

# Journal of South Asian Linguistics

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## **Ergative in Hindi/Urdu: reconciling the perfective oblique and the heavy imperfective analyses**

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### ABSTRACT

Careful analysis of auxiliary occurrence in Hindi/Urdu perfective and imperfective clauses suggests that Bjorkman's (2018) analysis of ergative as a perfective aspect-licensed oblique case must be located in an exploration of differences in the clause structures of perfectives and imperfectives (Coon 2013). Only the imperfective clause projects Tense and Person, crucial determinants of nominative case. The perfective clause is a participial clause. Ergative appears where nominative fails; ergative and absolutive are participial cases. The analysis suggests a potential unified source for ergative person splits and aspect splits, and that nominative languages differ from ergative languages in their uniform projection of Tense.

### **1 Introduction**

Hindi/Urdu is an aspect-split ergative language. Imperfective transitive clauses have nominative subjects, perfective transitive clauses have ergative subjects. A key difference between imperfective and perfective clauses is that the Person feature does not manifest in the perfective. In imperfective clauses, Person agreement occurs on an auxiliary. Perfective clauses have no auxiliary when understood as simple past. An auxiliary occurs in the "present perfect" or "past perfect," but it does not consistently manifest Person.

Person checking is (I argue) a crucial diagnostic of a Tense head. It distinguishes Tense from Aspect; the latter is a participial head that checks Number and Gender but not Person. I analyze the Hindi/Urdu perfective as a participial clause that lacks Tense. Tense has at least two functions: clause-anchoring, and licensing nominative case. In the perfective clause lacking Tense, nominative cannot occur, and ergative, a participial case, appears on the subject. The object may have a participial case "absolutive," but an option of accusative case is available for it (in Hindi/Urdu as in some other ergative languages). Clause anchoring is by a Temporality feature in FinP in C.

Coon (2013) makes the important point that in general in aspect-split languages, imperfectives have "greater clausal complexity" than perfectives; imperfectives instantiate an additional, finite auxiliary. Specifically with reference to Hindi/Urdu, Coon notes that imperfective clauses have an obligatory auxiliary. However, Bjorkman (2018), who proposes a "heavy perfective" analysis of ergative aspectual splits, contests Coon's analysis of Hindi/Urdu. The question of the structure of imperfective and perfective clauses in Hindi/Urdu is therefore central to two competing accounts of aspect-split ergativity. I show that the imperfective does have an obligatory auxiliary; more pertinently, the

auxiliary checks Person. The inference I draw, *contra* Coon, is not that the auxiliary disrupts “ergative alignment,” but that it assigns nominative case.

The paper is organized as follows. Section 2 reviews accounts of ergativity in Hindi/Urdu, with specific reference to the recent treatments of aspect splits mentioned above. Section 3 lays out the data for perfective and imperfective clauses. Section 4 turns to their clause structures. The lexical verb is a participle in both. The imperfective must manifest an auxiliary with a Person feature. I show that the auxiliary and imperfect participle together check the subject’s Person, and Number and Gender features, licensing nominative case. The perfective clause shows no evidence for Person-checking, except in the unaccusative clause with an imperfect auxiliary. The unmarked, agreeing internal argument of the perfect verb has (I argue) a participial case “absolutive.” Ergative case is assigned by a transitive perfect participial verb. Section 5 discusses clause anchors other than Tense, and the role of the Person feature in case-licensing. Section 6 concludes.

## 2 Ergativity in Hindi/Urdu

Aspectually conditioned ergative case in Hindi/Urdu has been treated as semantic case (or semantic and structural case) (Mohanani 1994, Butt and King 2004), structural case in the theta position (Davison 2004, Ura 2006), or inherent/lexical case (Anand and Nevins 2006; Mahajan 2012, and earlier work). Mahajan (2012) explores ergativity in the V1v2 “compound verb” construction (v2 a light verb). He motivates an ergative case-marking v shell above the external-argument introducing v, and entertains the possibility of an additional vP shell that expresses the perfectivity requirement.

Ergative languages are sometimes thought to differ in their case “alignment” from nominative languages. Their obligatory or unmarked case is said to be absolutive, which picks out the S(ubject) of intransitive and the P(atient) argument of transitive clauses. (The Hindi/Urdu unmarked object has variously been termed nominative or absolutive.) In nominative languages, the obligatory or unmarked case is nominative, assigned to the A(gent) subject of transitives and the S of intransitives. This has suggested that ergative is a dependent case like accusative (Marantz 1991), but now languages with accusative objects in the ergative clause are a problem.<sup>1</sup> Hindi/Urdu in fact requires pronominal objects in the ergative clause to have the oblique stem form and be *ko*-marked.

A more general problem for the alignment assumption is that most ergative languages are split ergative (Carnie and Cash 2006: 229); i.e. they appear to also allow non-ergative alignment. Addressing this problem, Coon (2013, and related work) develops a structural account of split ergative alignment, independent of any specific theory of ergative case assignment. The essential proposal is that “nonperfective aspects involve more complex structure than the perfective” (p.223). Coon first motivates this for Chol, a Mayan language in which the nonperfective aspect marker “serves as the matrix predicate and embeds a nominalized clause” (p.180). This breaks up a transitive clause into two intransitive case domains, precluding ergative case. The transitive subject “behave(s) as an

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<sup>1</sup> “Three-Way Languages” merit a separate section in Bittner and Hale (1996:51).

intransitive subject” of the higher intransitive predicate that realizes nonperfective aspect. The aspect-split as well as its directionality are thus explained.

Generalizing her “heavy imperfective” proposal and its auxiliary verb diagnostic to other languages, including Indo-Aryan, Coon (pp. 200-202) presents the Hindi/Urdu examples (1a-b) from Bhatt (2007) (glosses as in Coon). The imperfective (1b) has an auxiliary ‘be’ that is missing in the perfective ergative clause (1a); i.e., the imperfective is “heavy.”

- (1) a. Lataa-ji=ne            kai    gaane            gaa-ye  
 Lataa.F-Hon=Erg    many song.M.Abs. sing-Pfv.M.Pl  
 ‘Lataa-ji sang several songs.’
- b. Lataa-ji                    gaane                    gaa-tii            hě            /    thĩ:  
 Lataa.F-Hon            song.M.Abs            sing-Hab.F.    be.Pres.Pl/ be.Pst.F.Pl  
 ‘Lata-ji sings/ used to sing songs.’

Bjorkman (2018: section 6) contests both Coon’s “heavy imperfective” account of aspectual splits, and the putative contrast in auxiliary occurrence in (1a-b). She cites (2) below (=her (42), also from Bhatt 2007) to contend that “the perfect in Hindi-Urdu involves an auxiliary construction fully parallel to ((1b), RA) — but here ergative alignment is retained.” She concludes that “the presence or absence of an auxiliary cannot be a reliable diagnostic for structural ‘markedness’ ...”

- (2) Lataa-ji=ne            kai    gaane            gaa-ye            hě            /    the  
 Lataa-Hon=Erg            many song.M.Pl    sing-Pfv.M.Pl    be.Pres.Pl/be.Pst.M.Pl  
 ‘Lata-ji has/had sung several songs.’

However, Bjorkman’s observations about the data above are off the mark — she misses the fact that the imperfective necessarily carries an auxiliary ‘be.’<sup>2</sup> I show that (1b) and (2) cannot have “fully parallel” structures, because their interpretations are not parallel. Example (2) has a “relative tense” interpretation; (1b) does not (section 3). The auxiliary in (1b) but not (2) must agree for Person (section 4).

Bjorkman locates aspect-split ergativity in a typology of perfective morphosyntax. Her central proposal is that ergative is an oblique case assigned by the perfective aspectual head

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<sup>2</sup> She states that “the imperfective always requires an auxiliary in the past tense, while the perfective does not.” (p. 352; emphasis added, RA); but this is inaccurate: the imperfective requires an auxiliary in the present tense. (See also n.9 on the interpretation of the imperfective + past auxiliary.) Confusion about the auxiliary is seen also in Coon (2013: 223, n. 6). Reporting Mahajan’s confirmation (in her favour) that “while the auxiliary may be dropped in the perfective, it is obligatory in the imperfective,” she notes as a “complication” that “there is not always such a clear structural difference between perfective and imperfective forms: perfective forms may also appear with a final auxiliary.”

Asp<sup>o</sup>. This head attracts a DP to its Specifier, with one of two “morphological consequences.” It assigns oblique case to that DP, or it is realized as *have*.

There are languages where the perfective head uniformly licenses oblique case on the subject. In Hindi/Urdu, however, ergative can appear only on the external argument, i.e. the transitive/ unergative subject. This “sensitivity to argument structure” (Bjorkman shows) is precisely reflected in the realization of the perfective head as *have* in the “auxiliary-selecting” Germanic and Romance languages: transitive and unergative verbs require *have*, unaccusative verbs require *be*. Aspect-split ergativity thus arises (she claims) at the intersection of two independent properties of perfective morphosyntax: its licensing oblique subjects, and its sensitivity to argument structure.

I now turn to auxiliary occurrence in Hindi/Urdu perfective and imperfective clauses.

### 3 Auxiliary occurrence in Perfective and Imperfective clauses

Consider first unaccusative clauses. The perfective clauses in (3) have no auxiliary ‘be’ on the surface whereas an auxiliary ‘be’ surfaces in the imperfective clauses (4).

- (3) a. mĕ gir-ii / sooy-ii<sup>3</sup>  
 I(F)<sup>4</sup> fall.Pfv-F.Sg / sleep.Pfv-F.Sg  
 ‘I fell / I slept.’
- b. laṛkii gir-ii / sooy-ii  
 girl fall.Pfv-F.Sg / sleep.Pfv-F.Sg.  
 ‘The girl fell/ slept.’
- (4) a. mĕ gir-t-ii / soo-t-ii hũ  
 I (F) fall-Impfv-F.Sg/ sleep-Impfv-F.Sg be.Nonpst.1Sg.  
 ‘I fall / I sleep.’
- b. laṛkii gir-t-ii / soo-tii he  
 girl fall-Impfv-F.Sg/ sleep-Impfv-F.Sg. be.Nonpst.3Sg.  
 ‘The girl falls/ The girl sleeps.’

This difference in auxiliary occurrence is precisely what Coon refers to as the structural complexity of the imperfective vis-à-vis the perfective, to which she ascribes the aspectual ergative split. However, the fact that unaccusative clauses also (in Hindi/Urdu) differ in this way suggests that the difference in clause structure is independent of ergative

<sup>3</sup> The perfective morpheme is non-overt. The perfective verb can be distinguished from the verb stem in suppletive verbs like *jaa-* ‘go’ (pfv. stem *ga-*), or *h-* ‘be’ (pfv. stem *th-*).

<sup>4</sup> I use brackets around (F) to signify that gender is not marked on the pronoun, though gender agreement appropriately reflects the gender of the pronoun’s referent.

alignment. Note that the subject in (3) is morphologically indistinguishable from the subject in (4).

The second contrast to note between (3) and (4) is that Person agreement is seen only in (4). There is no auxiliary in the perfective clauses (3), and no Person agreement manifests. In the imperfective clause, Person agreement occurs on the auxiliary *h-* ‘be’. The same contrast in auxiliary occurrence and Person agreement is seen in unergative and transitive perfective and imperfective clauses. Cf. the paired examples (5-6) and (7-8).

(5) mē                  daṛ-i-i (unergative perfective)  
I(F)                  run.Pfv-F.Sg  
‘I ran.’

(6) mē                  daṛ-t-i-i                  hū                          (unergative imperfective)  
I(F)                  run-Impfv.-F.Sg.      be.Nonpst.1Sg  
‘I run.’

(7) a. mē=ne          roti                  khaay-i-i.                  (transitive perfective)  
I=Erg                  roti.F.Sg      eat.Pfv-F.Sg  
‘I ate roti.’

b. laṛkee=ne      roti                  khaay-i-i  
Boy=Erg          roti.F.Sg.      eat.Pfv-F.Sg  
‘The boy ate roti.’

(8) a. mē                  roti                  khaa-t-i-i                  hū                          (transitive imperfective)  
I(F)                  roti                  eat-Impfv-F.Sg be.Nonpst.1Sg  
‘I eat roti.’

b. laṛkaa                  roti                  khaa-t-aa                  hē  
boy                  roti                  eat-Impfv.-M.Sg. be.Nonpst.3Sg  
‘The boy eats roti.’

In sum, the paired examples (3-8) show that the imperfective but not the perfective clause in Hindi/Urdu is necessarily composed with an auxiliary ‘be.’ The pair (7-8) illustrates this auxiliary contrast in ergative and non-ergative clauses, illustrated earlier in (1a-b).

But auxiliary ‘be’ can and does occur in ergative clauses, as we saw at the outset in (2), and this has been a point of contention. Let us address this issue. Compare the imperfective (8a) (repeated below as (9)), which has a ‘be, non-past,’ with a version of the perfective (7a) (repeated in (10) below) that includes the same ‘be, non-past.’ It is immediately apparent from the translations that where (9) instantiates a “simple present” tense (to use a traditional label), (10) instantiates the “present perfect tense” (i.e., it instantiates a relative

or composite tense; it is a periphrastic construction). (Compare also Bhatt’s translations of (2) above.)<sup>5</sup>

(9) mĕ     roti     khaa-t     - ii     hũ.  
 I(F)     roti     eat -Impfv-F.Sg     be.Nonpst.1Sg  
 ‘I eat roti.’

(10) mĕ=ne roti     khaay     -ii     hε  
 I=Erg roti.F.Sg     eat.Pfv.-F.Sg     be.Nonpst.3Sg  
 ‘I have eaten roti.’

A standard contemporary account of the periphrastic present perfect (10) is that the auxiliary ‘be’ marks tense, and the perfect participle marks “viewpoint aspect.” It is also fairly standard to assume that the perfective verb occupies an Aspect projection.

Now if (9) were to have a structure fully parallel to (10), the imperfect participle would occupy an Aspect projection marking “viewpoint aspect,” and ‘be’ would mark tense. Assuming a consistent syntax-semantics mapping, we would expect (9) to have a relative tense interpretation (‘I am eating ...’). But (9) has the interpretation ‘I eat ...’ This shows that the structures of (9) and (10) cannot be “fully parallel,” and suggests that there is no viewpoint Aspect projection in (9).<sup>6</sup>

The issue (therefore) is not whether an auxiliary can occur in the perfective. The issue is that the imperfective cannot occur without an auxiliary. The imperfect verb+auxiliary is not understood as a relative tense; whereas the perfect verb+auxiliary must be understood as a relative tense.<sup>7</sup>

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<sup>5</sup> In a Reichenbachian account of the semantics of tense and aspect, R(eference) time mediates between S(peech) time and E(vent) time. In the simple tenses, R and E are identical. In the relative tenses, R and E are distinct. The present tense is represented as a coincidence of E, R, S, and the “present perfect” with E preceding S, R.

<sup>6</sup> Bjorkman (2018:337) considers the possibility (which could explain aspect-split ergativity) that imperfective aspect in oblique subject languages “is structurally unmarked, in the sense that imperfective clauses lack a syntactic aspectual projection altogether.” This might indeed be true of Hindi/Urdu. The progressive clause requires the auxiliary *rah* ‘stay, remain’ to follow a verb stem: *jaa rah-aa hε* ‘go.Stem stay.Pfv.-M.Sg. be.Nonpst.3Sg.’ ‘(he) is going.’

<sup>7</sup> Cf. Anand and Nevins (2006:24, n.5): “Perfective participles can be accompanied by auxiliaries, in which case they are understood as perfect, or without them, in which case they are understood as simple past.”



## 4 Tense and Finiteness in imperfective and perfective clauses

Let us now consider the structure of imperfective and perfective clauses in Hindi/Urdu, beginning with the question: why does the imperfective obligatorily surface with an auxiliary?

### 4.1 The imperfective clause

The lexical verb (or “main” verb) in imperfective as well as perfective clauses is a participle. In perfective clauses, the lexical verb is acknowledged to be a perfect participle. In the imperfective clause (11) (= (6) above) again, the lexical verb is a participle: it is an imperfect participle. (The transitive imperfective clauses in (8) above illustrate the same fact). The *-t-* form of the verb is what occurs in participial adjuncts. Compare (11) with (11’), ‘The girl came running.’

(11) mē                daṛ-t-ii                hū̃.  
 I (F)                run-Impfv-F.Sg.    be.Nonpst.1Sg  
 ‘I run.’

(11’) laṛkii            daṛ-t-ii                aayii.  
 girl                run -Impfv.-F.Sg    came  
 ‘The girl came running.’

Participles are not tensed. The imperfect participle in the adjunct in (11’) shows the same agreement morphology as that in (11), but the adjunct is not tensed. In (11), therefore, agreement between the participle and the subject does not suffice to signify that the sentence is tensed.

Participles in Hindi/Urdu are marked for gender and number, but not for Person. This is a general fact about participial morphology. The absence of Person agreement in participles has been repeatedly noticed (Mahajan 1994; Bittner and Hale 1996:3, n.1; Kayne 2000b:36, n.1; Chomsky 2001).<sup>8</sup> Then Person checking is what distinguishes Tense from a participial head, and Person morphology is therefore a crucial diagnostic of a Tense head. Insofar as nominative case is a reflex of Tense, Person morphology as a reflex of Person checking is also a crucial determinant of nominative case assignment.

Returning to (11), in the imperfective clause a ‘be’ surfaces, which is marked for Person. This suggests that the imperfective clause projects a Tense node. Further, ‘be’ in (11) does not induce a relative tense interpretation of the imperfective verb (unlike ‘be’ in

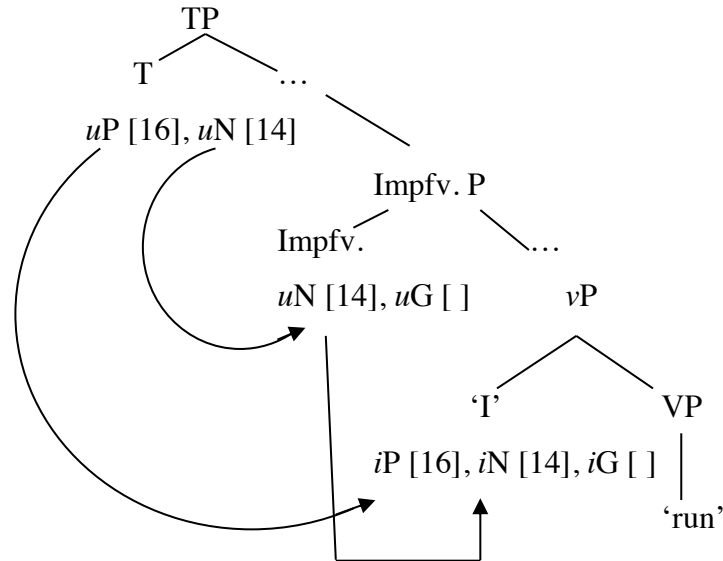
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<sup>8</sup> Mahajan notes that the past participle is a non-finite or ‘nominal’ verb form. Bittner and Hale distinguish “pronominal agreement,” which “necessarily includes person features,” from “adjectival or participial agreement, which does not include those features.” Kayne notes the absence of Person marking in past participial agreement. Chomsky remarks (in the context of his example (19), with a past participle), “PRT is adjectival; its phi-set may therefore consist of (unvalued) number, gender and Case, but not person.”

the perfective clause, which occurs only when there is a relative tense interpretation.) I therefore do not project viewpoint Aspect in the structure for (11), and treat ‘be’ in (11) as a realization of “stranded” tense and agreement features in T<sup>0</sup> (following the suggestion in Bjorkman 2018). (‘Be’ in the perfective clause will, in contrast, be merged as a V that takes a viewpoint Aspect complement.)

The structure for (11) ‘I run’ relevant to our purposes is represented in (12). Pesetsky and Torrego (2007) propose a “feature-sharing version” of Agree that distinguishes feature valuation from feature interpretability, and allows a single feature to be shared at multiple locations. I shall assume this feature-sharing version of Agree.<sup>9</sup>

(12)



Tense is projected with uninterpretable Person and Number features. Imperfect ‘be’ does not inflect for gender.<sup>10</sup> The imperfect participial node has uninterpretable Gender and

<sup>9</sup> (5) **Agree (Feature sharing version)** (Pesetsky and Torrego 2007: 268)

(i) An unvalued feature F (a *probe*) on a head H at syntactic location  $\alpha$  ( $F\alpha$ ) scans its c-command domain for another instance of F (a *goal*) at location  $\beta$  ( $F\beta$ ) with which to agree.  
(ii) Replace  $F\alpha$  with  $F\beta$ , so that the same feature is present in both locations.

<sup>10</sup> The Tense and Aspect features suggested here concur with Anand and Nevins’ schema (3) (2006: 5): “STEM+ASP: Number/Gender; AUX+TNS: Person/Number.” The past stem of ‘be’ does not inflect for Person. I treat it as non-tensed, on par with all perfective verbs. Note that ‘imperfect V+be [past]’ in (1b) has only a past habitual reading and not a past tense reading; ‘be’ is here perhaps in a habitual Aspect projection (Cinque 1999). In contrast, ‘imperfect V+be [nonpast]’ in (11) has habitual as well as non-habitual readings: it can occur in stage directions, and “narrative present” and “planned future” (‘I’ll ...’) contexts. I treat Tense as [+/- past], and the future as a modal. The Hindi/Urdu future marker is bi-morphemic: a subjunctive vowel that agrees with the subject in Person and Number is followed by -g with Number-Gender agreement: *hu~u~-g-ii* ‘I (F) will be,’ *hoo-g-aa/ii* ‘he/she will be.’

Number features. The subject is shown in (12) in the specifier of *vP*, but this does not preclude an analysis that generates it higher, as in Bjorkman.

In the Harley and Ritter (2002) feature geometry for phi-features, Person is represented under a Participant node distinct from the Individuation node where number and gender are represented; and in the Individuation node, gender is encoded under a Class node. This feature geometry is reflected in (12), where the morphology shows that the phi features of the subject are not checked as a bundle. Tense, the imperfect participle and the subject in (12) are in a feature-sharing relationship such that the subject's interpretable Person, Number and Gender features appear as gender agreement on the participle, number agreement on the participle and Tense, and Person agreement on Tense alone. The intuition we want to express is that Tense and the imperfect participle function together in (12) to check the subject's phi-features and case-mark it, and give the sentence its tense interpretation. This intuition would not be expressed if the participle and Tense independently check the subject's N, G and P, N phi features respectively (assuming that its number feature is available to both probes).<sup>11</sup>

In (12), T's *uN* feature probes for and finds the imperfect participle's *uN*. The two occurrences become two instances of a single feature *uN* (with an index '14': indices in brackets indicate multiple instances of a single feature); but neither instance is valued. The imperfect participle probes for Number (and separately, for Gender). It finds *iN* on the subject. Agree takes place, and this values its *uN*, as well as the *uN* at T, due to Agree and index-sharing between TP and Impfv.P.

T's *uP* feature probes and finds *iP* on the subject, and this feature gets valued.

Nominative case assignment is on one conventional account simply a reflex of Agree between Tense and the subject. Pesetsky and Torrego offer a slightly different account of nominative case assignment. In either case, Tense is the head that assigns nominative. The subject in (11-12) is case marked nominative as a result of Agree between it and Tense in the imperfective clause. The subjects of the transitive imperfective clauses (8), which show the same distribution of phi-features as (11-12), are similarly marked nominative.

## 4.2 The perfective clause

Coming to the perfective clause, Person morphology and Person agreement does not manifest in it. Thus (5) (repeated below as (13)) has no auxiliary verb that checks Person. Given that Person morphology is what distinguishes Tense from a participial head in the imperfective (11-12), we can say (to begin with) that no element in (13) expresses Tense explicitly.

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<sup>11</sup> Cf. Bhatt's (2005) proposal of AGREE.

- (13) mĕ        daur-ii.  
       I (F)    run.Pfv-F.Sg  
       ‘I ran.’

Is there a covert Tense in (13)?<sup>12</sup> Also, in some languages (like English), the past tense verb is homophonous with the perfect participle, but the aspectual and tensed occurrences of the verbs are structurally differentiated. Could we therefore claim that the perfect participle in (13) is located in a Tense projection? This could also account for the absence of an auxiliary.

Suppose (therefore) we assume a Tense node in (13). If the lexical verb raises to it, we might expect the phi-features on Tense to be expressed on the verb, which is finite. But the verb in (13) does not mark Person; it still expresses only participial (number and gender) features, like the imperfect participle in (11-12). Now in (11-12), “stranded” tense and agreement features in  $T^0$  are (we said) realized on ‘be.’ But in (13), this cannot happen. If ‘be’ were to appear in (13), it would force a relative tense (present perfect) reading (cf. the contrast between (7a) and (10) above).<sup>13</sup>

We must now say that in the perfective clause, Tense (and Person) must be left morphologically unexpressed. To assume a covert Tense in (13) is therefore to admit an irreducible difference in how Tense manifests in perfective and imperfective clauses in Hindi/Urdu. To reiterate, in perfective as well as imperfective clauses, the verb is participial, and unable to express Person morphologically. In the imperfective (11-12), Person is realized separately on ‘be.’ In the perfective (13), however, Person must be prohibited from being expressed separately on ‘be.’ In effect, we must assume a different  $T^0$  in the perfective clause than in the imperfective: i.e. a silent  $T_{\text{Perf}}$  that does not check Person, either because it lacks Person, or it prohibits the morphological expression of Person (in some way). Ignoring these differences in T also obscures their relevance, if any, to the case marking patterns in the two kinds of clauses.

Analyses that posit T in the Hindi/Urdu ergative (i.e. transitive perfective) clause make the hidden assumption about  $T_{\text{Perf}}$  noted above. Legate (2008:73) assumes that in (14) (=her (37c), glosses retained), there is “aggressive agreement” between T and “the accusative object, which then triggers subject agreement ...”<sup>14</sup>

<sup>12</sup> A non-overt finite  $T^0$  is indeed standardly assumed for the Hindi/Urdu perfective clause; cf., among others, Bhatt (2005), Legate (2008), Bjorkman (2018).

<sup>13</sup> Bhatt (2005:772) appears to draw a parallel between simple past transitive sentences like (7a, b) (his (25a)) and “negated present habitual sentences” that “do not require overt expression of tense” (his (25b)). But in the latter, the tense-bearing auxiliary is indeed optional: it may surface with no resulting change in meaning.

<sup>14</sup> “... even though it has no other relationship with T.” I.e., the object in (14) has structural accusative case, not licensed by T. T must agree. It cannot agree with the inherently case marked ergative argument, so it “continues to search down the tree for a DP that may trigger agreement,” and finds the object. This is “aggressive agreement.”

- (14) Ravi=ne      roTii      khaayii  
 Ravi.M=Erg bread F.Abs eat Perf.F.Sg  
 ‘Ravi ate bread’

In (14), as in (13), neither ‘be’ nor a Person feature are manifest, and the putative “subject agreement” here occurs without Person agreement.

Even where ‘be’ occurs, there is no evidence for a Person feature or Person agreement in the ergative clause. Consider thus (15) (=Bjorkman’s (28), glosses retained), a “past perfect” clause. For Bjorkman, ‘be’ here is a “finite auxiliary” (“the realization of ‘stranded’ tense and agreement features in T<sup>0</sup>”) that agrees “directly” with the internal argument.<sup>15</sup>

- (15) Rahul=ne      kitaab      parh-ii      th-ii.  
 Rahul=Erg book(F) read-F.Sg (Pfv) be.Past-F.Sg  
 “Rahul had read the book.” (example credited to Bhatt: 2005, 760)

Now (15), like (13-14), shows only participial agreement on ‘be.’ The past stem *th-* of ‘be,’ like the past form of any verb in this language, does not carry Person inflection at all; it inflects only for Number and Gender. Let us therefore also consider (16), where a non-past stem of ‘be’ occurs that can inflect for Person. (Example (16) is the “present perfect” counterpart of (15)).

- (16) Rahul=ne      kitaab      parh-ii      hε.  
 Rahul=Erg. book.F read. Pfv -F.Sg be.Nonpst.3p.Sg  
 “Rahul has read the book.”

In (16) ‘be’ occurs in a 3<sup>rd</sup> person form. Does it agree for Person? There is no evidence that it does. ‘Be’ in the ergative clause is only ever attested in the 3<sup>rd</sup> person form, because pronominal objects, including *wh-* pronouns, cannot occur in the unmarked form that triggers agreement (17a). They occur only as oblique stems marked with *-ko* (17b). Agreement with the pronominal objects fails, and ‘be’ in (17b) (again) occurs in a default 3<sup>rd</sup> person (and default singular) form.

- (17) a. larkee=ne      \*mē /\*tum /\*wo /\*koun      deekhaa hε/ ?  
 boy=Erg. non-oblique 1p/ 2p/ 3p/ who seen be.Nonpst.3p.Sg  
 \*‘The boy has seen I/ you/ he.’ / \*‘Who has the boy seen?’

<sup>15</sup> As it does with unaccusative subjects. Agreement with the verb in (15) is “absolutely aligned agreement” with “an agreeing participial head.” But “(f)inite agreement is uniformly with the structurally highest argument that is not overtly case marked, which can be either an external or internal argument” (Bjorkman 2018:323, reiterating the conventional position).

- b. larkee=ne mujh=ko/ tum=ko/ us=ko /kis=ko deekhaa \* hũ/ \*hoo/ hε / ?  
 boy.obl=Erg 1p=ko/ 2p=ko / 3p=ko/who=ko seen be.Nonpst.\*1p/\*2p/3p  
 ‘The boy has seen me/ you/ him.’ / ‘Whom has the boy seen?’

The Person specifications of the default ‘be’ in (17b) and the agreeing ‘be’ in (16) are indistinguishable. Third person is often considered unmarked for Person, or the absence of Person (Harley and Ritter 2002, Alexiadou and Anagnostopoulou 2006, Baker 2008). Then ‘be’ in the ergative clause cannot be said to agree for Person; arguing that the ergative clause does not manifest Person.<sup>16</sup>

#### 4.2.1 The absolutive object

Consider now a structure for the ergative clause where the object is in an unmarked case, and triggers number and gender agreement. What is the case of the object, and what does it agree with? We know from (17) that pronominal objects cannot occur in this unmarked case. This argues that it is not a structural nominative (*contra* Anand and Nevins 2006).

Suppose the unmarked object is a structural accusative (Bhatt 2005, Legate 2008). We must say it need not be overtly case-marked, and stipulate that it can agree only if the non-overt case option is taken (cf. the informal statement in n. 15 above). We must also stipulate that the non-overt case option is not uniformly available, and therefore that the accusative argument does not uniformly have the option to agree: “Proper name and pronominal objects ... must be overtly case-marked with *-ko*, and the presence of *-ko* blocks agreement” (Bhatt 2005:800). This is not all. If object agreement is assumed to be finite agreement with T, T’s case-licensing and agreement functions must be dissociated (object agreement is “dissociated agreement,” Bhatt *loc.cit.*). Now (as Bhatt notices) object agreement does not check Person; therefore it must be further stipulated that dissociated agreement does not involve Person (Bhatt’s Person Generalization (69), *loc.cit.*). I conclude that the unmarked object is not a structural accusative, and that it does not agree with T.

I suggest that the unmarked object receives case from, and agrees with, the perfect participle. The perfect participle has been likened to the passive participle: it takes a single argument, but it is unable to assign accusative case.<sup>17</sup> It has been thought to assign no case at all. I suggest that it assigns a participial case; and reserve the term “absolutive” for this case, which has no overt case suffix in Hindi/Urdu (as in many languages: cf. Anand and Nevins 2006:15). This suggests that absolutive is a “direct” and not an oblique case. Accordingly, if a demonstrative ‘this’ occurred with a bare object (e.g. in (16)), it would have the non-oblique form *ye/ yah*, whereas the *ko*-marked object requires the

<sup>16</sup> Indeed, ‘be’ in the ergative clause always shows the same agreement as the participle. Where the participle cannot agree, ‘be’ also does not agree. Bhatt, who assumes that object agreement is agreement with “finite T<sup>0</sup>”, makes participial agreement “parasitic on T<sup>0</sup>”, stating (2005:768): “participles also agree with whatever T<sup>0</sup> is agreeing with.”

<sup>17</sup> Mahajan (1990, 2000), Collins (2005) and Anand and Nevins (2006) identify the perfect participle with the passive participle.

demonstrative to have the oblique form *is*. (In English, a “nominative absolute” construction discussed below may have a non-oblique pronoun.) We can now say that in Hindi/Urdu, agreement is uniformly only with non-oblique arguments. The perfect participle, which may agree with its argument,<sup>18</sup> agrees for N(umber) and G(ender), but not Person; we need only reiterate that participial agreement lacks Person agreement.

There is a “nominative absolute” construction in some varieties of English (Reuland 1983), where a participial head is needed to license a subject (see Jayaseelan 1984 for a discussion). Reuland’s example is (18) (his (1a)):

(18) Elaine's winking at Roddy was fruitless, he being a confirmed bachelor.

The form of the pronoun ‘he’ in the participial clause suggests that it is “nominative.” But current assumptions about nominative case cannot explain how the subject of the participial adjunct is licensed in (18). On my analysis, it is licensed by the participle, which assigns it absolutive case. Speakers currently vary in whether they allow pronouns in the English nominative absolute construction. Some tolerate 3<sup>rd</sup> person pronouns, as in (18); others allow only non-pronominal subjects, in a parallel with (17a). I.e. 3<sup>rd</sup> person pronouns may pattern with nouns or with pronouns, depending perhaps on the total absence of a Person feature or the presence of an unspecified Person feature in their lexical entry. Hindi/Urdu 3<sup>rd</sup> person pronouns (I shall say) have an unspecified Person feature. Pronouns require Person checking. Absolutive case thus does not license pronouns; it does not license the pronominal objects in (17a).<sup>19</sup>

In (19), I use the label EnP for the absolutive case projection, which is a perfect participial projection that takes a VP complement with an internal argument.<sup>20</sup> Its N and G features function as probes; it has an EPP feature. The internal argument of V moves into the Specifier of EnP and gets absolutive case, and V moves up to  $v_{En}$ .

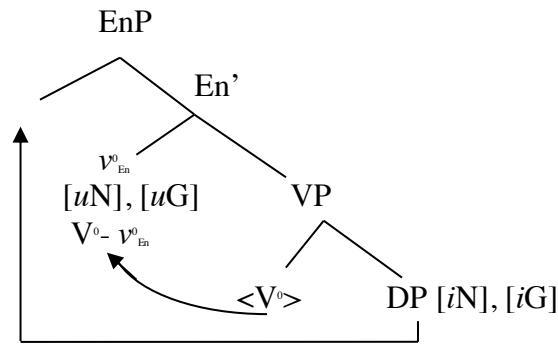
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<sup>18</sup> In French, a direct object that crosses a perfect participle (by *wh*-movement, clitic placement, or passivization) triggers agreement (Kayne 2000a, b).

<sup>19</sup> Absolutive subject pronouns in Hindi/Urdu must be licensed (I shall suggest) by a Person feature in FinP in C.

<sup>20</sup> Recall that the perfect participial head in Hindi/Urdu is null. I leave open the possibility that there is also a non overt ‘be’ present in it, to accommodate the familiar idea that the *have-be* alternation is linked to the transitive and intransitive occurrences of the perfect participle (Freeze 1992, Kayne 1993). Bjorkman’s account of *have* does not explicitly reference this idea; but see her n.26 (p.345) for some discussion.

(19)



The structure (19) corresponds to the  $vP$  in Bjorkman's (26) (p. 19), where  $v^0$  is "an agreeing participial head." This structure must now accommodate an external argument.

#### 4.2.2 The ergative subject

Bjorkman introduces transitive and unergative subjects in a VoiceP above the  $vP$ .  $Asp_{perf}P$  is layered above VoiceP. Its  $[u\phi]$  probe and EPP feature pull up the external argument in VoiceP into its Specifier, and assign it ergative case. When an external argument is not projected (in unaccusatives), the probe and EPP feature are said to find their goal in the agreeing participial verb. This is what protects the caseless unaccusative subject from getting ergative case from  $Asp_{perf}^0$ , and yields the aspect split.

My particular argument is against a Tense projection that Bjorkman assumes above  $Asp_{perf}P$  (and her assumption (p.337, n.17) that the ergative DP in Spec- $AspP$  subsequently moves to Spec-TP).<sup>21</sup> However, her analysis of ergative as a structural case does not sit well with the observation (reiterated in Mahajan 2012) that ergative never appears on derived subjects ("Marantz's Generalization"), and has lexical exceptions. Granted the robust association of ergative case with perfective aspect, the question remains how to represent the transitivity requirement ("sensitivity to argument structure") that intersects with it. Instead of a technical implementation of this requirement as in Bjorkman, I suggest that the ergative-assigning  $v$  that has been postulated by Anand and Nevins (2006) and Mahajan (2012) be represented as a transitive perfect participial head.<sup>22</sup> A query Bjorkman raises against this in favour of her analysis is whether perfective semantics is more appropriately associated with  $v^0$ , or with a dedicated aspectual head. I attempt to address this issue by extending to viewpoint Aspect the Pesetsky and Torrego (2007) proposal about how Tense is valued and interpreted, which is as follows. The T feature (Tns) of Tense is interpretable, but unvalued. The verb bears tense morphology that is valued but

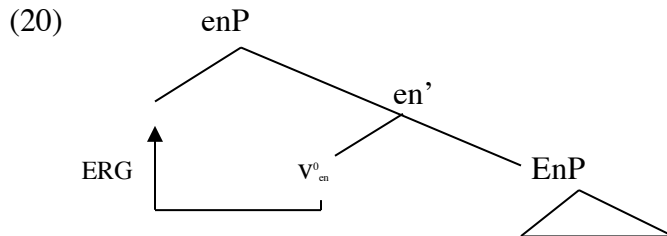
<sup>21</sup> This movement is actually a problem: she assumes that "movement occurs only when triggered by Agree" (p.341), but she assumes also that the non-nominative case-marked subject does not trigger phi-feature agreement.

<sup>22</sup> Cf. also Ura (2006: 112): "there is a functional head ... (that) requires DP at its Spec in overt syntax to check the aspect-related feature that the head possesses... I will ... assume that it is  $v$  that possesses the aspect-related feature ..."



uninterpretable. Valued Tns at  $v$  must Agree with Tns on Tense, because “we do not find verbs with semantically uninterpreted present or past tense morphology in non-finite contexts” (op.cit.: 272). I.e. the tense feature is interpretable only at a finiteness-expressing node, here assumed to be Tense. I now propose that perfective morphology is similarly valued at  $v^0$ , but must be interpreted at an appropriate functional projection. This projection is currently assumed to be a viewpoint Aspect projection. But given that in the past tense clause (13) the perfective verb is interpreted simply as “past tense”, the morphology of perfective  $v^0$  must also be interpretable at a finiteness head (e.g., the silent  $T_{\text{Perf.}}$  of some current analyses). I.e., the perfective feature is not always interpreted at a viewpoint Aspect projection. Note now that this is also an argument against ergative case being licensed by  $\text{Asp}_{\text{Perf.}}\text{P}$ ; in the ergative clause (14) as in (13), there is no evidence for a viewpoint Aspect projection.

I therefore postulate a transitive perfect participial head, which I represent in a projection  $\text{enP}$  above  $\text{EnP}$ . The head of  $\text{enP}$  case marks an argument merged in its Specifier as ergative.



The structure of the perfect participial projection now parallels the  $v$ -VP architecture of the non-participial clause. A difference is that the head of the transitive  $\text{enP}$  projection case-licenses an external argument in its Specifier, in languages with morphological case.<sup>23</sup> More generally, the external and internal arguments are case-licensed by the two perfect participial heads. The ergative clause is thus a participial clause, and ergative and absolutive are participial cases.

We can now correlate the two “morphological consequences” that Bjorkman stipulates to (arbitrarily) follow from the licensing of an external argument by perfective aspect, with differences in perfective clause structures. The development of auxiliary *have* in nominative languages correlates with the projection of Tense in the perfective clause;

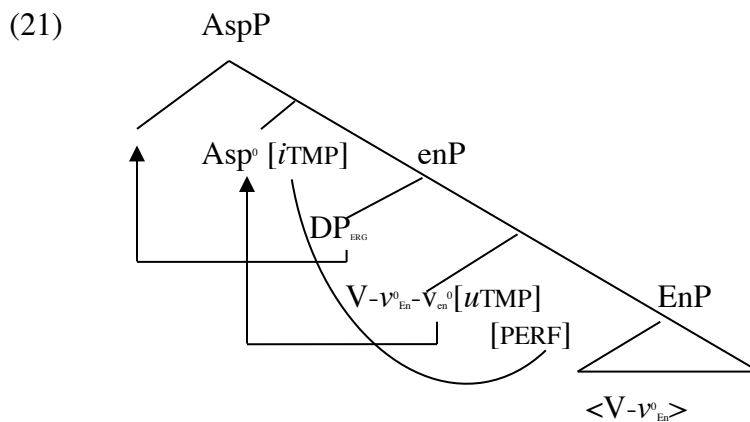
<sup>23</sup> If this case is not discharged, it is absorbed into the complement verb that raises to it. The verb complex  $V^0 - v_{\text{in}}^0 - v_{\text{en}}^0$  may then be spelt out as ‘have,’ cf. n. 20 above.

Mahajan (2012) convincingly argues that the external argument-introducing  $v$  is a distinct, lower projection than a higher, ergative case-marking  $v$  shell. This additional structure can be accommodated in (20).

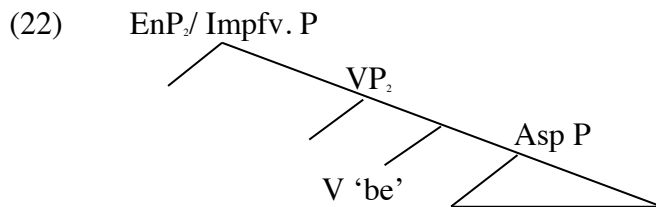
nominative languages uniformly project Tense. Ergative languages allow oblique subjects in the perfective, and finiteness to be dissociated from Tense.<sup>24</sup>

**4.2.3 The structure of the perfective participial clause**

I postulate a valued uninterpretable temporal feature [*u*TMP] at enP/ EnP that enters into an Agree relation with a projection where it can be interpreted. In (21), an Aspect projection has an interpretable but unvalued aspect feature [*i*TMP], and an EPP feature. When enP is projected, the head of AspP Agrees with the [*u*TMP] feature of the verb complex V<sup>0</sup> - v<sup>0</sup><sub>en</sub> - v<sup>0</sup><sub>en</sub>, which has the content [PERFECT], and is valued. DP<sub>ERG</sub> moves into the Specifier of AspP. When enP is not projected, AspP's [*i*TMP] is valued by the [*u*TMP] of V<sup>0</sup> - v<sup>0</sup><sub>en</sub>, and DP<sub>ABS</sub> moves into the Specifier of AspP.



The structure in (21) is a complement to a perfective or imperfective verb ‘be’ in the “past perfect” ergative clause (15) or the “present perfect” ergative clause (16).

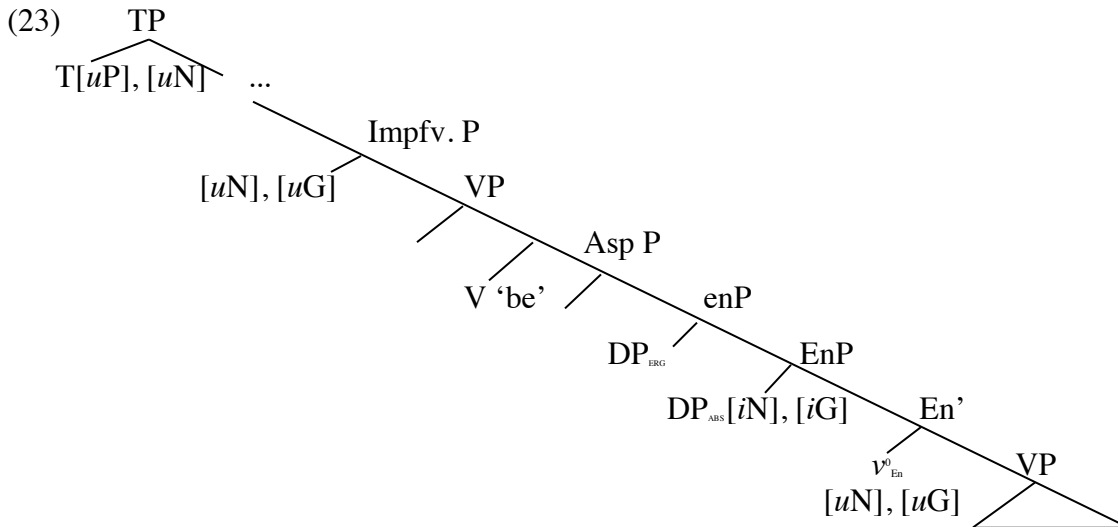


The participial projection above VP<sub>2</sub> probes downward for interpretable Number and Gender features to agree with. This higher participial projection may be a perfective EnP (notated as EnP), or an imperfective projection as in (12).

<sup>24</sup> In response to a reviewer query about possible independent empirical support for this claim, I note that object agreement and Long Distance Agreement (LDA) are both excluded from the imperfective. Object agreement occurs optionally in infinitives as well; and only the agreeing infinitive permits the restructuring required for LDA (Bhatt 2005).

Consider first the case where  $EnP_2$  occurs above  $VP_2$  in (22). Given the feature-sharing version of Agree,  $EnP_2$  takes as its goal the head of  $EnP$  in (21), which is the only projection in its domain that has  $[uN]$  and  $[uG]$  features. The two unvalued instances of the  $[N]$  and  $[G]$  features which now share an index are both valued by the one interpretable instance of these features, on the absolutive DP.

Consider next the case where ‘be’ in (22) occurs with Impfv. P. Given our account of the imperfective clause (12), Tense must now be projected, with a Person feature.



In (23), as in (12), TP and Impfv. P share their unvalued Number feature, and unify them with the corresponding feature of  $EnP$ . These three instances of  $[uN]$  are valued by the absolutive DP. Now T’s  $[uP]$  probes for a valued and interpretable Person feature. The absolutive argument of  $EnP$  is the only candidate with non-overt case (i.e. non-oblique case). But this thematic object argument is (we have seen) necessarily non-pronominal; it is not specified for a Person value at all. T’s  $[uP]$  now surfaces with a default 3<sup>rd</sup> person value.

We can now account for (24), a seeming problem for my claim that the perfective clause does not check Person. In (24), a non-past ‘be’ in the unaccusative perfective clause manifests Person agreement.

- (24) mē dilli gay -ii hūĩ  
 I(F) Delhi go.Pfv.-F.Sg 1p.Sg  
 ‘I have been to Delhi.’

Note that (24) is consistent with my claim that Person agreement appears only in the imperfective clause, on ‘be.’ (Thus (24) is parallel to the imperfective clause (12).) Its structure is as in (23), but with only  $EnP$  occurring;  $enP$  is not projected, since there is no external argument. Agree and feature valuation proceed as in (23). The difference is that T’s  $[uP]$  finds the absolutive (subject) DP that is marked for Person, and agrees with it.

On this analysis, the question that (24) poses is not how Person agreement occurs in it, but how a pronominal subject is licensed in a “simple past” unaccusative clause where no auxiliary occurs, given my claim that pronouns require Person licensing. In the next section I suggest that there is a Person feature in FinP in C (Rizzi 1997); and that this feature licenses the absolutive subject pronoun.

## 5. Extending the analysis

This section recapitulates some proposals for finiteness without Tense. A Temporality feature that licenses the perfective (participial) clause in a finite context, and a Person feature that case marks the absolutive subject, are postulated in FinP (Rizzi 1997). A Person head is suggested to license the unmarked argument in person-split ergative languages.

### 5.1 Finiteness without Tense

I have argued that the ergative clause, and more generally the perfective clause, lacks Tense. Tense has been identified with finiteness, i.e. with the anchoring of the sentence to Utterance time (Enç 1987). Finite clauses carry “absolute tense,” which is “deictic;” non-finite clauses with participial morphology instantiate “relative tense” (i.e., relative to the finite predicate). Thus if the perfective clause is a participial clause, the question is how it is licensed as a finite, “standalone” clause. Note that finiteness marking is the sole argument for Tense in the Hindi/Urdu perfective clause. The Tense projection is associated with three properties: (i) nominative case assignment, (ii) interpretable tense features, and (iii) finiteness marking. Property (i) is at issue in ergative languages. Property (ii) reduces to property (iii) under the Pesetsky and Torrego (2007) proposal (cf. section 4.2.2).

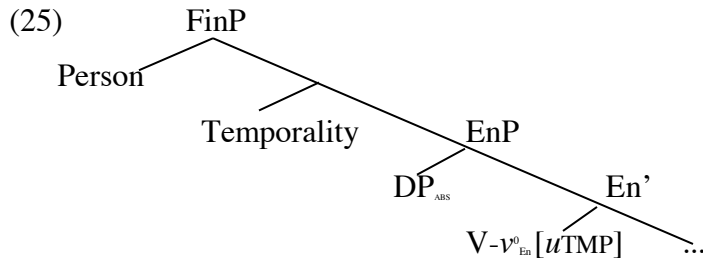
There is evidence from unrelated language families — Salish and Algonquian (Ritter and Wiltschko 2005, 2009), and Dravidian (Amritavalli 2014 and earlier work) — that the sentence can be anchored by elements other than Tense. In Halkomelem and Blackfoot, the sentence is said to be anchored spatially (via utterance location), or personally (via utterance participants), respectively. In Dravidian, the temporal information that we associate with finite Tense is located in a non-finite verb. This is evident in negative clauses that have clearly non-finite matrix verbs (infinitives and gerunds),<sup>25</sup> but nevertheless have a tense interpretation. The Dravidian matrix verb has therefore been argued to be consistently participial, and licensed by a finiteness (Mood) head in C. The Dravidian facts are thus particularly relevant to Hindi/Urdu.

Anchoring in Blackfoot (Ritter and Wiltschko claim) is by Person. Specifically, event participants are anchored to utterance participants: “In other words, it is asserted *who* participated in the event with respect to who participated in the utterance” (Ritter and Wiltschko 2005:344). A verb-initial person marker spells out the anchoring utterance

<sup>25</sup> The “matrix nonfinite verb” was first noticed in the Italian “true imperative” (Zanuttini 1991, Kayne 1991).

participant; theme markers indicate the thematic role of this participant in the event, as agent or as goal. The third person anchor marker is null.

The parallel with the Person phi-feature, which Ritter and Harley derive from the utterance participant feature, is suggestive. If (as I argue) it is the Person feature of Tense that crucially differentiates it from Aspect, the deictic function of Tense may involve anchoring by utterance participant as well as temporal anchoring. I thus suggest a Person feature and a Temporality feature in FinP, which takes the Hindi/Urdu perfective clause as its complement; (25) illustrates the intransitive past tense clause.



The Temporality feature anchors the [*uTMP*] feature of the verb, and makes it finite. The Person feature licenses a pronominal argument of EnP. This feature (however) licenses only the pronominal subject; recall that a pronominal absolutive object is not licit. Intuitively, this is because the pronominal object can and must be licensed by accusative *ko*-marking. I.e., licensing by the Person feature in (25) is case-licensing, and shows a minimality effect.<sup>26</sup>

## 5.2 The Person feature

The Person feature is (on my analysis) a differentiator of structural case from a participial “direct” case, absolutive.<sup>27</sup> Recall now that the licensing of 3<sup>rd</sup> person pronouns in the English “nominative absolute” is subject to variation. Interestingly, Legate (2014: 197) reports variation in person-split languages in the licensing of a 3<sup>rd</sup> person pronoun as the

<sup>26</sup>Baker (2008, chapter 4) dissociates Person agreement from Agree. Speaker and Addressee operators in Spec, CP bind corresponding pronouns in the clause; Person agreement is a reflex of this operator binding. (Agree copies number and gender values to a functional head, making it referentially dependent on the agreeing XP. If XP is pronominal, the functional head becomes indirectly dependent on the operator that binds XP, and must have the same values.) I do not pursue this proposal here. (Cf. also Coon and Preminger’s (2012) proposal for a ParticipantP.)

<sup>27</sup>Bjorkman assumes that Ergative is oblique. In Hindi/Urdu, 3<sup>rd</sup> person ergative pronoun stems are indeed oblique; but 1<sup>st</sup> person pronoun stems are, uniquely among case- or postposition-marked stems, non oblique. Pronoun licensing in the ergative disregards these differences.

non-ergative argument. The most frequent pattern is for “the most marked persons — first and second person — appearing without ergative morphology, while all other pronouns and nominals are marked ergative.” But “also attested is a division between all pronouns, including true third person pronouns, and other nominals.” I note that these patterns are consistent with a requirement that Person-marked arguments be checked by a Person case-head, with 3<sup>rd</sup> person pronouns subject to the lexical variation in their Person specification suggested in section 4.2.1.

In the Salish language Lummi (Alexiadou & Anagnostopoulou 2006), 1<sup>st</sup> and 2<sup>nd</sup> person subjects are nominative and accusative, and 3<sup>rd</sup> person subjects and objects are ergative and absolutive. Alexiadou & Anagnostopoulou, who adopt a case-competition approach, express informally the insight that the Person feature is responsible for the patterns of case marking: “...ergative *v* reflects the lack of person features (3). On the other hand, accusative *v* reflects the presence of person features (1, 2);” ... “the presence vs. absence of person features is exactly what differentiates the two types of *v* ... , *v*-TR vs. *v*-ERG” (p.53). A third pattern in Lummi (1<sup>st</sup> person subjects, 3<sup>rd</sup> person objects) is nominative-absolutive. Alexiadou & Anagnostopoulou, observing that it is crucial for the object to be 3<sup>rd</sup> person, suggest “Multiple Feature Checking” with T: the 1<sup>st</sup> person subject checks Person, and the 3<sup>rd</sup> person object checks Number, with T. Note that absolutive is on this proposal a non-oblique case that does not check Person (as in Hindi/Urdu).<sup>28</sup>

Why ergative splits involve the apparently disparate categories of person and aspect is a question that follows naturally from the question why ergative splits occur at all. Analyses particular to one or the other type of split have acknowledged a limitation (Ura 2006: 137, Alexiadou and Anagnostopoulou 2006).<sup>29</sup> Coon and Preminger (2012) generalize the clausal bifurcation proposal to person splits, but they presuppose an irreducible difference between languages in argument or case “alignment.” An approach to ergativity that does not presuppose alignment differences but differentiates participial from structural case, and investigates the role of Person in case-licensing, may therefore hold some promise.

## 6. Conclusion

I have argued for differences in the structures of imperfective and perfective clauses in Hindi/Urdu, such that nominative case is licensed only in the imperfective, which projects Tense and Person. The perfective clause projects neither; it is a participial clause that (unlike in the ‘have’ languages) licences an external argument with oblique case.

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<sup>28</sup> Alexiadou (2003) argues also for a separation of Person from Number checking in the non-ergative languages Icelandic and Hebrew.

<sup>29</sup> Aspect-split languages may shift to person-split. Angika (an eastern Bihar “dialect” of Hindi/Urdu) has an overt tense auxiliary in the perfective as well as the imperfective. Agreement clearly distinguishes only 1<sup>st</sup> person, and the 1<sup>st</sup> person pronoun *hamm* is non-ergative both in these clause types. Nouns are consistently ergative (Ali 2007).

Ergative case thus appears where nominative fails. Hindi/Urdu also distinguishes a participial absolutive from a structural accusative case. Nominative languages uniformly project Tense; ergative languages allow finiteness to be dissociated from Tense. This suggests that the nature of tense and finiteness is central to a discussion of ergativity.

### Acknowledgements

Versions of this analysis were earlier presented at Glow-in-Asia VI (Hong Kong, 2007) and Glow-in-Asia VIII (Beijing, 2010), and at seminars at Nanzan University and EFL-U. For comments, and for drawing my attention to relevant literature (and/ or facilitating my access to it), I thank Artemis Alexiadou, Rahul Balusu, Tanmoy Bhattacharya, Jessica Coon, Richard Kayne, Ayesha Kidwai, Anoop Mahajan, Bhuvana Narasimhan, and Peter Svenonius. K. A. Jayaseelan was my co-presenter at Hong Kong: my thanks to him. I thank the editor and an anonymous reviewer for constructive criticism.

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