Ergativity, Unergatives and Phases

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This paper discusses ergative subject constructions with unergatives in the perfective aspect in an Indo-Aryan language Punjabi. Our main thesis is that ergative case marking on unergative subjects is determined neither by (i) the transitivity of lexical (unergative) verbs nor by (ii) the case valuing properties of light verbs. We present evidence suggesting that Punjabi unergatives are transitives with overt cognate/implicit objects and yet take ergative subjects optionally. Moreover, light verbs – that as lexical verbs, take obligatory ergative subjects – either opt for optional ergative or obligatory nominative in unergative-light verb complexes. We propose that ergative is an inherent case assigned to the external argument in the specifier of v, in instances when nominative case valuation by C-T is prevented by phase boundaries.
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1. Introduction[1]

Morphological ergativity is a well attested phenomenon in Western Indo-Aryan languages (henceforth, WIALs) including Hindi-Urdu (Bhatt, 2007; Davison, 2004; Kachru, 1987; Kachru & Pandharipande, 1978; Mahajan, 1990, 1997, 2012; Mohanan,

[1] The data reported here was collected from native speakers of Punjabi, residing in the cities of New Delhi and Kanpur, Uttar Pradesh in two phases-the summer and the winter of 2013. The following abbreviations are used in this article: nom, nominative case; erg, ergative case; acc, accusative case; dat, dative; abl, ablative; 1, first person; 2, second person; 3, third person; sg, singular; pl, plural; m, masculine gender; f, feminine gender; hab, habitual; perf, prefective ; pres, present tense; pst. past; tr, transitive; dem, demonstrative, N, noun.

1994; Subbarao, 2012 among others), Kutchi Gujarati (Patel, 2007), Marathi (Deo & Sharma, 2002; Pandharipande, 1997), Marwari (Khokhlova, 2000, 2002), Nepali (Bickel & Yadava, 2000) and Punjabi (Bhatia, 1993; Bhatt, 2007; Butt and Deo, 2001). We begin with Hindi-Urdu examples here, since it is one of the more widely studied languages among WIALs.[2]

1. *laṛkaa rotii khaaṯaa hai*

   boy.nom bread.f.sg eat.hab.m.sg be.pres.3.sg

   'The boy eats bread.'

2. *laṛke-ne rotii khaayii hai*

   boy-erg bread.f.sg eat.perf.f.sg be.pres.3.sg

   'The boy has eaten bread.'

Hindi-Urdu primarily shows nominative-accusative pattern (1) in the imperfective, with the nominative subject triggering person, number and gender agreement on the

[2] WIALs also differ from each other in the way they mark their 'ergative' subjects (see Bhatt, 2007; Butt and Deo, 2001; Deo and Sharma, 2002 and Udaar, in progress for more details). To illustrate, while Hindi-Urdu and Haryanvi overtly mark their subjects ergative in the perfective and allow object-verb agreement, Marwari and Kutchi Gujarati do not overtly ergative case-mark their subjects but allow object-verb agreement. Additionally, Punjabi and Marathi show person-based split, wherein only third person subjects are ergative marked, but the verbal agreement in the perfective is always with objects. Finally, Nepali allows both unmarked nominative and marked ergative subjects to trigger full phi-feature agreement on the verb.

verb-auxiliary complex. Morphological ergativity is exhibited in sentences in the perfective aspect (2). The subject is marked with an overt case morpheme *–ne* and fails to trigger agreement with the verb-auxiliary complex, which instead agrees with the object in number and gender.[3]

For aspect-based split languages, other than perfectivity, transitivity of the lexical verb is also sometimes taken as a crucial determinant of ergative case marking on the subject (Bobaljik, 1993; Comrie, 1978; Davison, 2004; Dixon, 1979, 1994; McGregor, 2009 among others). The observation is that the subject of an intransitive clause is never marked ergative, unlike the agent/subject of a transitive clause, which is marked with an ergative case. The transitivity-ergative case marking link, however, is not attested cross-linguistically. While some languages as Warlpiri (Bittner and Hale, 1996; Levin, 1983) ergative case mark their subject in the absence of an overt object (3), others as Inuit (Bittner and Hale, 1996; Woolford, 2013) exhibit a strong overt object (plus object shift) requirement for ergative subject marking, see example (4).

3. *Ngarrka-ngku ka yunpa-rni*

man-erg pres sing-nonpast

'The man is singing.' (Levin 1983:149)

4. *Juuna-p miiqqa-t paar(i-v)-a-i*

[3]Aspect-based split ergativity is also found in many other (non-WIA) languages (see Coon and Preminger, 2012; DeLancey, 1981; Dixon, 1994; Tsunoda, 1981 for more details).

Juuna-erg child-pl(nom) look.after-ind-[+tr]-3sg.3pl

'Juuna is looking after the children.' (Bittner and Hale 1996:17)

The link between the lexical verb's transitivity and ergative case marking on the subject has also been extensively debated in the literature on WIALs. Mohanan (1994) presents instances of intransitive (unergative) predicates in Hindi-Urdu taking ergative subjects (5), while arguing against this association.

5. *jɔn-ne khããsaa*

John-erg cough.perf.m.sg

'John coughed.'

Amritavalli (1979) and Platts (1874) among others instead link morphological ergativity in Hindi-Urdu to the transitivity of a light verb. They suggest that in a compound verb construction composed of a lexical verb and a light verb, it is the transitivity of the light verb that determines ergative case on the subject. Consider example (6), where the transitive light verb 'to take' allows an ergative marked subject. Contrast this with (7), where the subject cannot be marked ergative due to the unaccusative nature of the light verb 'to go'.

6. *kəbir-ne vo kitab jəldi se paɽʰ li*

kabir.erg dem book.f.sg.nom quickly read take.perf.f.sg.

'Kabir read that book quickly.'

7. *kəbir(*ne) vo kitab jəldi se paɽʰ gəya*

kabir.nom(*erg) dem book.f.sg.nom quickly read take.perf.f.sg.

'Kabir read that book quickly.' (Mahajan 2012: 205)

Mahajan (2012), on the other hand, contends that while the transitivity of the lexcial verb is crucial in structures like (6), the ergative case actually comes from the light verb. Light verb 'to take' - that as a lexical verb licenses obligatory ergative case to the subject - retains this case in complex predicate constructions and assigns it to the unergative subject.

This paper carries forward this debate on the ergative-transitivity link, drawing primarily on unergative constructions with ergative subjects in the perfective in Punjabi, a lesser studied WIA language. We show, with simplex unergatives (minus light verbs) constructions, as illustrated in (8) and complex unergatives (with light verbs), as illustrated in (9) - that morphological ergativity on subjects does not rely on the transitivity of the lexical predicate nor on the case valuing properties of the light verb.

8. *kuɽii-ne hãsseyaa*

girl-erg laugh.perf.m.sg

'The girl laughed.'

9. *kuɽii-ne hãss dï̲ttaa*

girl-erg laugh give.perf.m.sg

'The girl laughed.'

We demonstrate that simplex unergatives have overt cognate objects or implicit ones, and yet they only optionally mark their subjects with ergative case. Moreover, the presence of light verbs – that as lexical verbs obligatorily take ergative subjects - does not necessarily imply ergative marking on subjects of complex unergatives. We argue that ergative case is assigned to the external argument by a theta-assigning verbal head v. Our alternative representation has this v1P selected by a higher aspectual head (v2P) that is phi-defective (-person) in the perfective. This together with phase-sliding (à la Gallego, 2010) of the lower v1 into the higher v2 creates the conditions under which accusative case on the v1-v2 complex goes to the internal argument and an inherent ergative goes to the external argument. Nominative case is valued by T on the external argument in the specifier of v1P when v1-v2 phase sliding does not take place.

We organize the paper as follows. In section 2, we lay out the details of morphological ergativity in Punjabi. Section 3 first summarizes the main debates surrounding the transitive/intransitive nature of unergatives cross-linguistically, and then presents evidence for an underlying transitive representation for Punjabi unergative predicates. It ends with the observation that the transitivity of unergatives does not determine ergative marking on the subjects. In the fourth section, we present instances of complex unergative constructions with different light verbs, and argue that light verbs also do not determine the ergative case-marking on subjects. Section 5 starts off with a

critical assessment of three prominent analyses proposed for morphological ergativity. We then present our phase-based alternative analysis. Section 6 concludes the paper.

2. Morphological ergativity in Punjabi

Punjabi, like Hindi-Urdu, shows morphological ergativity in the perfective aspect (Bhatia, 1993; Bhatt, 2007; Butt and Deo, 2001).[4] The transitive subject in the perfective construction in (10a) is obligatorily marked with ergative *–ne*, and cannot trigger verbal agreement. The verb instead agrees with the unmarked (accusative valued) object in number and gender. In the imperfective domain, the subject of the transitive clause is case valued (with a phonetically null) nominative and agrees in number, gender and person with the verb-auxiliary complex, as is shown in (10b).

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[4]Punjabi shows ergative case marking only on third person subjects, and not on first and second persons as shown in (i).

(i) **mɛ̃-ne/*ʈu-ne/o-ne rottii khaaɖɖii*

*1-erg/*2-erg/3-erg bread.f.sg(O) eat.perf.f.sg

'I /You/(s)he ate bread.'

Two existing analyses for person based split are Legate (2012) and Coon & Preminger (2012). While Legate posits that all pronominals are valued ergative in the syntax, but only 3rd person subjects realize the case morphologically; Coon and Preminger provide a clause-bifurcation analysis, where 1st/2nd person subjects, unlike 3rd person subjects, are located in the higher case valuing domain, where they get an absolutive case value. We are yet to investigate which of these accounts explain the person split in Punjabi. We leave this question open for future research.

10 (a) *munde-ne rottii khaaḍḍii*

boy-erg bread.f.sg eat.perf.f.sg

'The boy ate bread.'

10 (b) *mundaa rottii khããnḍaa e*

boy.nom bread.f.sg eat.hab.m.sg be.pres.3.sg

'The boy eats bread.'

Unlike the transitive domain, where the subject is invariably ergative marked in the perfective aspect, in the intransitive (unaccusative) domain, ergative subjects are never allowed with verbs ‘to fall’, ‘to come’ (11).[5]

11. *kuɽii/*kuɽii-ne diggii/aayii*

girl.nom/*girl-erg fall.perf.f.sg/come.perf.f.sg

‘The girl fell/came.’

Unergatives, on the other hand, show a lot of variation with respect to ergative case marking on the subject in the perfective. While unergatives ‘to spit’ and ‘to scratch’ take obligatory ergative subjects (12); ‘to dance’, ‘to cough’ and ‘to laugh’ do so optionally (13-14). Other unergatives ‘to climb’ and ‘to walk’ optionally permit ergative

[5]Perlmutter (1978) classifies intransitive verbs into two types – unergatives and unaccusatives, with different syntactic properties. In Punjabi, we observe that unaccusative verbs ‘to fall’, ‘to come’, unlike unergative verbs ‘to dance’, ‘to laugh’ fail to form (i) inabilitative passives, (ii) reduced relatives, (iii) passives and, also (iv) fail to host cognate objects (see Bhatt, 2003 and Richa, 2008 for unergative/unaccusative diagnostics in SALs).

subjects in the presence of a cognate object (15a-b). In the imperfective, all these predicates unambiguously opt for nominative subjects (16).

12. *kuɽii-ne/ *kuɽii ˛thukeyaa/khurkeyaa*

girl-erg/*girl.nom spit.perf.m.sg/scratch.perf.m.sg

'The girl spit/scratched.'

13. *kuɽii naccii/khãŋgii/ hãssii*

girl.nom dance/cough/laugh.perf.f.sg

'The girl danced/ coughed/ laughed.'

14. *kuɽii-ne nacceyaa/ khãŋgeyaa/ hãsseyaa*

girl-erg dance/cough/laugh.perf.m.sg

'The girl danced/ coughed/ laughed.'

15 (a) *kuɽii/*kuɽii-ne caɽhii*

girl.nom/*girl-erg climb.perf.f.sg

'The girl climbed.'

(b) *kuɽii-ne/ kuɽii caɽhaayii caɽhii*

girl-erg/girl.nom climb.f.sg climb.perf.f.sg

'The girl climbed a climb.'

16. *kuɽii/*kuɽii-ne khurak/nacc/caɽh rayii e*

girl.nom/*girl-erg scratch/dance/climb stay.prog.f.sg be.pres.3.sg

'The girl is scratching/dancing/climbing.'

This paper is primarily concerned with ergative subject constructions in (12)-(15). One of its goals is to examine whether the transitivity of the lexical unergative verb is responsible for ergative marking on the subject. We therefore need to first and foremost assess whether unergatives in Punjabi are underlying transitives. This question is addressed in the following section.

3. Unergatives as transitives?

Opinion is divided on whether unergatives are underlying transitive predicates. Bobaljik (1993), Hale and Keyser (1993), Laka (1993), Mahajan (1987), Mithun (1991), Ortiz de Urbina (1986) and Uribe-Extebarria (1989) posit that unergative predicates are transitives with an object NP. This view is captured in the Implicit Object Conjecture (17).

17. The Implicit Object Conjecture (IOC)

All unergatives have direct objects.

To illustrate, Bobaljik (1993) and Laka (1993) argue that unergative predicate 'to dance' in a split-ergative language Basque is an underlying transitive, based on its ability to occur with a cognate object (18).

18. *Emakumea-k dantza hau dantzatu du*

woman-ERG dance this.ERG dance AUX

'The woman danced this dance.' (Laka 1993:154)

The same observation is made for unergative ‘to sneeze’ in Hindi-Urdu (19), by Mahajan (1987) and Bobaljik (1993), where the unergative predicate occurs with a cognate object, and the subject is ergative marked.

19. *anup-ne [kaafii-zorkii chiiNk] chiiNkii*

Anoop-ERG very-loud sneeze.ABS sneezed

‘Anoop sneezed a very loud sneeze.’ (Bobaljik, 1993: 38)

Preminger (2012) contests these claims by presenting predicates *eskiatu* ‘ski’ and *disdiratu* ‘shine’ in Basque that do not have corresponding nominals *[eskia]$_{N^o}$ and *[disdira]$_{N^o}$. He questions the presence of implicit cognate objects for all simplex unergative predicates in the language.[6] In the same breath, he also contends that the presence of ergative agreement (the 3person ergative ϕ in (20)), which is generally taken to indicate the presence of an implicit object, is also not a valid diagnostic.

[6]Preminger (2012) contends that while simplex unergatives without light verbs are unambiguously intransitives (i), complex unergative predicates with light verbs are transitives (ii).

(i) *jon-ek dantzatu d-ϕ-u-ϕ*

John-erg dance-Prt 3.Abs-sg.Abs-have-3sg.erg

‘John danced.’

(ii) *Jon-ek dantza egin d-ϕ-u-ϕ*

Jon-erg dance do 3.abs-sg.abs-have-3sg.erg

‘John danced.’

Basque unaccusatives (21) also exhibit ergative agreement morphology (the second person ergative morpheme *-k*)[7], although they fail to host implicit objects.

20. *jon-ek dantzatu d-ϕ-u-ϕ*

John-erg dance-Prt 3.Abs-sg.Abs-have-3sg.erg

'John danced.'

21. *jon-ϕ eror-i d-ϕ-u-k*

jon.abs fall.perf 3.abs.sg.abs.have.2.sg.erg

'John has fallen.' (Preminger, 2012:1)

In short, Preminger presents arguments to show that simplex unergative predicates in Basque do not take direct objects, implicit or otherwise and hence are not underlying transitives, contra Bobaljik (1993) and Laka (1993). The lack of any consensus on the transitive nature of unergative predicates within a single language (here Basque) raises further doubts on how unergatives cross-linguistically should be treated. In other words, there is no clear picture on whether unergatives cross-linguistically are underlying transitives or pure intransitives with a single (external) argument.

With this debate in the background, we now turn our attention to the simplex unergatives in Punjabi (12-15) and show that they unambiguously satisfy the criteria for

[7]Preminger notes that (21) is an allocutive agreement construction, where the auxiliary shows agreement with the addressee of the speech act. This explains why the second person *–k* ergative morphology is used here.

transitivity. We also demonstrate that unaccusative intransitives in the language fail all relevant transitivity diagnostics.

3.1 Punjabi unergatives are underlying transitives

In this section, we argue that Punjabi unergatives 'to spit', 'to laugh' and 'to climb' are underlying transitives, based on their ability to (i) host cognate objects that license verbal agreement and, (ii) trigger telicity effects. We also provide evidence for implicit objects through adjectival modification test.

To begin with, we observe that predicates 'to spit', 'to laugh' and 'to climb' allow cognate objects (22-24). Note that the subject is obligatorily marked ergative with predicate 'to spit' (22), but optionally marked with ergative for all other unergative predicates (23-24), when a cognate object is present. Cognate objects trigger gender and number agreement on verbs in ergative subject constructions.

22. *mariiz-ne/*mariiz khun waalii ̪thuuk ̪thukkii*[8]

patient-erg/*patient.nom blood wala.f.sg spit.f.sg spit.perf.f.sg

'The patient spat blood .'

23. *jɔn-ne/jɔn raavan-d̪ii hassi hãssi/hãsseyaa*

John-erg/John.nom ravan-gen.f.sg laugh.f.sg laugh.perf.f.sg/laugh.perf.m.sg

'John laughed Ravan's laughter.'

[8]Following Kidwai (2012), we understand 'walaa' as denoting a nontrivial set of pairing of color attributes to 'spit'.

24. *jɔn-ne/jɔn ucci caɽhaayii caɽhii/caɽheyaa*

John-erg/john.nom high.f.sg climb.f.sg climb.perf.f.sg/climb.perf.m.sg

'*John climbed a high climb.'

In contrast, unaccusative verbs 'to fall' and 'to come' disallow cognate objects (25-26). These predicates have obligatory nominative subjects that trigger person, number and gender agreement on the verb (27).

25. **jɔn digg diggeyaa*

John.nom fall.N fall.perf.m.sg

'*John fell a fall.'

26. **jɔn aanaa aayaa*

John.nom come.N come.perf.m.sg

'*John arrived an arrival.'

27. *jɔn/*jɔn-ne diggeyaa/aayaa*

John.nom/*John-erg fall.perf.m.sg/ come.perf.m.sg

'John fell/came.'

Going back to the unergative predicates in Punjabi, we also observe that cognate objects trigger telicity effects (see Borer, 1994; Dowty, 1979, 1991; Krifka, 1992; Tenny, 1987, 1994 and, Verkuyl, 1972, 1989, 1993, for cross-linguistic discussion of the relation between telicity and direct (count noun) objects). Take (28-30) for illustration,

where telic readings with the adverbial ‘in one hour’ obtain in the presence of cognate objects.

28. *mariiz-ne ikk kɦãnte vicc bo̱t waari khuun waalii ˍthuk ˍthukkii*

patient-erg one hour in many time blood wala.f.sg spit.f.sg spit.perf.f.sg

‘The patient spat blood many times in an hour .’

29. *jɔn-ne ikk kɦãnte vicc caar nicchãã nicchiiyãã*

John-erg one hour in four sneeze.f.pl sneeze.perf.f.pl

‘John sneezed four sneezes in an hour.’

30. *jɔn-ne ikk kɦãnte vicc ucci caɽhaayii caɽhii*

John-erg one hour in high.f.sg climb.f.sg climb.perf.f.sg

‘John climbed a high climb in an hour.’

Cognate objects in these unergative constructions can also be modified using adjectives. The overt objects agree in number and gender with the adjectives (31-33).

31. *mariiz-ne gaŋ̱dii ˍthuk ˍthukkii*

patient-erg dirty.f.sg spit.f.sg spit.perf.f.sg

‘The patient spat a dirty spit.’

32. *jɔn-ne pyaarii hassii hãssii*

John-erg lovely.f.sg laugh.f.sg laugh.perf.f.sg

‘John laughed a lovely laugh.’

33. *si̱taa-ne uccii caɽʰaayii caɽhii*

Sita-erg high.f.sg climb.f.sg climb.perf.f.sg

'Sita climbed a high climb.'

Adjectives can be employed in these constructions even when the cognate object is absent, indicating the presence of an implicit object that the adjective modifies.[9] Consider examples (34-36).

34. *mariiz-ne gaŋ̣̈daa ̱thukkeyaa*

patient-erg dirty.m.sg spit.perf.m.sg

'The patient spat a dirty spit.'

35. *siiṯ̈taa-ne pyaaraa hãsseyaa*

Sita-erg lovely.m.sg laugh.perf.m.sg

'Sita laughed a lovely laugh.'

36. *siiṯ̈taa-ne uccaa ca[heyaa*

Sita-erg high.m.sg climb.perf.m.sg

[9]Implicit objects have been understood in the literature as either null syntactic categories, pronominals or variables (Brody & Marzini, 1987; Bhatt & Pancheva, 2006; Chomsky, 1986; Epstein, 1984; Jackendoff, 1987; Roeper, 1987; Safir, 1991). Landau (2010) makes a further distinction between strong and weak implicit arguments, based on their feature sets. While strong implicit arguments (PRO and pro) according to him contain a D-feature along with a phi-feature set, weak implicit arguments (passive agents and implicit objects) contain phi-features but lack a D-feature. We contend that implicit objects of Punjabi unergative predicates are weak implicit arguments (à la Landau) without a D-feature.

‘Sita climbed a high climb.’

Implicit objects, however, cannot trigger agreement with the modifying adjectives and the verbs, as illustrated in the examples above. The verb and the adjective instead manifest default (3 person, masculine, singular) morphology. Implicit objects also fail to produce telicity effects, as shown in (37-39); adjectives are used here to depict the presence of an underlying implicit object.

37. **mariiz-ne ikk kɦãnte vicc gaŋḍaa ṯhukkeyaa*

patient-erg one hour in dirty.m.sg spit.perf.m.sg

‘The patient spat a dirty spit in an hour.’

38. **siiṯaa-ne ikk kɦãnte vicc pyaaraa hãsseyaa*

Sita-erg one hour in lovely.m.sg laugh.perf.m.sg

‘Sita laughed a very lovely laugh in an hour.’

39. **siiṯaa-ne ikk kɦãnte vicc uccaa caɽheyaa*

Sita-erg one hour in high.m.sg climb.perf.m.sg

‘Sita climbed a high climb in an hour.’

The inability of implicit objects to trigger verbal/adjectival agreement and generate telicity effects is also attested in the transitive domain. Consider transitive predicates ‘to eat’, ‘to drink’, and ‘to hit’, which allow null or implicit objects.[10]

[10]Thanks to a reviewer for suggesting a comparison with transitive predicates. On the question of an underlying structural representation for implicit objects, we suggest that they are NPs without a D-feature (on lines with Landau, 2010) that may be modified by APs. We also assume that these NPs (or more

40. *siiṭaa-ne khaaḍḍaa*

Sita-erg eat.perf.m.sg

'Sita ate.'

41. *siiṭaa-ne raam-nũũ kal caŋdãã maariyãã. ̱te ajj siiṭaa-ne pher [ ]$_{N^0}$ maariyãã*

Sita-erg Ram-acc yesterday slap.f.pl hit.perf.f.pl. And today Sita-erg again hit.perf.f.pl

'Sita slapped Ram yesterday, and again today.'

Implicit objects in transitives can be modified with adjectives. However, there is no agreement relation between the implicit object and the verb or the adjective (42-43). Contrast these with transitive constructions with overt objects (44-45), with object-verb as well as object-adjective agreement.

42. *siiṭaa-ne thãndaa khaaḍḍaa*

Sita-erg cold.m.sg eat.perf.m.sg

'Sita ate cold food.'

43. *siiṭaa-ne zorḍaar maareyaa*

Sita-erg strong hit.perf.m.sg

'Sita hit a tight slap.'

44. *siiṭaa-ne thãndi rotti khaaḍḍii*

Sita-erg cold.f.sg bread.f.sg eat.perf.f.sg

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precisely their N_0 heads) do not undergo incorporation into verbal (V_0) heads (à la Hale and Keyser, 1993) but rather enter into case-phi features relations like other overt nominals. The absence of a D feature suppresses the morphological realization of agreement features and case.

‘Sita ate cold bread.’

45. *siiṯaa-ne zorḏaar caŋd maarii*

Sita-erg strong slap.f.sg hit.perf.f.sg

‘Sita hit a tight slap.’

Implicit objects in transitives also fail to trigger telicity effects, as illustrated by the unacceptable sentences in (46-47).

46. ** siiṯaa-ne ikk kɦãnte vicc thãndaa khaaḏḏaa*

Sita-erg one hour in cold.m.sg eat.perf.m.sg

‘Sita ate cold food in an hour.’

47. ** siiṯaa-ne ikk kɦãnte vicc zorḏaar maareyaa*

Sita-erg one hour in strong hit.perf.m.sg

‘Sita hit a strong blow in an hour.’

The evidence presented thus far (42-47) further substantiates our claim that Punjabi unergatives are underlying transitives. They host either overt cognate objects or implicit objects. Overt cognate objects behave like overt objects of transitive verbs with regard to agreement and telicity effects. Implicit objects of both types of predicates, on the other hand, pattern similarly and fail to trigger agreement and telicity effects.

Interestingly, despite their transitive nature, ergative marking for the subjects of all (simplex) unergatives in the perfective aspect is not obligatory: ‘to spit' and ‘to scratch’ take obligatory ergative subjects, while ‘to climb’ and ‘to laugh’ take them

optionally. If transitivity was a true determinant of morphological ergativity in the perfective, we would incorrectly predict obligatory ergative subject marking for all simplex unergatives. Since the data discussed above suggest otherwise, we fail to establish a link between transitivity of the lexical unergative verb and the ergative marking on the subject.

Another important piece of evidence against the said link comes from the 'to climb' verb that fails to host ergative marked subjects with implicit objects (48); we mark the presence of an implicit object with an empty bracket below.

48. *kuṛii/* kuṛii-ne [ ]$_{NP}$ caṛhii*

girl.nom/*girl-erg [ ]$_{NP}$ climb.perf.f.sg

'The girl climbed.'

We have already presented evidence for an implicit object for the unergative verb 'to climb' (see example (36) again). Despite the transitive nature of the lexical verb, ergative marking is absent in (48). This further substantiates our claim that Punjabi morphological ergativity is not related to the transitivity of the unergative verb.

4. On the role of the light verb in ergative case marking

Platts (1874) was the first to observe that it is not the transitivity of the lexical verb, but that of the light verb, which determines ergative case marking on subjects of lexical verb-light verb complexes in Hindi-Urdu. Since then, similar observations have

been made by Amritavalli (1979). Consider the examples below, where a light verb *lenaa* 'to take' combines with the transitive verb 'to eat' in (49) and with the unergative verb 'to sneeze' in (50).

49. *jɔn-ne khaanaa khaa liyaa*

John-erg food.m.sg eat take.perf.m.sg

'John ate the food.'

50. *jɔn-ne chĩĩk liyaa*

John-erg sneeze take.perf.m.sg

'John has sneezed.'

In both instances, the subject is marked with an ergative case. In contrast, an unaccusative light verb and a transitive lexical verb complex will never take an ergative subject (51).

51. *jɔn/*jɔn-ne saarii rotti khaa gayaa*

John.nom/*John-erg all.f.sg bread.f.sg eat go.perf.m.sg

'John ate the entire loaf of bread.'

Mahajan (2012) however opines that while the lexical verb in ergative subject constructions (49-50) must be transitive, the ergative case essentially comes from the light verb v. According to him, light verbs in most languages have lexical verb counterparts that show compatibility with nominals marked with certain cases. It is also generally the case that light verbs replicate their lexical counterpart's case assigning

properties. In other words, if a lexical verb obligatorily takes an ergative subject, its light verb form automatically takes one too. He uses this connection between the light verb and its lexical verb counterpart to argue that ergative case in Hindi-Urdu is assigned by light verb heads.

This section borrows some tests from Mahajan's work to evaluate the ergative case licensing potential of Punjabi light verbs with unergative predicates. The data presented here suggests that Punjabi light verbs do not determine ergative marking on subjects. Light verbs that as lexical verbs license compulsory ergative are shown to either optionally assign ergative in unergative-light verb complexes or rule it out completely in favor of nominative. We therefore claim that ergative case is not determined by the case-assigning properties of the light verb.

Punjabi light verbs include *jaanaa* 'to go', *aanaa* 'to come', *paanaa* 'to find', *cukaanaa* 'to pay', *lainaa* 'to take', *ḍenaa* 'to give'. 'To go' and 'to come' take nominative case as lexical verbs in the perfective (52)[11]. As light verbs, they can only combine with unaccusative verbs and obligatorily license nominative subjects (53).

52. *jɔn gayaa*

[11]The light verb 'to come' yields serial verb interpretations as shown in the following example.

(i) *o nacc aayaa*

3.sg.nom dance come.perf.m.sg

'He danced and came back.'

John.nom go.perf.m.sg

'John went.'

53. *jɔn/*jɔn-ne dubb gayaa*

John.nom/*John-erg drown go.perf.m.sg

'John drowned.'

Other predicates 'to find', 'to hit' and 'to pay' obligatorily take ergative subjects as lexical verbs. This is illustrated with an example with 'to pay' in (54).

54. *jɔn-ne/*jɔn utɦaar cukaayaa*

John-erg/*John.nom debt pay.perf.m.sg

'John paid back the debt.'

As light verbs, all three combine with transitive and unergative predicates. While 'to find' and 'to pay' take nominative subjects obligatorily (55-56), 'to hit' takes only ergative subjects in light verb complexes (57-58).

55. *jɔn/*jɔn-ne ḍillii vekh cukeyaa sii*

John.nom/*John-erg delhi see pay.perf.m.sg be.pst.3.sg

'John had seen Delhi.'

56. *jɔn/*jɔn-ne nacc/nicch cukeyaa sii*

John-nom/*John-erg dance/sneeze pay.perf.m.sg be.pst.3.sg

'John had danced/sneezed.'

57. *jɔn-ne/*jɔn siiṭaa-nũũ kutt maaryaa*

John-erg/*John.nom Sita-acc beat hit.perf.m.sg

'John beat up Sita.'

58. *jɔn-ne jor naal nicch maarii*

John-erg force with sneeze hit.perf.f.sg

'John sneezed forcefully.'

Verbs 'to give' and 'to take' occur with only ergative subjects in the perfective as lexical verbs (59). As light verbs, they combine with transitives with obligatory ergative subjects (60) and with unergatives, they take ergative subjects optionally (61).[12]

59. *jɔn-ne/*jɔn siiṯaa-nũũ/kolõ kiṯaab diṯṯii/liṯṯii*

John-erg/*John.nom Sita-dat/abl book.f.sg give.perf.f.sg/take.perf.f.sg

'John gave a book to Sita/John took a book from Sita.'

60. *jɔn-ne/*jɔn siiṯaa-nũũ vekh liṯṯaa*

John-erg/*John.nom Sita-acc see take.perf.m.sg

'John saw Sita.'

61. *jɔn/jɔn-ne nacc liṯṯaa*

John.nom/John-erg dance take.perf.m.sg

'John danced.'

These patterns are summarized in the table below.

Table 1. Case licensing patterns with Punjabi light verbs

Predicate	As main verb	As light verb with					
		Unaccusative		Unergative		Transitive/Ditransitive	
		Erg subj	Nom subj	Erg subj	Nom subj	Erg subj	Nom subj
'To come'	Nom subj	×	✓	-	-	-	-
'To find'	Erg subj	-	-	×	✓	×	✓
'To pay'	Erg subj	-	-	×	✓	×	✓
'To hit'	Erg subj	-	-	✓	×	✓	×
'To give'	Erg subj	-	-	✓	✓	✓	×
'To take'	Erg subj	-	-	✓	✓	✓	×

As we see in this table, there are two patterns in unergative-light verb constructions that clearly attest that the case properties of light verbs are not crucial for ergative marking on subjects. We discuss them below, while repeating some relevant examples and providing some new ones.

First, predicates 'to find' and 'to pay' obligatorily take ergative subjects as lexical verbs (62). However, as light verbs, they fail to retain an ergative subject, which are instead obligatorily marked nominative in unergative (and transitive) contexts (63).

62. *jɔn-ne/*jɔn utɦaar cukaayaa*

John-erg/*John.nom debt pay.perf.m.sg

'John paid the debt.'

63. *jɔn/*jɔn-ne nacc/nicch cukeyaa sii*

John.nom/*John-erg dance/sneeze pay.perf.m.sg be.pst.3.sg

‘John had danced/sneezed.’

Second, predicates ‘to give’ and ‘to take’, which compulsorily opt for an ergative subject as lexical verbs (64), only optionally allow ergative subjects when acting as light verbs in unergative complexes (65).

64. *jɔn-ne/*jɔn siiṯaa-nũũ/kolõ kiṯaab diṯṯii*

John-erg/*John.nom Sita-dat/abl book.f.sg give.perf.f.sg

‘John gave a book to Sita.’

65. *jɔn/jɔn-ne nicch diṯṯaa*

John.nom/John-erg sneeze give.perf.m.sg

‘John sneezed.’

The picture with transitive verbs is slightly different. Transitive subjects get obligatory nominative with 'ergative-licensing' light verbs 'to pay' and 'to find' and obligatory ergative with 'ergative-licensing' light verbs 'to give' and 'to take'. The first scenario is not of case-retention; hence, it does not support the claim that light verbs retain the ergative case assigning property of their lexical counterparts. The second, where the ergative case seems to be retained, is the one that demands further explanation, since prima facie, these cases are evidence of ergative case-licensing by certain light verbs. We would however like to suggest that these specific cases too fail to prove the ergative licensing potential of light verbs. This is because all transitive

verbs that light verbs ‘to give’ and ‘to take’ combine with, including *vekhnaa* 'to see', *maarnaa* 'to hit', *kajjna* ‘to cover’, *khaanaa* ‘to eat’, *piinaa* ‘to drink’ and *ginna* ‘to count’ individually (i.e. as simplex verbs) opt for obligatory ergative subjects in the perfective. When these transitive predicates combine with ergative-licensing light verbs, the subjects are also marked ergative. This renders it difficult to decide whether to attribute the availability of ergative case on subjects to light verbs or to lexical transitive verbs. Interestingly, all Hindi-Urdu speakers that we consulted have the same intuitions for their language: ergative subjects are compulsory with transitive verbs in the perfective, with or without the said light verbs. Hence, as for Punjabi, for Hindi-Urdu too, it is difficult to confirm that ergative case comes from the light verbs, instead of the lexical verb, contra Mahajan's claims.[13]

There is however one particular verb in Hindi-Urdu, *samajhnaa* ‘to understand’, which optionally takes an ergative subject. Mahajan illustrates that when this verb combines with the light verb ‘to take’, the ergative case marking on the subject becomes obligatory. He takes this as a solid evidence for ergative case-licensing by the light verb.

[13]We agree with a reviewer that light verbs denote different meanings (completion, ability etc) and therefore the underlying representations of complex predicates may be far more detailed than what has been suggested in this paper. While such alternative analyses do exist in the literature (cf. Butt and Ramchand, 2005), we feel that adopting them would take us away from the core issues addressed here – that of transitivity of the lexical verb and the case potential of the light verb in ergative case assignment on the subject. Hence, we keep this question aside for the moment.

Punjabi shows similar patterns with the same verb *samjɦnaa* ‘to understand’ as illustrated in the examples below.

66. *o* *ae* *gall* *samjɦeyaa*

3.sg.nom this matter.f.sg understand.perf.m.sg

‘He understood this matter.’

67. *o-ne* *ae gall* *samjɦii*

3.sg-erg this matter.f.sg understand.perf.f.sg

‘He understood this matter.’

The predicate ‘to understand’ allows both nominative and ergative subjects (66-67). When this predicate combines with the obligatorily ergative subject taking verb ‘to give’, the resultant complex structure allows only ergative subjects (68-69).

68. *o-ne* *ae gall* *samjɦ* *li̪t̪tii*

3.sg-erg this matter.f.sg understand take.perf.f.sg

‘He understood this matter.’

69. **o* *ae gall* *samjɦ* *li̪t̪taa*

3.sg.nom this matter.f.sg understand take.perf.m.sg

‘He understood the matter.’

Unlike Mahajan, who takes a similar contrast (as in Punjabi (68-69)) in Hindi-Urdu to indicate that ergative case comes from the light verb, we believe that this data too is inconclusive. ‘To understand’ has optional ergative case licensing property (see

examples in (66-67) again). The ergative case in (68) could therefore come from the predicate ‘to understand’ as much as from the light verb. Moreover, with the light verb *cukaanaa* ‘to pay’, which as a lexical verb licenses obligatory ergative (as already discussed above) ‘to understand’ forms a complex predicate with an obligatory nominative subject (70). This suggests that in the unergative as well as the transitive domain, the light verb does not determine ergative case assignment on the subject. A similar pattern in observed in Hindi-Urdu as well (71).

70. *jɔn/*jɔn-ne ae gall samjh cukeyaa sii*

John.nom/*John-erg this matter.f.sg understand pay.perf.m.sg be.pst.3.sg

‘John had understood the matter.’

71. *jɔn/*jɔn-ne ye baat samajh cukaa ̃thaa*

John.nom/*John-erg this matter.f.sg understand pay.perf.m.sg be.pst.3.sg

‘John had understood the matter.’

Thus far, we have provided evidence that Punjabi unergatives have overt cognate or implicit objects. Despite their transitive nature, they fail to host ergative subjects obligatorily, indicating that the transitivity of the lexical verb is not a determinant of morphological ergativity in the language. We have further illustrated that the light verbs in unergative light verb complexes too do not determine ergative case marking. We now face the task of locating the locus of ergative case licensing in unergative constructions in Punjabi. An additional question is regarding the mechanisms underlying

optionality of morphological ergativity in these constructions. In more precise terms, we want to understand the structural contexts under which ergative is assigned and the conditions that block its assignment, leading to nominative case valuation of the external argument.

5. Analysis

Before presenting our analysis, we investigate three influential accounts of morphological ergativity in the literature. We demonstrate that all three approaches - the dependent case approach, the clausal-bifurcation/added-structure approach and the inherent case approach – fall short of an adequate explanation for ergative case assignment in the Punjabi unergative domain.

Marantz (1991) proposes a dependent case analysis of ergative assignment that takes place in a post-syntactic morphological component. He posits that ergative, like accusative, is a dependent case assigned in a distinct position governed by V+I. The basic idea is as stated in (72)[14]:

[14]Baker (2013) too adopts the dependent case approach to account for ergativity in Shipibo. However, unlike Marantz who proposes that the domain for case competition between the two distinct DPs is a clause, Baker claims it to be a phase. This is stated as follows:

(i) If there are two distinct argumental NPs in the same phase such that NP1 c-commands NP2, then value the case feature of NP1 as ergative unless NP2 has been marked for case.

72. If there are two distinct NPs in the same clause ("governed by V+I") then:

Mark the lower one with dependent case (accusative) and/or

Mark the higher one with dependent case (ergative).

According to (72), in a nominative-accusative language, accusative case is a dependent case that is assigned to a lower nominal when the higher nominal gets a nominative case. Accusative is blocked in instances, when the higher nominal gets a non-nominative/quirky case. Similarly, in an ergative-absolutive system, it is the higher nominal that gets the dependent ergative case, when the lower nominal gets an absolutive case.

However, (72) cannot be easily extended to the Punjabi unergative data. As we have already observed, within the ergative case system of the language in the perfective, there are two possible cases on the unergative subject – nominative and ergative (73).

73. *jɔn/ jɔn-ne raavan-d̪ii hassii hãsseyaa*

John.nom/John-erg ravan-gen.f.sg laughter.f.sg laugh.perf.f.sg

'John laughed Ravan's laughter.'

Assuming that the accusative case on the (cognate) object comes from a functional head, the higher nominal, according to (72), must always carry an ergative case, contra facts. On the other hand, if the case on the object is inherent, we predict obligatory nominative on the subject, again contradicting the actual facts. Either way,

the optionality of ergative case on the unergative subject remains a problem for the dependent case approach, unless we assume that the object can carry both inherent and structural case in the same syntactic context.

An alternative approach proposed by Laka (2006), Coon (2010) and, Coon and Preminger (2012) based on clause-bifurcation or added-structure presents split ergativity as an epiphenomenon. Take the two structures (74-75) from Basque for illustration. In (74), the subject of the progressive clause is marked with *–a*. This is the same marker found on the object of the perfective clause, whose subject is marked with the ergative case *–ak* (75).

74. *emakume-a ogi-a jaten ari da*

woman-DET bread-DET eating PROG is

'The woman is eating (the) bread.'

75. *emakume-a-k ogi-ak ja-n d-it-u*

woman-DET-Erg bread-DET.PL eat-PRF 3A-PL-have3E

'The woman has eaten (the) bread.' (Laka, 2006: 177)

According to Laka, the progressive in (75) has a biclausal structure, with the main verb *–ari* 'to be engaged' selecting a PP ('in something'). This is shown in (76).

76. [$_{IP}$ emakume-a[$_{V2P}$ [$_{PP}$ [$_{NP}$ [$_{V1P}$ PRO [$_{DP}$ ogi-a] jan $_{V1}$] $_{N}$] $_{P}$] ari $_{V2}$] $_{I}$]

In (76), the object *–ogi* 'bread' and the lexical verb *jaten* 'eat' are placed inside a PP clause. The external argument of this subordinate clause is a PRO that is generated

in the specifier of VP. The higher clause has the progressive marker *-ari* as its predicate and *emakume* 'the woman' as the subject generated in the specifier of TP. The matrix subject is marked absolutive, and not ergative, since it is not a transitive subject – it is the argument of an unaccusative verb *-ari* (also see Forker, 2010; Kazenin, 1998, 2001; Kazenin and Testelec, 1999 for similar proposals for Nakh-Daghestanian languages).

In the perfective aspect, both the external as well as the internal argument are present in the same clause, with the former getting ergative and the latter getting absolutive case marked (77).

77. [$_{IP}$ emakume-ak [$_{VP}$ [$_{DP}$ ogi-ak] jan$_{V}$] ditu$_{I}$]

Coon (2010) and Coon and Preminger (2012) extend the analysis further to other split-ergative languages by arguing that clausal bifurcation or added-structure is an essential feature of non-perfective aspects: these are constructed using spatial/locative building blocks (also see Bybee, Perkins and Pagliuca, 1994; Demirdache and Uribe-Etxebarria, 2000). These large clause structures embedded below the predicate obscure the transitivity of the predicate for the case assigning system. Consequently, the external argument is marked nominative. Less structure renders the predicate's transitivity visible, thereby leading to ergative case assignment to the external argument.[15]

[15]As Coon and Preminger (2012) rightly point out, the clausal bifurcation analysis is compatible with Marantz's dependent case analysis. If the matrix subject is generated in a clause different from the one that hosts the internal argument, it will fail to receive a dependent ergative case.

The primary appeal of this analysis is that it hinges on the difference between imperfective and perfective aspects, which we believe need serious consideration in an explanation of aspect-based split ergativity. Moreover, it also seeks to explain morphological ergativity within the confines of the narrow syntactic component, rather than pushing it to the interfaces. However, some problems arise when we turn our attention to Punjabi unergatives with optionally marked ergative subjects in the perfective. If we adopt the clause bifurcation analysis, we must allow them two different representations: (78) for sentences with nominative subjects, and (79) for sentences with ergative subjects.

78. [DP [PRO obj V1] V2]

79. [DP obj V]

This however defeats the purpose since the perfective (78) with the nominative subject now resembles the imperfective structure representation: it has a PRO subject in the embedded clause and another in the matrix clause. The higher subject is marked with nominative due to its location in a higher clause. The problem with this approach is that it necessitates Punjabi to have similar clause structures for imperfectives and some perfectives (with nominative subjects).

An additional problem comes from other ergative subject constructions in the perfective (80), where (i) the matrix subject is marked ergative and, (ii) matrix and

embedded verbs both carry default morphology[16]. A very similar perfective sentence, but with long-distance matrix verb-embedded object agreement is shown in (81).

80. *ʔjɔn-ne rottii khaanaa caayaa*

John-erg bread.f.sg.nom eat.inf.m want.perf.m.sg

'John wanted to eat bread.'

81. *jɔn-ne rottii khaanii caayii*

John-erg bread.f.sg.nom eat.inf.f want.perf.f.sg

'John wanted to eat bread.'

As has been noticed previously by Bhatt (2005), Chandra (2007, 2011) among others, Hindi-Urdu also has both constructions – ergative subject constructions in the perfective without long-distance agreement (non-LDA) and ergative subject constructions in the perfective with long-distance agreement (LDA). Bhatt explains the optionality of LDA by positing a PRO in the embedded structures of (80) that act as interveners between matrix v and the lower argument (82). In contrast, (81) has no embedded PRO-subject, and therefore, no intervening element to prevent a long-distance phi-relation between the two elements (83). Both representations can be extended to the Punjabi facts in (80)-(81).

82. [Subj-ne [PRO obj V1] V2]

83. [Subj-ne [obj V1] V2]

[16] Some Punjabi speakers have obligatory matrix verb-embedded object agreement.

The representation in (82) is of utmost important here. The non-LDA structure has an embedded PRO subject, and resembles an imperfective representation à la Laka and Coon among others. However, this is a perfective structure, and even more importantly, one that has an ergative subject (not a nominative one), despite appearing in a clause separate from the one hosting the embedded object. If clause bifurcation was a real factor behind nominative case assignment on the matrix subject, we would incorrectly expect obligatory nominative case on the matrix subject in (82).

The final approach we would like to discuss here is the inherent case analysis of ergativity. Woolford (1997) claims that ergative is an inherent case, assigned in close association with the agent theta role and, hence, found only on external arguments. She also proposes that inherent case is licensed by the v head that introduces the external argument. Legate (2012) makes an important amendment to this, by suggesting that ergative case should not be linked to the agent theta role alone. All external theta roles including causative, experiencer, instrumental can also get ergative case. We show below that this is indeed true for ergative case in Punjabi which can appear on (i) agents (84), (ii) experiencer external arguments (85) and (iii) causer/instrumental external arguments (86).

84. *jɔn-ne siɪ̯taa-nũũ maaryaa*

John-erg Sita-acc hit.perf.m.sg

'John hit Sita.'

85. *jɔn-ne (jabardastii) mɛrii-nũũ pyaar kɨ̈ttaa*

John-erg (forcibly) Mary-acc love do.perf.m.sg

'John loved Mary (forcibly).'

86. *hawaa-ne kapɽe udaa ḍɨ̈tte*

air-erg cloth.m.pl fly.caus give.perf.m.pl

'Air made the clothes fly.'

As shown in (84), ergative appears on the agent of the predicate 'hit'. In (85), the subject DP is ergative case marked even as it gets the experiencer theta role from the predicate 'love'. However, note that such sentences must have the light verb 'do', and there is a certain amount of volitional/intentional meaning built into it (which explains why an intentional adverb 'forcibly' makes perfect sense here), which is clearly absent when the said light verb is missing and the subject is marked with a dative (87). Finally, in (86), the instrumental or the causer subject gets marked with the ergative case. In short, we have evidence that Punjabi ergative case is an inherent case that can appear on external arguments that generate in the specifier of the theta-assigning v head.

87. *jɔn-nũũ (*jabardastii) mɛrii naal pyaar hoyaa*

John-dat (*forcibly) Mary with love happen.perf.m.sg

'John fell in love with Mary.'

That said, the issue of optional ergative marking on Punjabi unergative subjects in the perfective remains a problem for this theory as well. One needs to further

examine the conditions under which nominative is sometimes valued on the subject, instead of it being always valued with inherent case by the theta-assigning v head. Along with an explanation of how both ergative and nominative case are valued on the unergative subject, there is the issue of aspect's role in ergative case-assignment in the language. In other words, the explanation must take into account featural as well as structural differences between perfective and imperfective heads that may have important consequences on the agreement and case relations that the arguments establish with different heads in the respective structures.

5.2 An alternative analysis

Our point of departure is an important difference between perfective and imperfective heads in Punjabi. Punjabi perfective aspect heads have an incomplete set of uninterpretable features (uFF), unlike imperfective aspect heads that have complete phi-feature sets. Perfective heads are participial in nature and lack a person feature. This has been attested in the historical literature as well, where the perfective aspect in modern Indo-Aryan languages is shown to be closely linked with the passive participial -*taa* constructions of Old Indo Aryan (Sanskrit) and Middle Indo Aryan (Apabhramsa) (see Bubenik, 1998; Butt and Deo, 2001; Garrett, 1990; Hock, 1986; Hook, 1991; Speijer, 1886; Trask, 1979). Take the passive participial construction in Sanskrit in (88).

88. *Indrenaa* *hato/hataa* *vali*

Indra.Instr.sg.masc. kill.PPP.Nom.sg Vali.Nom.sg.masc.

'Vali was killed by Indra.' (Stronsky, 2010:83)

Scholars believe that structures like (88) developed into ergative subject constructions in the perfective aspect in modern Indo Aryan languages, with the passive participial -*taa* developing into the perfective -*aa*. This development was accompanied by the instrumental case marker -*enaa* on the subject changing to the ergative case marker -*ne* (Chandra and Udaar, 2012).

The diachronic relation between the old passive participial head in Sanskrit and the perfective head in the modern ergative construction establishes that the latter is phi (person) feature defective. This incomplete feature composition has interesting consequences for optional ergative marking on unergative subjects, as we will detail below.[17]

Two other notions our analysis relies on heavily are that of phases and phase-sliding. We assume with Boeckx (2008, 2009), Chomsky (2000, 2004, 2005, 2007, 2008) and Gallego (2010) among others, that computations progress phase by phase, recursively accessing small sub-arrays drawn from the lexicon. These sub-arrays are assumed to determine syntactic objects that are interpretable at the interfaces; on the

[17]Anand and Nevins (2006) also point out that v heads in ergative subject constructions in the perfective are phi-defective and lack a person feature.

semantic side, these syntactic objects are taken as counterparts to propositions (cf. Chomsky, 2000).[18] Phase heads (generally taken to be C and v) define the domains for computations and once these computations are complete, a phase is shipped over to the interfaces by the Transfer operation (89).

89. Cyclic Transfer

Transfer hands D[erivation]-NS over to [PHON] and [SEM]

[Chomsky 2004: 107]

Transfer hands over the complements (VP and TP) of phase (v and C) heads to the interfaces. There are two versions on the timing of Transfer. According to the first (Chomsky, 2000) – also known as strong version of the Phase Impenetrability Condition (PIC), the complement of a phase is spelled out as soon as the phase head is introduced into the derivation; for instance, VP complement is spelled out when v is introduced. There is a second version of the PIC (Chomsky, 2001) that assumes that the complement of a phase is spelled out only when a higher phase head is introduced (90).

90. $[_{ZP}$ Z… $[_{HP}$ α [H YP]]], where Z and H are phase heads.

As shown in (90), YP is targeted for spell-out only when the next higher phase head Z is introduced into the derivation. Once the complement undergoes transfer, only

[18]Gallego (2010) understands phases as structural domains/boundaries in which uninterpretable features of core functional categories are valued and deleted.

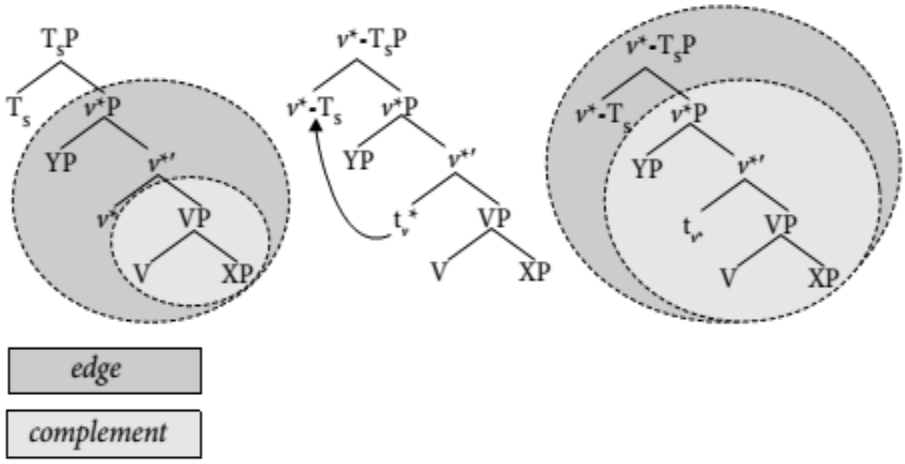
the head and its edge (H and α) remain accessible to higher heads for further computations. We adopt the second and the weaker version of PIC for our analysis of optional ergative with unergatives in Punjabi.

Finally, with Gallego (2007, 2010), we assume that phase heads can be extended (or "slided")[19] to the next higher head. This kind of head-movement can be understood as a sort of "upstairs inheritance" with two consequences: (i) it extends the 'checking domain' (in the sense of Chomsky, 1995), and (ii) it re-determines the phase boundary, in terms of the structure that is shipped off as part of Transfer. Below, we reproduce from Gallego, an instance of v*-T phase sliding, with the effect that TP becomes a phase and v*P the spell-out domain (91).[20]

[19]Den Dikken's (2006, 2007) proposes a 'Phase Extension Condition', which similarly extends the domain of operation, though there are some crucial differences between Gallego's and his understanding of phases.

[20]Some works place head movement in the PF component (Abels, 2003; Boeckx and Stjepanovic, 2001; and Chomsky, 2001). However, the issue remains contentious with others (Den Dikken, 2006; Donati, 2006; Matushansky, 2006) raising problems with the PF-approach.

91.



Following Gallego, we contend that Punjabi ergative case marking in unergative constructions obtains in structural contexts with phase-sliding of a lower head to a higher one. In perfective structures with nominative subjects, phase-sliding is not available. The details are given below.

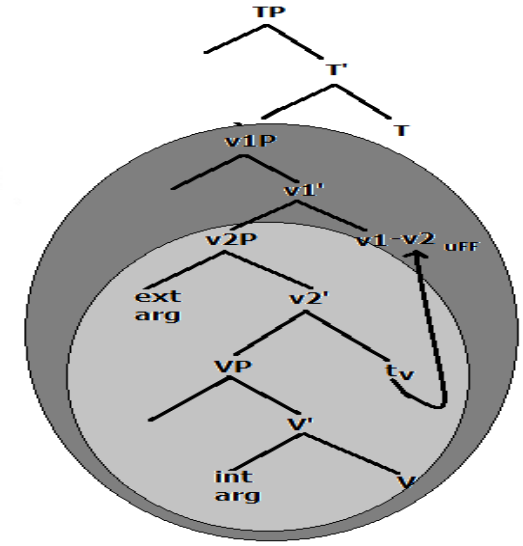
Take an ergative subject construction with an unergative predicate in (92). Its structural representation is given below in (93).

92. *kuɽii-ne* *nacceyaa/ khãŋgeyaa/ hãsseyaa*

girl-erg dance/cough/laugh.perf.m.sg

'The girl danced/ coughed/ laughed.'

93.



The tree in (93) is a double-layered vP structure. The higher v1 is a perfective/participial head *–aal*/*-yaa*, which is phi-defective (-person), while the lower v2 is a transitive v (phase) head with complete phi features. v2-v1 phase sliding takes place, with the phase boundary being pushed up to v1. Next, the phi-set of the resultant verbal complex seeks a goal. However, it cannot agree with the external argument and assign it a structural case value, since the DP has received a theta-role by the same head. This is under the assumption that a DP cannot enter into a phi-agreement relation and structural case valuation with the same head which selects and theta-assigns it (Rezac, 2008; Woolford, 2006). The verbal complex then seeks out the internal argument (overt cognate object/implicit object) and values it an accusative case in return of phi-values. The external argument on the other hand, is assigned an inherent

ergative case from the theta-checking head. Ergative case assignment, according to this analysis, is therefore not assigned to the external argument immediately upon its introduction into the derivation.

As for the features of T, which we assume are inherited from C (Chomsky, 2008; Richards, 2007), they cannot probe inside v2P and seek out the external argument, since by the time C is introduced in the derivation, the v2P complement of the v1P phase has been spelled out and its contents made inaccessible or inert for computations with higher heads. Most importantly, the external argument cannot move to the specifier of v1P due to anti locality restrictions (Abels, 2003; Grohmann, 2003) that disallows too local movement. In other words, the DP cannot move from the specifier of v2P to the specifier of a complex containing v2 as it is a very local movement – in this case, v1P's specifier position, in any, will be projected using features of v2. The other possibility, as pointed out by a reviewer, is that both arguments are case-valued before merging T into the derivation. This makes them inaccessible or invisible for phi operations with C-T.

C-T has the option of valuing its uFF with an expletive pro in TP's specifier or simply getting a default value (as a last resort) before the structure is shipped off to the interfaces. Sentence (94) illustrates default morphology on an optionally present

auxiliary –*sii* at T, in the presence of an ergative marked feminine DP subject and a feminine DP object.[21]

94. *mɛrii-ne raavan-d̪ii hasii hãssii sii*

Mary-erg ravan-gen.f.sg laugh.f.sg laugh.perf.m.sg be.past.3.m.sg

'Mary laughed Ravan's laughter.'

Next, we address optional nominative marking on unergative subjects in the perfective. For such constructions (95), we assign a similar structure, minus v2 to v1 phase sliding (96).

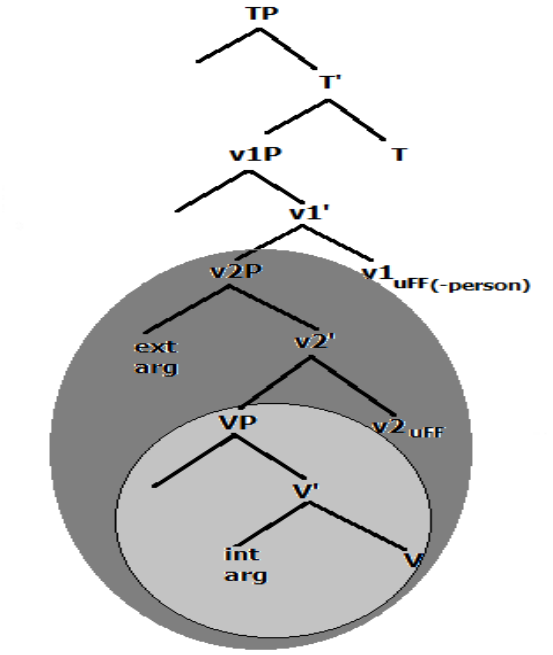
95. *kuɽii naccii/khãŋgii/ hãssii*

girl.nom dance/cough/laugh.perf.f.sg

'The girl danced/ coughed/ laughed.'

96.

[21]Hindi-Urdu is different from Punjabi in that its auxiliaries also agree with the null-marked accusative object, indicating that its T is involved in a phi-relation with the DP.



In (96), there is no phase sliding of v2 to v1. Consequently, v2 (and not v1) is the phase head. The v2 head, with its uninterpretable features checks them against the internal argument and values it accusative. v1 being defective (phi incomplete) cannot be a probe. Next, when C-T is merged, agreement takes place between C-T and the external argument, with full phi feature valuation corresponding to person, number and gender morphology on T, and nominative case on the external argument. Note that the external argument is at the edge of the lower v2P phase, and hence is visible to C-T. This explains how nominative case by T can be (optionally) assigned to the external argument in perfective structures. As for the unvalued features on v1, we assume that they will be valued via the operation Multiple Agree (97). C-T will agree simultaneously and derivationally with both v1 and the external argument.

97. Multiple Agree (multiple feature checking) with a single probe is a single simultaneous syntactic operation; Agree applies to all the matched goals at the same derivational point derivationally, simultaneously. (Hiraiwa, 2000)

Importantly, this optionality vanishes with certain predicates. 'To spit' and 'to scratch' require an ergative subject obligatorily, while predicates 'to walk' and 'to climb' take obligatory nominative in the absence of an overt object. We propose that the former class ('to spit', 'to scratch') only have the first option available to them, which requires phase sliding from v2 to v1, resulting in obligatory ergative. The second class ('to walk', 'to climb') cannot slide the phase boundary, and gets only nominative subjects. This therefore calls for some lexical idiosyncrasies in the language; certain verbs necessitate phase-sliding, while some others obligatorily block it.

Moving on to complex unergatives with light verbs (98), we observe that the perfective aspect *–aa* is carried on the light verb.

98. *kuɽii-ne hãss d̤i̤ttaa*

girl-erg laugh give.perf.m.sg

'The girl laughed.'

For (98), we assume that the light verb is placed at v1 – the aspect head – and being uFF-defective (-person), v2 moves to v1, creating a v1P phase. The rest of the derivation continues in the same manner as for simplex unergatives. The implicit object gets an accusative case from the verbal complex, while the external argument is

assigned ergative by the v head. In instances where phase-sliding does not take place, C-T accesses the external argument at the edge of the lower phase v2P, and values it nominative.

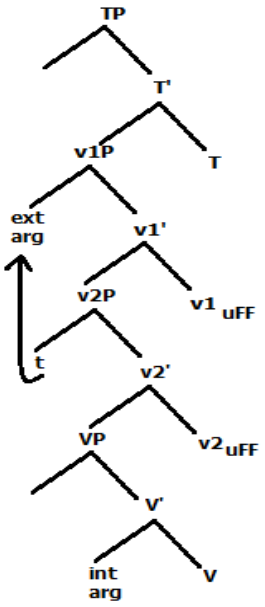
Finally, for imperfective unergative constructions with obligatory nominative subjects (99), we propose the representation in (100).

99. *kuɽii/*kuɽii-ne khurak/nacc/caɽh rayii e*

girl.nom/*girl-erg scratch/dance/climb stay.prog.f.sg be.pres.3.sg

'The girl is scratching/dancing/climbing.'

100.



As shown in (100), the external argument is generated in the specifier of v2P from where it receives a theta role. v2 checks its uninterpretable features against the

internal argument and values it accusative. Next, the imperfective head is introduced into the derivation as v1. Importantly, this head, unlike the perfective head, has a complete set of uFF. It is a phase head with an uninterpretable edge feature (in the sense of Chomsky 2005, 2006)[22]. The external argument moves to the specifier of v1P to satisfy the edge feature. As a consequence, C-T, once merged into the derivation, probes the external argument and values it nominative. Given that inherent ergative case on the external argument is impossible in imperfective structures, we must also assume that the edge feature-driven movement of the DP to the specifier of v1P is compulsory.

6. Conclusion

To conclude, we have observed that Punjabi morphological ergativity is determined neither by the transitivity of the unergative verb nor by the case assigning property of the light verb. Our contention is that Punjabi ergative is an inherent case assigned to the external argument when a lower v2 phase head moves/slides to the higher perfective (-person) v1 head. The external argument placed in the specifier of v2P is spelled out and therefore becomes inaccessible to the nominative case valuing head C-T. In instances when there is no phase sliding, v2P is a phase and the external

[22] We also assume that v2P, being transitive, is a phase.

argument at its edge remains accessible to the higher C-T head for phi feature and nominative case valuation.

While we espouse the ergative as inherent case approach for Punjabi morphological ergativity, our analysis is also compatible with the added-structure analysis of Laka, Coon and Preminger among others. With them, we observe that ergative case in the perfective is assigned in a domain (vP) smaller than the one (TP/CP) required for nominative case valuation in the imperfective. Unlike them however, we emphasize on the feature composition of perfective and imperfective heads and the derivational nature of 'checking' domains: the structural chunks in which case-valuation takes place depend on the nature of uFF and operations (e.g. phase-sliding) involved at any given point of the derivation.

If the alternative analysis proposed here is right, morphological ergativity in typologically related languages like Hindi-Urdu too emerges in the perfective due to its defective uFF composition, and the operations triggered thereby. Ergative case on the subject is a result of v2P being spelled out, making the external argument inaccessible to a higher case-valuing (C-T) head. That said, Hindi-Urdu, unlike Punjabi, also allows object (gender and number, but not person) agreement on the auxiliary in ergative subject constructions. Since the internal argument is shipped off to the interfaces before C-T merges, phi-agreement on the auxiliary should be ruled out for Hindi-Urdu too, contra facts. One possible answer to this difference is that Hindi-Urdu C-T is distinct in

that it inherits the feature values of the perfective v1, after the latter (v1-v2) has entered into Agree with the internal argument (and after v2P spell-out). That in turn implies that languages have the following options in perfective structures: (i) the uFF set on C-T is valued by an expletive pro (e.g. Punjabi with no object agreement on the auxiliary), or (ii) the uFF on C-T is checked against the checked features of v1 (eg. Hindi-Urdu with object agreement on the auxiliary). However, this parametric solution is tentative and needs to be substantiated with a more thorough cross-linguistic study of T and v heads in these two languages.

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