

# Agree and ergative case-marking in Hindi and Nez Perce

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## 1. Introduction

By adopting a revised definition of Agree and relying on feature valuation at phase closure as a criterion for convergence, ergative case phenomena in two unrelated languages can be unified under a single analysis. Revised Agree states that

- 1) all features on all functional heads act as probes;
- 2) all features on a head probe in tandem;
- 3) Agree may take place if a given feature is valued on either the probe or the goal;
- 4) a probe Agrees with its maximally compatible goal, even if it is more distant.

This formalism eliminates the need for “punting” in Hindi (Anand and Nevins 2006) and extrasyntactic case-marking in Nez Perce (Deal 2010).

## 2. A revised Agree formalism

### 2.1. Possibilities for Agree

Given two items in a Probe ~ Goal relationship, there are five logically possible ordered pairs of feature values. An underscore represents an unvalued feature.

Exact match	[A] ~ [A]	?
Low value	[ ] ~ [A]	✓
High value	[A] ~ [ ]	✓
No value	[ ] ~ [ ]	✗
Value mismatch	[A] ~ [B]	✗

**Exact Match** is the relationship required for the original formulation of Agree as defined in Minimalist Inquiries (Chomsky 1998). Under MI, all features are valued before entering the derivation, either *inherently* in the lexicon or *dynamically* during the selection process.

Additionally, the probe must bear an uninterpretable feature [uA] and the goal must bear an interpretable feature [iA]. Derivation by Phase (Chomsky 1999) eliminates the u/i diacritic, equating uninterpretability with absence of value.

- (1) A feature F is uninterpretable iff F is unvalued.

Pesetsky (2005) calls this biconditional definition “odd” and argues against it. The oddity is that it forces Agree to be fundamentally asymmetric by barring valued features on probes.

**Low value** is the canonical configuration for phi-feature Agree under DBP.

When Agree takes place, the value on the goal is copied and fills the unvalued “slot” on the probe.

$$(2) \quad [\_ ] \sim [A] \longrightarrow [A] \sim [A]$$

**High value** is the configuration used to enforce structural case “assignment” using Agree.

A functional head, such as T or *v*, bears a valued case feature; it probes to find a DP with an unvalued case feature; by Agree, the case value is copied to the DP.

$$(3) \quad \text{Case}[\text{NOM}] \sim \text{Case}[\_] \longrightarrow \text{Case}[\text{NOM}] \sim \text{Case}[\text{NOM}]$$

**No value** configurations are used by Frampton et al. (2000) for case assignment, since they adopt (1), barring the high value configuration.

This requires that feature valuation is not done by copying, but an independent “side effect”.

I argue that side effects lie outside the narrow syntax and should be avoided. Thus the no value configuration is essentially the absence of Agree.

**Value mismatch** uncontroversially bars Agree between the two elements in question.

But should the probe continue to search for another goal when a mismatch occurs?

If  $f[A]$  is the only feature on the probe, the derivation should crash. However, if it is probing in tandem with other features, they can continue to search for a compatible goal lower in the structure.

## 2.2. Two ways of valuing Case[ ]

**Structural case** is valued by Agree in the high value configuration.

**Inherent case** is valued on the Spec of the inherent case assigner at time of merge. This type of agreement in a sisterhood relation can only occur with *lexically specified* features on the head, and only with an *externally merged* Spec.

There is no method of “upward” case assignment (cf. Marantz 1991). Case[ ] is valued either in a sisterhood (set-member) or c-command (Probe ~ Goal) relation. Both relations are minimal in the strict sense as defined by Chomsky (2004).

Ontologically, there is only a single type of Case[ ] feature, which is manipulated by both processes.

As a result, Agree operations can be affected by the presence of inherently valued Case[ ] features.

## 2.3. Handling phase closure

Both high feature and low feature configurations seem essential to derivations.

As such, the uninterpretable/interpretable distinction for features should be eliminated entirely.

In all of Chomsky’s accounts, *unchecked uninterpretable features* are what cause derivations to crash. This in effect requires two levels of diacritic marking (u/i and checked/unchecked).

I argue that neither is necessary. Crashes can be determined solely by feature valuation.

(4) **Condition for convergence at phase closure**

At phase closure, if there is an unvalued feature  $f[_]$  on the phase head or any element in its complement domain, the derivation crashes; otherwise it converges.

The definition in (4) allows all types of agreement possible in a u/i system, while allowing additional possibilities, namely:

(5) **High features need not Agree**

A valued (high) feature need not enter an Agree relationship for the derivation to converge.

(6) **Maximize Agree**

A probe searches its entire complement domain, and Agrees with the goal that bears the most compatible features. If two goals are equally compatible, the probe Agrees with the nearer one.

### 3. Ergative patterns in Hindi

#### 3.1. Types of Hindi ERG marking

Hindi has two case patterns with an ergative-marked subject: ergative-nominative and ergative-objective. Additionally, there are passive clauses with nominative subjects.

(7) Raam-ne rotii khaayii  
Raam-ERG bread-NOM eat-PAST.FEM  
“Ram ate bread.”

(8) Raam-ne rotii-ko khaayaa  
Ram-ERG bread-OBJ eat-PAST.DEF  
“Ram ate the bread.”

(9) rotii khaayii gayii  
bread-NOM eat-PERF go-PERF  
“The bread was eaten.”

(Anand and Nevins 2006, ex. 29, 30, 32)

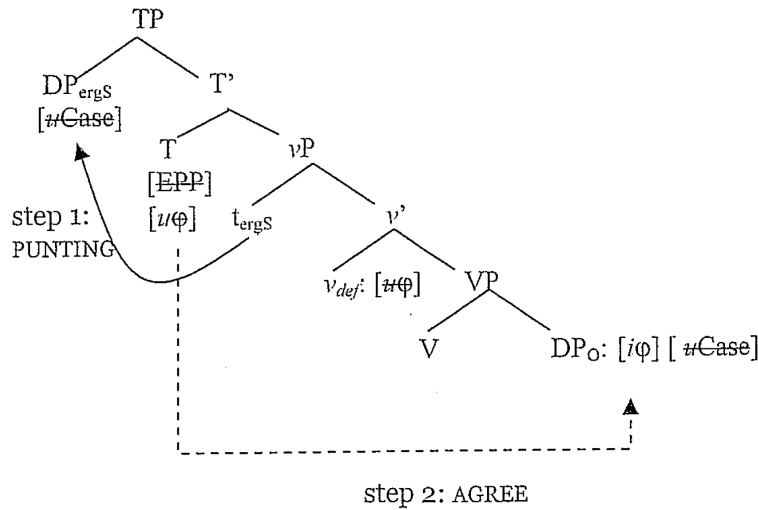
ERG and OBJ are inherent cases, while NOM is a structural case.

NOM, like all structural cases, is assigned via Agree in the high feature configuration.

#### 3.2. Against the “punting” analysis for ERG-NOM

Anand and Nevins (2006) claim that the ERG subject must be “punted” – raised above T – in order to allow T to Agree with the object DP and value its case feature [NOM].

(10)



(Anand and Nevins 2006, ex. 34)

To do so, the EPP property of T must operate separately from and prior to phi-Agree. This is problematic for several reasons:

- EPP is treated as a feature, despite the fact that EPP cannot be valued/unvalued and does not find a corresponding feature on a goal.
- Movement for EPP satisfaction ordinarily must follow or occur in conjunction with Agree, not precede it (Chomsky 2005; Mensching and Remberger 2006). Even optionality of order between EPP and Agree overgenerates in English raising constructions:

- (11)
- |    |                                 |                          |
|----|---------------------------------|--------------------------|
| a. | *It seem [the men] to be smart. | (EPP by Merge, Agree)    |
| b. | [The men] seem to be smart.     | (EPP by Move, Agree)     |
| c. | It seems [that John is smart].  | (EPP by Merge, no Agree) |
| d. | *[That John is smart] seems.    | (EPP by Move, no Agree)  |

Punting can be avoided entirely under my revision of Agree.

- T bears Case[NOM] and unvalued phi features, which probe in tandem.
- The first potential goal is DP<sub>S</sub>, but it is inherently valued Case[ERG], a mismatch.
- The next potential goal is DP<sub>O</sub>. It bears Case[\_] and valued phi features. Despite being the more distant phi-compatible goal, all features Agree with DP<sub>O</sub> under Maximize Agree.

A similar analysis can also account for “long-distance agreement” into embedded infinitivals.

- (12)
- |                             |           |           |               |  |
|-----------------------------|-----------|-----------|---------------|--|
| Firoz-ne                    | [rotii    | khaa-naa] | chaah-ii      |  |
| Firoz-ERG                   | bread.FEM | eat-INF   | want-PAST.FEM |  |
| “Firoz wanted to eat bread” |           |           |               |  |
- (Boeckx 2004, ex. 11)

## 4. Ergative patterns in Nez Perce

Nez Perce has two major case-marking patterns in transitive active clauses: ERG-OBJ and “caseless”.

The caseless pattern breaks into two classes: “antipassives” (14) and “extended reflexives” (16).

NB: What Deal glosses as OBJ is taken to be a structural case.

(13) 'ip-ním pée-qn'i-se qeqíi-ne  
3SG-ERG 3/3-dig-IMPF root-OBJ  
“He digs qeqíit roots.”

(14) 'ipí hi-qn'íi-se qeqíit  
3SG 3SUBJ-dig-IMPF root  
“He digs qeqíit roots.”

(15) pit'íin-im páa-'yax-na picpíc-ne  
girl-ERG 3/3-find-PERF cat-OBJ  
“The girl found the cat.”

(16) pit'íin hi-'yáax-na pícpic  
girl 3SUBJ-find-PERF cat  
“The girl found her cat.”

(Deal 2009, ex. 13–14)

Deal correctly observes that object agreement (manifested in the portmanteau 3/3 morpheme) is correlated with the ERG-OBJ pattern.

Deal dismisses previous analyses that rely on what she calls the “agreeing  $\nu$  hypothesis”.

### (17) Agreeing $\nu$ hypothesis

The difference between transitive and intransitive clauses lies in the syntax of the  $\nu$  head only.

Transitive  $\nu$  but not intransitive  $\nu$  participates in object agreement and assigns/licenses ergative case to its specifier. (Deal 2010, ex. 65)

Her main evidence comes from causatives, which have three arguments: typically an ERG subject, an OBJ causee, and an OBJ or caseless subject.

(18) Harold-nim pée-sepe-wemsi-se sík'em Lini-ne  
Harold-ERG 3/3-CAUSE-borrow-IMPF horse Lindy-OBJ  
“Harold is having Lindy borrow a horse (lending a horse to Lindy).” (Deal 2010, ex. 69)

If the clause has two identical occurrences of  $\nu^0$ , an ERG causee should be possible, but is not.

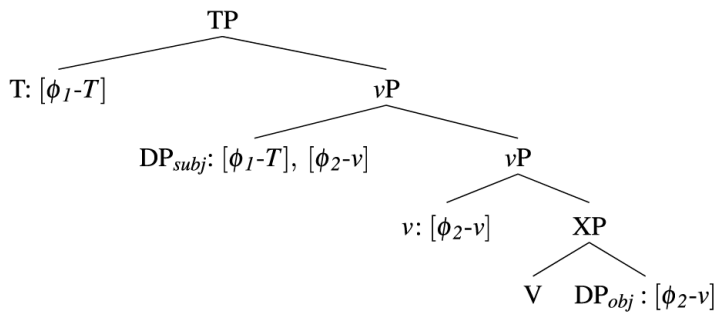
(19) [<sub>VP</sub> causer  $\nu^0$  [<sub>CauseP</sub> Cause<sup>0</sup> [<sub>VP</sub> causee  $\nu^0$  [<sub>VP</sub> V object]]]] after (Deal 2010, ex. 71)

Deal's solution is that ERG cannot be determined by properties of  $\nu$ , and must be marked by a post-syntactic process that examines features of both T and (high)  $\nu$ .

### (20) Transitive subject condition on Nez Perce ergative

The ergative case is realized on the nominal agreeing with T just in case it originates in a vP whose head has fully-valued  $\phi$ -features. (Deal 2010, ex. 72)

(21)



(Deal 2010, ex. 77)

This analysis has several faults on a minimalist view:

- It relies on generalized Spec/head feature sharing between DP<sub>S</sub> and *v*. The phi features on *v* are not lexically specified, but dynamically valued by Agree with DP<sub>O</sub>.
- As a result of this sharing, DP<sub>S</sub> bears both subject and object phi features. While this is not uncommon on verbal heads (in fact it must be necessary for portmanteau S/O agreement), it is strange on a nominal.
- Case as a feature no longer plays a role. However, this type of postsyntactic case marking is even further divorced from the syntactic computation than the “side effect” method of Frampton et al., as it is not directly related to an Agree operation. Furthermore, how are other, structural cases to be assigned?

I contend that the presence of Cause<sup>0</sup> is what permits two “flavors” of *v*, with different properties.

**Selected *v*** heads *v*P selected as the complement of CauseP, and is not an ERG assigner.

**Free *v*** occurs above CauseP or in non-causatives, and is an ERG assigner.

Both flavors are valued Case[OBJ], but whether that feature Agrees depends on its potential goals.

## 5. Agree and DP structure

For Hindi ERG-OBJ patterns, there is no case agreement between T and an argument DP.

Anand and Nevins require a non-agreeing T<sub>checked</sub> head to be selected to avoid a crash.

However, there is definiteness agreement even in these cases (7).

- (7) Raam-ne rotii-ko khaayaa  
Ram-ERG bread-OBJ eat-PAST.DEF  
“Ram ate the bread.”

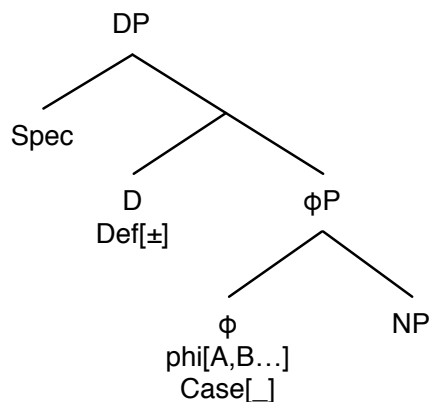
T<sub>checked</sub> also poses problems for intransitives. Since it does not enter any Agree relationship, it is blind to all DP arguments. Thus, selecting T<sub>checked</sub> in an intransitive could lead to unattested constructions, such as OBJ-marked subjects of unaccusatives.

Deal analyzes Nez Perce “antipassives” as a type of covert incorporation, which can only occur with bare nominals, not DP.

Nez Perce nominals may contain only an NP layer and remain caseless, unlike Hindi nominals, which have a larger minimal structure.

A properly articulated DP structure explains these facts:

(22)



- The locus of phi-features and Case[] is not D, but an intermediate φP.
- If Def[+] D<sup>0</sup> is a phase head, it can prevent case agreement. This featural determination of phase status is similar to finite vs. non-finite T.
- In DP headed by Def[+] D<sup>0</sup>, the only method of valuing Case[] on φ<sup>0</sup> is inherently.
- ERG-assigning ν<sup>0</sup> in Nez Perce bears Def[\_], enforcing co-occurrence of object agreement and ergative marking.

## 6. Conclusions and extensions

The formal modifications I have proposed explain ergative patterns in Hindi and Nez Perce in a single, narrowly syntactic account.

The interaction of inherent vs. structural valuation of Case[], plus the locus of and interactions with Case[] in an articulated DP is powerful syntactic machinery with broad descriptive coverage.

Possible extensions of this framework include applications to quirky case constructions, apparent “split” agreement between multiple arguments, and person / case effects.

## References

- Anand, Pranav, and Andrew Nevins. 2006. The locus of ergative case assignment: Evidence from scope. In *Ergativity: Emerging issues*, ed. Alana Johns, Diane Massam, and Juvenal Ndayiragije, 3–25. Dordrecht: Kluwer.
- Boeckx, Cedric. 2004. Long-distance agreement in Hindi: some theoretical implications. *Studia Linguistica* 58, 23–36.
- Bowers, John. 2010. *Arguments as relations*. Cambridge, Mass.: MIT Press.
- Chomsky, Noam. 1998. *Minimalist inquiries: the framework*. Cambridge, Mass.: MIT.
- Chomsky, Noam. 1999. Derivation by phase. *MIT Working Papers in Linguistics* 18.
- Chomsky, Noam. 2004. Beyond explanatory adequacy. In *Structures and beyond*, ed. Adriana Belletti, 104–131. Oxford: Oxford University Press.
- Chomsky, Noam. 2008. On phases. In *Foundational issues in linguistic theory: essays in honor of Jean-Roger Vergnaud*, ed. Robert Freidin, Carlos Peregrín Otero, and Maria Luisa Zubizarreta, 133–166. Cambridge, Mass.: MIT Press.
- Dayal, Veneeta. 2011. Hindi pseudo-incorporation. To appear in *Natural Language and Linguistic Theory*.
- Deal, Amy Rose. 2010. Ergative case and the transitive subject: a view from Nez Perce. *Natural Language and Linguistic Theory* 28:73–120.
- Frampton, John, Sam Gutmann, Julie Legate, and Charles Yang. 2000. Remarks on “Derivation by phase”: Feature valuation, agreement, and intervention. Ms., Northeastern University and MIT.
- Marantz, Alec. 1991. Case and licensing. In *Arguments and case*, 11–30. Amsterdam: John Benjamins.
- Mensching, Guido, and Eva-Maria Remberger. 2006. Probes: lack of agreement in Romance. In *Studies on agreement*, ed. João Costa and Maria Cristina Figueiredo Silva, 173–202. Amsterdam: John Benjamins.
- Ouali, Hamid. On C-to-T phi-feature transfer: the nature of agreement and anti-agreement in Berber. In *Agreement restrictions*, ed. Roberta D’Alessandro, Susann Fischer, and Gunnar Hrafn Hrafnbjargarson, 159–180. Berlin: Mouton de Gruyter.
- Pesetsky, David. 2005. The syntax of features and its consequences. Handout.
- Pesetsky, David, and Esther Torrego. 2004. Tense, case, and the nature of syntactic categories. In *The syntax of time*, ed. Jacqueline Guéron and Jacqueline Lecarme. Cambridge, Massachusetts: MIT Press.
- Richards, Marc. 2008a. Defective agree, case alternations, and the prominence of person. In *Scales*, ed. Marc Richards and Andrej Malchukov, 137–161. Leipzig: Universität Leipzig.
- Richards, Marc. 2008b. Quirky expletives. In *Agreement restrictions*, ed. Roberta D’Alessandro, Susann Fischer, and Gunnar Hrafn Hrafnbjargarson, 181–214. Berlin: Mouton de Gruyter.
- Řezáč, Milan. 2008. Phi-agree and theta-related case. In *Phi theory: Phi-features across modules and interfaces*, ed. Daniel Harbour, David Adger, and Susana Béjar, 130–154. Oxford: Oxford University Press.