive arguments only:

(18) a. Raam baazaar gayaa. Agreement with absolutive subject
   RaamABS market go.PAST.M.SG
   ‘Raam went to the market.’

   b. Raam-ne roTii khaayii thii. Agreement with absolutive object
      Raam-ERG breadF.ABS eat.PERF.F be.PAST.F
      ‘Raam had eaten bread.’

   c. BaccoN-ne siitaa-ko dekhaa thaa. Default agreement (no absolutive)
      childrenM-ERG SitaF-DAT see.PERF.M.SG be.PAST.M.SG
      ‘The children had seen Sita.’ (Mahajan 1990: 73)

• Verbs with optional ergative marking – agreement targets the highest argument:

(19) a. Us-ne yah baat səәmjhiī. Object agreement – ERG present
   He-ERG(M) this matter.F understand.PERF.F
   ‘He understood this matter.’

   b. Vo yah baat səәmjhaa. Subject agreement – ERG absent
      He.M this matter.F understand.PERF.M
      ‘He understood this matter.’ (Mahajan 2012: 207)

Proposal:
➢ Ergative nominals are embedded in PPs and thereby invisible to agreement (see also Woolford (2006), Legate (2008), and Mahajan (2012) on ergative as “inherent” case).
➢ This predicts an ergative agreement pattern as follows:

(20) (a) Transitive

(b) Unergative intransitive

(c) Unaccusative intransitive

➢ When both subject and object are embedded in PPs, we expect default agreement:

(21) Semi-transitive: Ergative subject and dative object
Case: PP-embedded nominals do not factor into the case computation. Thus, absolutive is predicted for transitive objects and intransitive subjects.

What evidence do we have for the PP-nature of ergative case in Hindi?

- **Empirical argument**: Mahajan (1997) cites the following: (a) the ergative marker can be separated from the nominal by an emphatic marker and (b/c) it surfaces after a set of coordinated nominals:

(22)  a. Raam-hii-ne / us bacce-hii-ne.  
     Ram-EMPH-ERG / that boy-EMPH-ERG
  b. Raam or siitaa-ne / us bacce or us baccii-ne  
     Ram and Sita-ERG / that boy and that girl-ERG
  c. Uske pitaa yaa bhaaii-ne  
     her/his father or brother-ERG

- **Theoretical argument**: Woolford (1997) suggests that inherent ergative fills in a theoretical gap, i.e. there are inherent goals/experiencers (dative) and themes (accusative), but not yet any inherent agents.

*Question*: What could there be that selects for an inherent subject in transitive clauses but not intransitive clauses?

*Answer*: Some languages have transitivity morphemes, which serve to indicate that a clause is transitive. These morphemes do not occur in intransitive clauses.

(23) **Bardi** (*Nyulnyulan language of Australia*)
  a. Aalin-nim i-rr-o0-moogar-n maalbarnd-0 garndi.  
     Sea.eagle-ERG 3-AUG-TR-make-CONT nest-ABS on.top rock.LOC
     ‘Eagles make their nests on top of rocks.’ (Bowern 2012: 468)
  b. I-m-boonkoonkooma-na jiirlanboo.  
     3-PST-swell.up-REM.PST porcupine.fish
     ‘The porcupine fish swelled up.’ (Bowern 2012: 463)

(24) **Garifuna** (*Arawakan language of Central America*)
  a. Éiha n-umu-tibu.  
     See P1.SG-AUX.TR.NFUT-T2.SG
     ‘I see you.’ (Barchas-Lichtenstein 2012: 166)
  b. Òumuga-tina.  
     Sleep-T1SG
     ‘I sleep.’ (Barchas-Lichtenstein 2012: 172)

Such morphemes could indicate the presence of a transitive head which is responsible for selecting for an ergative PP. See Chomsky’s work for similar ideas involving transitive v*.

### 3.3 Icelandic

- Icelandic is generally an aligning language, with nominative-accusative case and agreement with nominative subjects:
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(25) Við kusum stelpuna.
    We.1.PL.NOM elected.1.PL girl.ACC
‘We elected the girl.’ (Sigurðsson 1992: 2)

• But, under special circumstances, it resembles Hindi:

(26) Konunginum voru gefnar ambáttir.
    King.M.SG.DAT were.3.PL given.F.PL slaves.F.PL.NOM
‘The king was given maidservants.’ (McFadden 2004: 25)

(27) DP\textsubscript{DAT} V\textsubscript{3.PL} \text{Participle}\textsubscript{F.PL} DP\textsubscript{NOM}

\text{Agree}

• Taking the Icelandic dative to be a PP case (see Alexiadou, Anagnostopoulou, and Sevdali 2013):
  o Agreement bypasses the dative subject to target the unmarked object.\textsuperscript{5}
  o Case: There is only one element in the case computation, hence the nominative.

4. Case-Agreement Non-Alining Languages

4.1 Bardi (Nyulnyulan language of Australia): Accusative agreement, ergative case

• Bardi: Subject agreement with ergative and absolutive subjects:

   I\textsubscript{ABS} 1SG-call.out-CONT
   ‘I’m calling out.’

b. Ngayoo-nim nga-na-m-boo-n=irr.
   I-ERG 1SG-TR-PAST-spear-REMOTE\textsubscript{PAST}=3PL(DO)
   ‘I was spearing them.’ (Bowern 2012: 395)

Proposal:
   ➢ Case: Dependent case marks the higher argument ergative and the lower argument absolutive in transitive clauses; in intransitive clauses, underlying subjects and objects are absolutive. The ergative here is crucially different from the ergative in Hindi.
   ➢ Agreement: Occurs with the highest unmarked nominal, the subject.

\textsuperscript{5} The facts of object agreement are more intricate – 1\textsuperscript{st} and 2\textsuperscript{nd} person DP objects are not allowed:

(i) a. *Honum likum við.
   Him.dat like.1.pl we.nom
   Intended: ‘He likes us.’

b. *Honum likíð þið.
   Him.dat like.2.pl you.nom.pl
   Intended: ‘He likes you(pl).’ (Sigurðsson and Holmberg 2008: 254)

This suggests the dative does interact with agreement. Alexiadou, Anagnostopoulou, and Sevdali (2013) suggest a typology in which certain PPs can interact with agreement, depending on whether they carry phi-features (via agreement with the encapsulated DP) or undergo P-incorporation.
4.2 Bantawa (Sino-Tibetan): Multiple agreement, ergative case

- **Case**: Ergative-Absolutive
- **Agreement**: Complex system involving subject-encoding prefixes (= accusative agreement) and subject/object-encoding suffixes which are sensitive to a person hierarchy (1 > 2 > 3) and a number hierarchy (plural > dual > singular) (Doornenbal 2009).

(30) cʰoŋwa-ci mɨ-han-yaŋ.
Bird-PL 3.PL-talk-PROG
‘The birds are talking.’ (Doornenbal 2009: 59)

(31) naŋ-ʔa i-catt-a-ŋ⁶
Hailstone-ERG 3AM-hit-PT-1SG
‘A hailstone hit me.’ (Doornenbal 2009: 122)

- **Proposal**:
  - **Case**: Ergative and absolutive case are assigned after agreement, through the dependent case mechanism, as in Bardi.
  - **Agreement**: Both subjects and objects are agreement targets. The complexity of the agreement system suggests that (a) we are dealing with multiple agreement probes and (b) some of these probes are specified, *a la* Béjar (2003), leading to person and number hierarchy effects.

  - For example, we might expect agreement probes to function something like in (32) (but more research is still necessary to understand the intricacies of the interaction between phi-features and agreement in Bantawa).

(32) (a) Transitive    (b) Unergative intransitive    (c) Unaccusative intransitive

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⁶ AM refers to “third person agent in marked scenarios” according to Doornenbal (2009: 153); in this context, it occurs due a third person plural agent acting on a first person singular patient.
Let us now consider a specific construction in Bantawa: the antipassive.

**Antipassives:**

- **Passives vs. antipassives:** Valency reducing operations (Blight 2004), which involve either demotion of the subject (passive) or demotion of the object (antipassive).

**Passive:** The dog bit the man.  ⇒ The man was bitten (by the dog).

**Accusative:**
- $S_{NOM} \ V \ O_{ACC}$  \ $O_{NOM} \ V$

**Ergative:**
- $S_{ERG} \ V \ O_{ABS}$  \ $O_{ABS} \ V$

**Antipassive:**
- The man shot the deer  ⇒ The man shot at the deer.
- The man ate the apple  ⇒ The man ate.

**Accusative:**
- $S_{NOM} \ V \ O_{ACC}$  \ $S_{NOM} \ V$

**Ergative:**
- $S_{ERG} \ V \ O_{ABS}$  \ $S_{ABS} \ V$

- **Accusative Languages:** Passives lead to a visible change in case; antipassives do not.
- **Ergative Languages:** Antipassives lead to a visible change in case; passives do not.

- Both systems are accounted for under dependent case, since the valency change from 2 to 1 induces an ergative/accusative to absolutive/nominative change (visible with subject demotion in accusative languages and object demotion in ergative languages).

**Implicit antipassive in Bantawa:**

- Verbs conjugate intransitively rather than transitively; case marking is not affected.

(33) a. $c^h{oʔ-u-ŋ}$  \ *Transitive active*

Plough-3-1SG
‘I ploughed it.’

b. $c^h{oʔ-a-ŋ}$  \ *Intransitive (implicit) antipassive*

plough-PT-1SG
‘I have been ploughing’ (Doornenbal 2009: 223)

(34) a. $i^k^{h}ot \ uʔ-u-k^{h}o$  \ *Transitive active*

His/her-skin peel-3-see:3
‘(Imperative) Peel off the skin’ (literally: peel its skin and see, i.e. finish it)

b. $iŋka-ʔa \ uʔ-a-ŋ$  \ *Intransitive (implicit) antipassive*

I-ERG peel-PT-1.SG
‘I peeled (it).’ (Doornenbal 2009: 223)

- Objects can be mentioned in antipassives, although this depends on the specificity of the object, and whether the action has been completed (Doornenbal 2009):

(35) $ŋa \ laʔ-a-ci-ʔa$.

Fish catch-PT-DU-EX
‘We (dual, exclusive) went fishing.’ (Doornenbal 2009: 223)

- **Important Point**: A Minimalist approach might claim that transitive T assigns ergative case and intransitive T assigns absolutive case. Bantawa antipassives are problematic because ergative case still appears even with intransitive agreement.

- **Proposal**:
  - **Agreement**: Transitive clauses have two agreement probes and intransitive clauses one. Antipassives are characterized by having only a single agreement head, giving rise to an intransitive conjugation.
  - **Case**: Dependent case remains unaffected by the agreement. With two arguments available, ergative marks the subject and absolutive the object.

- **Insight**: We see a dissociation where changes in the agreement pattern do not lead to changes in the case pattern. This supports the hypothesis that case and agreement are instantiated through separate systems.

**Explicit antipassive in Bantawa**:

- Characterized by a marker $k^h a$ in the object position and intransitive agreement.

(36) a. nam-ʔa mɨ-hɨt-yəŋ.
   Sun-ERG 3PL-scorch-PROG
   ‘The sun is scorching us.’

b. nam-ʔa $k^h a$ hɨt-yəŋ.
   Sun-ERG ANTP scorch-PROG
   ‘The sun is scorching.’ (Doornenbal 2009: 226)

- **Proposal**:
  - **Agreement**: Explicit antipassives carry only a single agreement probe, hence the intransitive agreement.
  - **Case**: Dependent case involves the expletive object. With two arguments in the case computation, ergative and absolutive marking appear.

5. **Modeling the variation in other case-agreement systems**:

5.1 **Considering language universals**

Languages with ergative agreement and accusative case have been proposed not to exist. Such a language would look like the following:

(37) (a) Transitive (b) Unergative intransitive (c) Unaccusative intransitive
Such a system is not derivable under the current hypothesis:

- Nominative case is never an oblique/inherent case, i.e. never a PP case. Thus, it is always assigned through the dependent case mechanism.
- Being an unmarked nominal, the subject is a viable agreement target in a nominative-accusative system, and must thereby be the agreement target.
- (36a) skips over the subject. This is impossible, by locality considerations.
- Hence, such languages cannot be derived under the current hypothesis.

Deal (to appear) cites two counterexamples in the literature to this universal:

**Kutchi Gujarati, family Indo-Aryan (Patel 2007), past perfectives:**

(38) a. Reena aav-i
    Reena.NOM came-F.SG
    ‘Reena came.’

b. Reena chokra-ne mar-ya.
    Reena.NOM boys-ACC hit-PFV.M/N.PL
    ‘Reena hit the boys.’ (Deal to appear: 16)

**Canela, family Jê (Gildea and Castro Alves 2010), pronouns:**

(39) a. wa ha i-wřik nare.
    1 IRR 1-descend NEG
    ‘I will not descend.’

b. wa ha iʔ-pɨr na.
    1 IRR 3-grab.NF NEG
    ‘I will not grab it (e.g., the knife). (Deal to appear: 16)

**Question:** How could this system be modeled?

**Solution:**

- We have assumed T to carry the main agreement probe so far.
- Bantawa showed that we can have multiple agreement probes.
- Suppose an agreement probe can sit between S and O, for example on ν (cf. Bejar 2003 on Georgian and Nishnaabemwin (Algonquian)).
  o **Blackfoot (Algonquian):** Nominative-accusative agreement on T. But, verb stems show an ergative agreement pattern in marking animacy:
We would get ergative agreement as follows (assuming Cyclic Agree (Rezac 2003)):

\[(41)\] (a) Transitive (b) Unergative intransitive (c) Unaccusative intransitive

\[\begin{align*}
\text{TP} & \quad \text{TP} & \quad \text{TP} \\
T & \quad T & \quad T \\
vP/VP & \quad vP/VP & \quad vP/VP \\
S & \quad S & \quad S \\
& \quad \phi & \quad \phi \\
& \quad O & \quad O \\
\end{align*}\]

- Béjar (2003) proposes that \(v\) can only carry an agreement probe if \(T\) also carries one.
  - This is in line with the proposed universal that a language only allows object agreement if it also allows subject agreement.
- This may explain the cross-linguistic rarity of systems like (38), i.e. if such systems can only arise when a very specific set of conditions are met (needs further research).

### 5.2 What determines the variation in case-agreement systems?

So far we have seen variation involving:

i. **Dependent case system**: ergative-absolutive, nominative-accusative, none, etc.
ii. **Distribution of PPs**: determines possible agreement targets, and the number of elements in consideration for dependent case assignment
iii. **Distribution and number of agreement probes**: \(T\), \(v\), \(T\) and \(v\), etc.
iv. **Transparency of PPs**
v. **Behavior of agreement probes with interveners**

Together this allows for a complex system which can be adapted to other language systems, a point I leave for future research.

### 6. Conclusion

By treating case and agreement as separate systems which interface due to operating on the same structures, we are better able to model the wide range of variation found in systems of case and agreement among the world’s languages. There are a number of pieces of the puzzle...
which need to be worked out, but I hope this can provide promising insight into systems of case and agreement.

**Appendix I: Case-Agreement Systems among the World’s Languages**

Types of case systems (WALS - Comrie 2013a, 2013b):

Using: A=transitive subject, O=transitive object, S=intransitive subject

1. **Neutral**: No case marking
2. **Nominative-accusative**: A and S unmarked (nom), O marked (acc)
3. **Marked nominative-accusative**: A and S marked (nom), O (un)marked (acc)
4. **Ergative-absolutive**: S and O unmarked (abs), A marked (erg)
5. **Tripartite**: S, A, and O marked differently (S=nom/abs, A = erg, O = acc)
6. **Active-Inactive**: Unergative S and A marked one way, unaccusative S and O another

Types of agreement systems (WALS – Siewierska 2013):

Using: A=transitive subject, O=transitive object, S=intransitive subject

1. **Neutral**: No agreement
2. **Accusative**: S and A treated together, O treated differently
3. **Ergative**: S and O treated together, A treated differently
4. **Tripartite**: S, A, and P treated differently
5. **Active**: S sometimes treated with A, sometimes with O
6. **Hierarchical**: Treatment depends on, for example, person ranking
7. **Split**: Combinations of alignments, alignments being triggered by specific conditions

Looking at the interaction of these, the following case/agreement systems are identified in the WALS (glossing over the differences between full nouns and pronouns):

**Table 1: Cross referencing agreement (vertical) and case (horizontal) systems**

<table>
<thead>
<tr>
<th></th>
<th>Neutral</th>
<th>N-A</th>
<th>M N-A</th>
<th>E-A</th>
<th>Tri</th>
<th>A-I</th>
<th>Other</th>
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<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

*Other: Refers to splits in the case systems between pronouns and full nouns. The following splits were found: erg-abs NPs & nom-acc pronouns (no agreement) = 1, marked nom-acc NPs and nom-acc pronouns (accusative agreement) = 2, erg-abs NPs & nom-acc pronouns (accusative agreement) = 1, erg-abs NPs & nom-acc pronouns (split agreement) = 3*

**References**


