Ergative As Perfective Oblique*

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Abstract

Many languages with ergative systems of case or agreement exhibit *splits* in their alignment. Viewpoint aspect is a common determiner of such split: perfective aspect is often associated with ergative alignment, while imperfective is associated with its absence (Moravcsik, 1978; Silverstein, 1976). Recent work has argued that splits arise from properties of the imperfective that disrupt otherwise-available mechanisms of ergative alignment (Laka, 2006; Coon, 2010, 2013a). This paper argues rather that the perfective can be a *source* of ergative case, and specifically that ergative alignment in Hindi-Urdu arises from the intersection of two different ways of expressing perfective aspect, each attested independently in other languages. The first is the use of oblique case to mark perfect or perfective subjects, and the second is a morphosyntactic sensitivity to transitivity, a hallmark of auxiliary selection in Germanic and Romance languages. The result is a more unified view of the morphosyntax of perfective aspect, though at the cost of a non-unified account of aspectually split ergativity.

Keywords: syntax, case, aspect, ergativity, aspectual splits, auxiliary selection

1 Introduction

One of the general puzzles for work on ergative systems of case or agreement is the existence of splits in their alignment, and a common trigger for such splits is viewpoint aspect (Silverstein, 1976; Moravcsik, 1978; Dixon, 1979). A striking property of splits of all kinds, and a focus of much work, is their consistent profile cross-linguistically. Aspectual splits are no exception: in splits of this kind, perfective (and perfect) aspect is consistently associated with ergative alignment, while imperfective (or specifically progressive) aspect is associated with "accusative" alignment. This tendency can be expressed as a hierarchy along which different languages make splits at different points: Hindi (Mohanan, 1994) and Chol (Coon, 2010) show a split between perfective

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and imperfective aspects, for example, while Basque exhibits non-ergative alignment only in the progressive (Laka, 2006).

(1) *ERG/ABS alignment* ⟵ ⟶ *NOM/ACC alignment*

PERFECT , PFV ≫ IMPF ≫ PROG

↑ ↑

Hindi, Chol Basque

Work on aspectual splits has aimed to explain not only why ergative alignment would be sensitive to aspect, but also why it would be specifically sensitive to the hierarchy in (1). Speaking broadly, there have been two main families of syntactic approaches to these questions: the first proposes that aspectual splits are due to special properties of imperfective syntax that disrupt otherwise-available systems of ergative alignment (Laka, 2006; Coon, 2010, 2013a; Baker, 2015, a.o.); the second attributes aspectual splits to special properties of perfective aspect, proposing that perfective syntax contains a special source for ergative case (Mahajan, 1997; Ura, 2006; Anand and Nevins, 2006).[1]

The goal of this paper is to argue that the second approach is correct for at least some cases of aspectually split ergativity, focusing specifically on the case of Hindi-Urdu. This conclusion runs counter to Coon (2013a)'s recent proposal that all aspectual splits arise from alignment disruption in imperfective contexts, and that this uniform source explains the uniform direction of aspectual splits. Viewing at least some cases of ergativity as arising from properties of the perfective, however, has the advantage of unifying aspectual splits with a broader typology of perfective morphosyntax, specifically languages where the perfective is expressed by (non-ergative) oblique case on the clausal subject. The analysis of split ergativity in Hindi-Urdu developed here allows it to be unified not only with perfective-linked oblique case in these languages, but also with auxiliary HAVE in languages with auxiliary selection (following Mahajan, 1997).

The paper begins in section 2 by giving background on the aspectual split in Hindi-Urdu. Section 3 gives an overview of the analysis, for which comparative evidence is discussed in section 4. Section 5 presents the account for these typological patterns of perfective morphosyntax in more technical detail. Section 6 directly compares the proposal to the unified "heavy imperfective" approach to aspectual splits advocated by Coon (2013a), and section 7 concludes.

2 Ergativity In Hindi-Urdu

This section begins by introducing the aspectual split found in Hindi-Urdu, on which much of the subsequent discussion will be based. In Hindi-Urdu the ergative marker *-ne* appears on subjects only in the perfective and the perfect, as in (2). In the imperfective there is no overt case marking

[1]Baker (2015) follows Laka (2006) and Coon (2013a) in attributing aspectual splits to clause-dividing properties of aspectual syntax, but departs from them in arguing that perfective aspect is also able to perform this role. We return to this in section 6. This description of syntactic accounts of split ergativity sets aside primarily morphological accounts, including Keine (2007) and Optimality Theoretic approaches such as Woolford (2001) and Lee (2006).

on subjects, as shown in (3).[2]

(2) a. Raam-ne Ravii-ko piiṭaa.
Ram-ERG Ravii-OBJ beat-PFV
"Ram beat Ravi."
b. Raam-ne Ravii-ko piiṭaa hai.
Ram-ERG Ravii-OBJ beat-PFV BE.PRES
"Ram has beaten Ravi." *(Mohanan, 1994, 70)*

(3) Raam vah kitaabē paṛ^{h}taa th-aa
Raam those books(F) read-IMPF-M.SGbe.PAST-M.SG
"Raam used to read those books." *(Mahajan, 1997)*

In addition to the basic aspectual split, Hindi-Urdu has a so-called "split intransitive" system, with the ergative marker *-ne* appearing on the subjects of unergative verbs, as in (4), but not on the subjects of unaccusatives, as in (5).[3]

(4) a. Raam-ne nahaayaa
Ram-ERG bathe.PFV
"Ram bathed."
b. *Raam nahaayaa *(Mohanan, 1994, 71)*

(5) a. Raam giraa
Ram fall.PFV
"Ram fell."
b. *Raam-ne giraa *(Mohanan, 1994, 71)*

A subset of intransitive verbs is reported to vary in whether their subject is marked ergative. In these cases the presence of ergative marking correlates with an agentive interpretation (Mohanan, 1994; Butt and King, 2003; De Hoop and Narasimhan, 2005).

[2]Work on Hindi-Urdu glosses non-case-marked subjects variously as "nominative" or "absolutive" (the latter because non-specific inanimate objects are similarly bare, regardless of viewpoint aspect). In this paper I do not indicate any case value on arguments without overt case morphology. Transitive objects appear with differential object marking (DOM) when they are both specific and animate; the DOM suffix *-ko* is homophonous with dative case morphology, but is often glossed as "accusative" (e.g. by Mohanan 1994). In this paper differentially-marked objects are uniformly glossed as OBJ (= "objective").

[3]The availability of ergative case in intransitive clauses may vary across speakers. While the judgements given here are based on those reported by Mohanan (1994), confirmed where possible with other sources, an anonymous reviewer reports that ergative case is not possible for them in (4), and is dispreferred even with the agentive interpretation in sentences like (6). Section 4.2 returns to the contrast between ergative-assigning and non-ergative-assigning verbs in Hindi-Urdu, showing that the contrast these classes more broadly parallels better known contrasts between HAVE-selecting unergatives and BE-selecting unaccusatives in Germanic and Romance languages. Note also that this split between intransitive verb types contrasts with ergative systems where all intransitive subjects appear with absolutive case, regardless of argument structure.

(6) a. raam-ne chiikh-aa
Raam-ERG scream-PFV.SG.M
"Raam screamed (purposefully)."
b. raam chiikh-aa
raam.NOM scream-PFV.SG.M
"Raam screamed." *(De Hoop and Narasimhan, 2005, 67)*

Morphological agreement in Hindi-Urdu is closely connected to these patterns of case marking. Finite agreement is uniformly with the structurally highest argument that is not overtly case marked, which can be either an external or internal argument.[4] In the absence of any such DP, the verb appears with third-person singular masculine agreement morphology. In the perfective, this often means that agreement shows ergative alignment.[5] The pattern is complicated, however, by interactions with differential object marking, which is obligatory on specific animate direct objects (Mohanan, 1994; Bhatt and Anagnostopoulou, 1996). Not being bare, differentially-marked objects do not trigger agreement. The mechanism underlying the assignment of particular marking to direct objects is not directly relevant here.[6] What is relevant is that differential object marking illustrates the fact that morphological agreement in Hindi-Urdu is uniformly sensitive to whether an argument occurs with overt case marking.

3 Preview: Perfective Aspect As a Source For Ergative Case

The analysis pursued in this paper is based on a quite simple idea: if ergative case appears only in the perfective, it should be linked to some syntactic element that itself occurs only in the perfective. Work on the semantics of aspect assumes the presence of a dedicated projection Asp^0 in all finite clauses, e.g.: Tenny (1987); Smith (1991); Klein (1994); Giorgi and Pianesi (1997); Kratzer (1998); Kusumoto (1999); Demirdache and Uribe-Etxebarria (2000) (among many others). Such a projection is less universally assumed in syntactic work, but it is reasonably adopted for languages with a robust grammatical contrast between perfective and imperfective clauses.

The core of the proposal to be developed here is that ergative in Hindi-Urdu is an oblique case licensed by a perfective aspectual head Asp^0_{perf} on a DP that has moved into its specifier.[7] This is illustrated schematically by the tree in in (7).

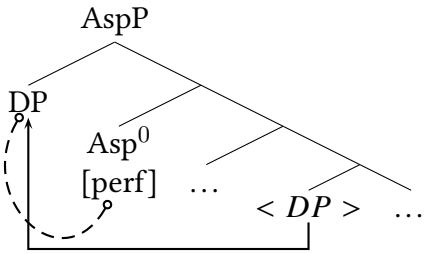
[4] As observed by Bobaljik (2008), this is a very common pattern of finite agreement, accounting for both nominative and absolutive patterns of agreement.

[5] While in nominative-accusative systems, intransitive and transitive subjects (A and S) pattern against transitive objects (O), in ergative-absolutive systems, intransitive subjects and transitive objects (S and O) pattern against transitive subjects (A).

[6] The reader is referred to Aissen (2003) and subsequent work for more discussion of differential object marking cross-linguistically.

[7] This bears some similarity to the analysis developed in Anand and Nevins (2006), with the difference that they locate perfective aspect in the same v^0 head associated with passive voice, and assign ergative case to the surface subject in its first-Merge position.

(7)



Perfective Asp^0 thus licenses a DP in its specifier, though it does not semantically introduce that argument.[8] Ergative alignment in case results, I argue, from Asp^0_{perf} being unable to attract internal argument DPs; in section 5 I argue that this inability to attract internal arguments is due to their having been assigned accusative case by v^0. Thus ergative alignment is indirectly due to the case properties of v^0, but to its ability to license accusative rather than its ability to license ergative. This analysis of Hindi-Urdu essentially follows Legate (2006, 2008)'s arguments that Hindi-Urdu is an "ABS=DEF" language, where a morphologically default "absolutive" case obscures a syntactic contrast between structural nominative and accusative cases.

From this perspective, aspectual splits of the type found in Hindi-Urdu are in some sense epiphenomenal, arising from the interaction of two separate dimensions of case licensing. The next section demonstrates that when we look cross-linguistically at the morphosyntax of perfective aspect, each of these dimensions is attested independently of the other. From this typological perspective, aspectual splits are in fact predicted—but crucially only if we view (some cases of) split ergativity of arising from the syntax of perfective aspect itself, rather than from alignment disruption in imperfective contexts.

4 The (Distributively) Ergative Typology Of the Perfective

As outlined above, this paper argues that aspectually split ergativity can arise from the interaction of two properties of perfective aspectual syntax. The first is that perfective aspect is expressed (in part) by oblique subject case; the second is that the morphological effect of Asp^0_{perf} is sensitive to the argument structure of its complement (an asymmetry between external and internal arguments).

This section demonstrates that each of these properties is attested independent of the other in other languages' perfective constructions, independently of ergative alignment. There are languages where perfective aspect involves uniform oblique case on clausal subjects, and there are also languages where the morphological realization of Asp^0_{perf} itself is sensitive to argument structure without being visibly involved in case assignment (i.e. in auxiliary selection).

Before discussing the relevant languages in detail, however, it will be helpful to say something about the relationship between perfective aspect and the perfect. In what follows I focus on the

[8] Bjorkman and Cowper (2014) suggest a similar analysis of the possessive modality construction in Hindi-Urdu (involving a dative subject in a clause with the copular verb BE, Bhatt 1997), involving the assignment of oblique case to an argument that moves into the specifier of a functional head.

role of perfective aspect in ergative splits and (later) auxiliary selection, but in many of the languages discussed here there is a close connection between perfective aspect and the perfect.[9] Associations between perfective aspect and the perfect have been noted in typologically oriented work such as Comrie (1976) and Bybee et al. (1994). In the languages that are the focus of this paper, this connection in some cases arises because the perfect is uniformly perfective: while perfect+imperfective combinations are available in some languages (e.g. Bulgarian, Pancheva, 2003; English *have been writing*; etc.), in other languages the perfect always involves perfective morphology (e.g. Hindi-Urdu, French, Italian). Other languages simply lack a contrast in viewpoint aspect altogether, but have a perfect that exhibits some of the morphosyntactic properties of perfective aspect (e.g. German and Dutch). These connections raise questions about the representation of viewpoint aspect and the perfect, and whether they can be fully distinguished from one another. This issue is taken up in section 4.2; until that point I note when particular morphosyntactic forms allow or are limited to perfect interpretations.

4.1 Oblique Subject Case In the Perfective

If the syntax of the perfective is the source of aspectually split ergative, we expect in principle to find languages where the perfective is uniformly associated with oblique subject marking. I argue in this section that exactly this link between perfective and uniformly oblique subjects is what we find in so-called "possessive perfect" constructions in North Russian (Jung, 2011; Lavine, 2000; Timberlake, 1974) and Estonian (Lindström and Tragel, 2010), as well as in case marking patterns in Kartvelian languages (Tuite, 1998).

Georgian is perhaps the best known Kartvelian language; it exhibits an aspectually split system of case marking much like that seen in Hindi-Urdu, with ergative case appearing on subjects only in "series II" contexts, a category that includes the perfective (="aorist"). The related language Mingrelian exhibits a similar association between perfective aspect and subject case, but has lost ergative alignment, so that the historical "ergative" marker appears on all subjects in perfective contexts, regardless of argument structure (Harris, 1985; Tuite, 1998).

> "The rule for assigning ERG case in Mingrelian can be summed up as follows: Any constituent that is assigned NOM case in series I (whatever its grammatical role might be) is assigned ERG case in series II." (Tuite 1998, 205)

This is illustrated in (8) and (9). The verbs in (8) are all in "series II" forms, and their subjects are uniformly marked with the suffix *-k*. This suffix is glossed as "ergative" for historical reasons—it has the same source as genuinely ergative markers in related languages—but the fact that it occurs on the unaccusative subject of *die* in (8a) suggests that it does not have ergative distribution in

[9] While the term *perfective* is used to refer to a viewpoint aspect contrast with the *imperfective*, of the type that relates an event time to an intermediate reference time (Reichenbach, 1947; Smith, 1991), there is broad consensus that the *perfect* is a higher-order operator, whether it is treated as a higher aspect or as a relative tense (Iatridou et al., 2003; Alexiadou et al., 2003; Reed, 2011; Stowell, 2007, 2008; Pancheva, 2003; Pancheva and von Stechow, 2004, among many others). While there is considerable debate surrounding the semantic denotation of the perfect, it is clear that the perfect does not directly locate the time of an event, and that it should be semantically distinguished from the perfective.

Mingrelian. The verbs in (9), by contrast, occur in "series I", and their subjects occur with different (nominative) case morphology, the same marking that occurs on direct objects in series II.

(8) a. ḳoč-k doɣuru
man-ERG die.II.3SG(SUBJ)
"The man died."
b. ʒɣabi-k (ko)szap'u
girl-ERG dance.II.3SG(SUBJ)
"The girl danced."
c. muma-k cxen-i (ki)meču skua-s
father-ERG horse-NOM give.II.3SG(SUBJ).3SG(OBJ).3SG(IO) child-DAT
"The father gave a horse to the child." *(Mingrelian: Harris, 1985, 55-56)*

(9) a. ḳoč-i ɣuru
man-NOM die.I.3SG(SUBJ)
"The man dies."
b. ʒɣab-i tli dɣas mušens
girl-NOM whole day work.I.3SG(SUBJ)
"The girl works all day."
c. muma arʒens cxen-s skua-s
father.NOM give.I.3SG(SUBJ).3SG(OBJ).3SG(IO) horse-DAT child-DAT
"The father gives a horse to his child." *(Mingrelian: Harris, 1985, 56)*

In contrast to the other languages discussed in this paper, there is little direct evidence for analyzing the perfective subject in Mingrelian as specifically oblique: verbs in Mingrelian exhibit subject agreement in series II, just as in Georgian verbs can agree with ergative-marked subjects. As Harris (1985) observes, however, while the case marking in (8) exhibits nominative-accusative alignment, describing the suffix *-k* as nominative would miss both the generalization that Mingrelian maintains an aspectually split case system, despite having lost ergative alignment, as well as the observation that the same case that appears on imperfective subjects (glossed here as nominative) also occurs on perfective objects, as in (8c). The pattern of case marking in Mingrelian is straightforwardly captured if we assume that the historical ergative has been reanalyzed as a case uniformly assigned by perfective aspect to the clausal subject.

In Estonian and North Russian we find perfect constructions that similarly occur with a uniformly marked subject case, here a clearly oblique case, the one that occurs on subjects in possessive constructions. Neither Estonian nor Russian exhibits a possessive verb HAVE, instead expressing possession with the verb BE together with oblique marking on the possessor.

(10) U menja est' kniga
at me.GEN be.1SG book
"I have a book." *(Russian: Jung, 2011, 2)*

(11) Mu-l on uus auto.
I-ADE BE.3SG new car

"I have a new car." *(Estonian: Lindström and Tragel, 2010, 374)*

Both North Russian dialects and contemporary Estonian have developed a perfect construction that resembles their respective predicative possession constructions. Jung (2011) describes the relevant construction in North Russian dialects as involving an oblique (genitive) subject also marked by the preposition *u*, together with a passive participle verb form (the "-n/-t" participle). The oblique subject case appears not only with transitive verbs, but also with intransitives, regardless of argument structure.

(12) U lisicy uneseno kuročka.
at fox.GEN carried-off-NO chicken.NOM.F
"A fox has carried off a chicken." *(N. Russian: Kuz'mina and Nemčenko, 1971, 27)*

(13) Eto u avtomobilja ideno
that at automobile.GEN gone.PTCP.N.SG
"That was a car that went by." *(N. Russian: Lavine, 2000)*

(14) U traktora tut proexano.
at tractor.GEN here passed.by.PTCP.N.SG
"A tractor has passed by here." *(N. Russian: Lavine, 2000)*

Jung discusses evidence that the genitive DP is indeed a canonical subject: it is able to bind reflexive *svoj* 'own' (15a); can control infinitival PRO (15b); and allows parallelism with nominative subjects (15c). Jung observes that in these respects it is unlike other genitive arguments, such as benefactives.

(15) a. U Šrki privedeno svoja staraja nevesta.
at Šrka.GEN bring.PTCP.N.SG[own old fiancée].NOM.SG.F
"Šrka has brought his own old fiancée." *(N. Russian: Kuz'mina and Nemčenko, 1971, 35)*

b. U babki naverno PRO kosit' ujdeno.
at grandma.GEN probably mow.INF left.PTCP.N.SG
"Grandma has probably left to mow." *(N. Russian: Lavine, 2000)*

c. U menja eto ne zakončeno, no pojdu poguljat'
at me.GEN this not finished.PTCP.N.SGbut go.FUT.1SG take a walk.INF
"I have not finished this but will go to take a walk." *(N. Russian: Jung 2011, 115, citing Zh. Glushan p.c.)*

Similar facts are described for Estonian by Lindström and Tragel (2010), though they observe that the Estonian construction is at a relatively early stage of development.[10]

[10]Mark Norris (p.c.) reports that this construction in Estonian remains strongly limited to animate agentive subjects. This is further indication that, as Lindström and Tragel (2010) suggest, it has not yet fully grammaticalized as a perfect construction in the language. Perhaps relatedly, unlike Russian, which has no other specifically perfect inflection or construction (Paslawska and Von Stechow, 2003), Estonian does have a pre-existing perfect, formed

As in North Russian varieties, the possessive perfect in Estonian is expressed in part by oblique marking on the subject, here adessive case, together with an auxiliary verb BE and a passive participle form of the main verb. Adessive case and BE both parallel the possessive construction illustrated above in (11),

With transitive verbs, as in (16a), the result is ambiguous between possessive and perfect interpretations, but with intransitive verbs the interpretation is unambiguously perfect.

(16) a. Mu-l on auto pes-tud.
I-ADE be.3SG car wash-PASS.PTCP
'My car is/has been washed.'/'I have washed the car.'
b. Mu-l on juba maga-tud.
I-ADE be.3SGalready sleep-PASS.PTCP
'I have already slept.' *(Estonian: Lindström and Tragel, 2010, 381)*

The existence of languages where perfective or perfect aspect is uniformly associated with oblique subject marking argues in favour of the idea that aspectual syntax – specifically perfective syntax – can directly control the case assigned to the subject.

If perfective Asp^0 is able to license oblique subject case in these languages, moreover, this same syntactic head is a potential source for "oblique" (i.e. ergative) case in languages with aspectually split ergativity, assuming an explanation can be found for why this case is only available to external arguments.[11] We know independently that the morphosyntax of the perfect can be sensitive to argument structure, however, from the well-studied phenomenon of auxiliary selection.

4.2 Argument Structure Sensitivity In the Perfective

Auxiliary selection refers to the alternation between auxiliary HAVE and auxiliary BE in Germanic and Romance periphrastic perfect constructions, and it has been discussed in the generative literature on argument structure going back to Perlmutter (1978).

In standard varieties of Dutch, German, Italian, and French, the alternation has been described as tracking the presence of an external argument: transitive and unergative verbs require auxiliary HAVE, while unaccusative verbs require BE. (17) illustrates this with examples from Italian.

(17) a. Ha trovato quel libro
HAVE.3SG find.PTCP that book
"S/he has found that book."

with the auxiliary BE and a past (non-passive) participle:

(i) Ma olen kirjutanud ühte raamatut
I BE.1SG write.PTCP one.GEN book.GEN
"I have written a book." *(Viitso, 2003, 62)*

[11] Both Jung (2011) and Lavine (2000) make the link between aspectually split ergativity and the dative subject construction in North Russian.

b. Ha suonato.
HAVE.3SG play.PTCP
"S/he has played."
c. È andata
BE.3SG gone.PTCP.F
"She has gone." *(Italian)*

Auxiliary selection is generally described as occurring in the perfect, rather than with perfective aspect. It is worth noting, however, that in colloquial French and Italian the relevant auxiliary-participle construction has replaced the former simple past perfective (the *passé simple* and *passato remoto*, respectively), which is now restricted to formal or literary use. In Dutch and German, by contrast, the perfect does contrast with a simple past form, but in these languages there is no grammatical contrast between perfective and imperfective viewpoint aspect, so that the perfect is the first temporal functional projection outside the *v*P.[12]

As first noted by Mahajan (1997), the distribution of HAVE in auxiliary selection matches the distribution of ergative case in Hindi-Urdu. The parallels persist, moreover, beyond the core pattern exemplified in (17), into what are often regarded as exceptions to straightforward argument sensitivity.

For example, we saw in (6) that some intransitive verbs in Hindi-Urdu show optionality in the distribution of ergative case. With such verbs the presence of ergative case correlates with an agentive interpretation for the clausal subject.

(18) Optional Ergative = Correlation with Agentivity (repeated from (6))
a. raam-ne chiikh-aa
Raam-ERG scream-PFV.SG.M
"Raam screamed (purposefully)."
b. raam chiikh-aa
raam.NOM scream-PFV.SG.M
"Raam screamed." *(Hindi-Urdu: De Hoop and Narasimhan, 2005, 67)*

Similar correlations with agentivity have been described in auxiliary selection, particularly by Sorace (2000, 2004). She demonstrates that certain classes of intransitive verbs in Italian prefer auxiliary *avere* (=HAVE) when their subject is agentive or animate, and prefer auxiliary *essere* (=BE) when their subject is non-agentive or inanimate. These preferences are less categorical than those reported for Hindi-Urdu, but the direction of the preference is consistently in the same direction.

With verbs expressing the continuation of a state, for example, Sorace shows that inanimate subjects prefer *essere*, while animate subjects allow either auxiliary.

[12]The exception is Bavarian and Austrian varieties of German, where the perfect has supplanted the simple past, just as it has in French and Italian. But the observation that there is no perfective/imperfective contrast in these languages continues to hold.

(19) Verbs expressing continuation of a state

a. Il presidente e / ha durato in carica due anni
the president is / has lasted in post two years
"The president lasted in post for two years."

b. La guerra e / ?ha durato a lungo
the war is / has lasted for long
"The war lasted a long time." *(Italian: Sorace, 2000, 867-8)*

Other classes of verbs show a preference in both directions, with animate agentive subjects showing a greater preference for *avere* (in some cases requiring it), while inanimate subjects show greater preference (or less dispreference) for *essere*. In (20), for example, both animate and inanimate subjects prefer *avere*, but this preference is weaker for inanimate subjects, which can allow *essere* (though still dispreferred).

(20) Verbs expressing controlled affecting processes

a. Maria ha / *e ceduta alle tue insistenze
Maria has / is yielded to your pressure
"Maria yielded to your pressure."

b. Il pavimento ha / ?e ceduto all'improvviso
the floor has / is yielded suddenly
"The floor suddenly yielded.' *(Italian: Sorace, 2000, 875)*

(21) Verbs expressing controlled motional processes

a. Il pilota ha / ?e atterrato sulla pista di emergenza
the pilot has / is landed on the runway of emergency
"The pilot landed on the emergency runway."

b. L'aereo e / ?ha atterrato sulla pista di emergenza
the plane is / has landed on the runway of emergency
"The plane landed on the emergency runway." *(Italian: Sorace, 2000, 876)*

(22) Verbs expressing nonvolitional processes

a. Paolo ha tentennato / *e tentennato a lungo prima di decidersi
Paolo has wavered / is wavered for long before of decide-self
"Paolo wavered for a long time before he made up his mind."

b. La fede religiosa ha tentennato / ??e tentennata anche nei piu forti
the faith religious has wavered / is wavered even in the strongest
"The religious faith wavered even in the strongest people." *(Italian: Sorace, 2000, 877)*

While the strength of this preference varies across different verb classes, the direction of the preference is uniformly parallel to the one found in Hindi-Urdu.

Another exceptional case in Hindi-Urdu involves a small class of transitive predicates that idiosyncratically allow non-ergative subjects in the perfective, including *bhuulna* 'forget' and *laanaa*

'bring'; a similar case is the verb *samajhnaa* 'understand', which shows optional ergativity (Keine, 2007).

(23) a. Raam šiišaa laayaa
Ram mirror bring.PFV
"Ram brought the mirror."
b. *Raam-ne šiišaa laayaa *(Hindi-Urdu: Mohanan, 1994, 72)*

Again, we find a similar exception in auxiliary selection, this time in Dutch, where a small class of transitive verbs (optionally) allow auxiliary *zijn* (=BE) rather than *hebben* (=HAVE). These verbs include *naderen* 'approach'; *volgen* 'follow'; *passeren* 'pass'; *verliezen* 'lose'; and (perhaps most strikingly) *vergeten* 'forget' (Lieber and Baayen, 1997, 810-1).

(24) a. Ik heb mijn sleutels verloren
I have my keys lost
"I've lost my keys."
b. Ik ben mijn sleutels verloren
I am my keys lost
"I've lost my keys." *(Dutch: Lieber and Baayen, 1997, 811)*

Finally, Bhatt (2007) mentions a dialect of Maṛathi, Gowari, in which the aspectual split is further conditioned by a person split. Person splits are well known in the literature on ergativity, but what is interesting about Gowari is that the person split occurs only in perfective contexts.

In Standard Maṛathi, only third person arguments show overt ergative morphology. But while first and second person pronouns are not overtly marked, they nonetheless fail to trigger agreement (i.e. for the purposes of agreement they behave as though they bear oblique case). In Gowari, by contrast, unmarked first and second person arguments trigger agreement in otherwise-ergative contexts, while the overtly ergative third person does not:

(25) a. **mī** devā-javaḷ tudjyaa-sāmne pāp **ke-lo**.
1SG.NOM God-near you-in.front.of sin.NEU.SG do-M.1SG.PAST
"I committed a sin near God and in front of you."
b. mag **tyā-n** baapā-lā uttar **di-lan**.
then 3-ERG.SG father-DAT.SG answer.NEU.NOM.SG give-NEU.3SG.PAST
"Then he gave an answer to his father." *(Gowari: (Bhatt, 2007))*

This is particularly interesting because subject person and number are also a well-known determinant of auxiliary selection in Italian dialects; Manzini and Savoia (1998, 2007) explicitly draw the parallel between split ergativity and auxiliary selection on the basis of their shared reference to person splits. A wide variety of patterns are attested, but in some dialects the distribution of HAVE mirrors the distribution of ergative in Gowari. In Abruzzi, for example, the perfect auxiliary is uniformly BE in the first or second person, but is determined by the argument structure of the predicate in the third person (Manzini and Savoia, 2007, citing Loporcaro, 1999; Kayne, 1993,

citing Loporcaro, 1989).[13]

(26) a. so mə'nu:tə
be.PRES.1SG come
"I have come."

b. ʎə so ca'ma:tə
him be.PRES.1SG called
"I have called him."

c. e mə'nu:tə
be.PRES.3SG come
"He has come."

d. ʎə **a** ca'ma:tə
him **have.PRES.3SG** called
"He has called him." *(Colledimacina (Abruzzi): Manzini and Savoia, 2007, 206-7)*

In sum, the parallels between auxiliary selection and aspectual splits go beyond the core similarities noted by Mahajan (1997), extending even to cases that look like exceptions to the core pattern.[14] This provides strong support for the proposal that auxiliary HAVE and ergative case are two reflections of a single underlying syntax.

Once we adopt this connection, moreover, we have further reason to associate ergative case with the higher projection Asp^0, rather than with v^0. Though many authors working on auxiliary selection have linked it to properties of v^0, so that auxiliary HAVE is directly involved in licensing an external argument (e.g. Hoekstra, 1984; Kayne, 1993; Den Dikken, 1994), this approach has difficulty explaining the fact that the perfect auxiliary co-occurs with the passive auxiliary (also BE), and always occurs higher than the passive. If we assume that the passive auxiliary itself occurs no lower than v^0, then the perfect auxiliary must be located higher still, no lower than Asp^0.[15] If the perfect auxiliary is located above v^0, however, then its morphological realization (as HAVE vs. BE) must be able to be sensitive to argument structure even through it is not directly involved in the composition of argument structure—in other words, auxiliary selection requires

[13]While the similarities between person splits in auxiliary selection and in aspectually split ergativity are striking, auxiliary selection appears to exhibit a wider variety in person splits, with many patterns other than the one illustrated in (26) (Tuttle, 1986; Ledgeway, 2000; Legendre, 2007; Manzini and Savoia, 2007; McFadden, 2007). Indeed, nearly the reverse of the pattern in (26) is described for Castro dei Volsci: BE in the third person, HAVE in the second person, and alternation between BE and HAVE in the first person (Tuttle, 1986). This paper does not directly analyze person-based splits in either auxiliary selection or aspectually split ergativity; I leave an explanation of why person splits show wider variety in auxiliary selection than in ergative alignment to future work. As a purely speculative remark, it is also possible that further descriptive work on micro-variation among Indo-Aryan varieties, of the kind that has been carried out for Italo-Romance, might uncover a wider diversity of interactions between person and ergative alignment in the perfective.

[15]For the Germanic languages with auxiliary selection, where there is no morphological contrast in viewpoint aspect, the perfect auxiliary may indeed be located in Asp^0. For the Romance languages with auxiliary selection, however, the situation is more complex, as these languages also exhibit a contrast between perfective and imperfective (though this contrast is not maintained in the perfect). While the perfect could be identified as a third possible value for Asp^0, the more common approach (supported by semantic analyses of the perfect such as Iatridou et al., 2003, Pancheva, 2003) is to locate the perfect in a higher head, between Asp^0 and T^0, often labelled Perf^0. We return to the question of where the perfect auxiliary is located below, in section 5.3.

some mechanism for a head located outside the *v*P domain to be sensitive to *v*P-internal argument structure.

As for auxiliary selection, the fact that aspectually split ergative case is sensitive to argument structure has led to its being associated with v^0. Given the strong parallels between auxiliary selection and aspectually split ergativity, however, whatever mechanism accounts for argument structure sensitivity in the former can in principle be extended to the latter, and there is no reason that ergative case need be associated with v^0 rather than with Asp^0. The details of this analysis are developed in section 5, for split ergativity in section 5.2 and for auxiliary selection in section 5.3.

4.3 Ergativity At the Intersection Of Two Typological Patterns

This section has described two independently attested patterns of perfective morphosyntax, each of which shares different properties in common with aspectually split ergativity: oblique subject perfective constructions share the association between subject case and perfective aspect, while auxiliary selection shares sensitivity to argument structure.

Aspectually split ergativity can be seen as the result of those two patterns co-occurring in a single language. Split ergative alignment in Hindi-Urdu shares the oblique-subject-marking found in perfects in North Russian, Estonian, and Mingrelian, while also sharing the argument structure sensitivity found in perfects in auxiliary selection languages. The table in (27) summarizes the resulting typological picture of perfective marking across languages:

(27)

	Perfective Marking	
	Aux HAVE	ERG/OBL for Subj
Only in Transitive	*Italian, Dutch*	*Hindi-Urdu*
Uniform	*English, Spanish*	*Estonian, North Russian, Mingrelian*

This integration of aspectually split ergativity into the typology of perfective marking is possible only if we view ergative case as a marking perfective aspect. If we instead adopted the view that ergative case alignment is an independent property of a language, one that happens to be suppressed in imperfective clauses (as proposed by Coon, 2010, 2013a), then we could not view ergative case as a direct marker of perfective aspect. As a result, the typological picture summarized in (27) would remain incomplete, with a gap in the upper right quadrant, and we would face the question of why the argument-structure sensitivity of auxiliary selection languages apparently never arises in languages where the perfective or the perfect are marked via subject case.

What now remains is to develop a structural analysis of how case assignment by an aspectual head takes place, and how both that case assignment and realization of the aspectual auxiliary can be sensitive to argument structure. The next section turns to this issue.

5 The Proposal In Detail

Both ergative case and auxiliary selection are often linked very directly to argument structure licensing, often via v^0. A common view of auxiliary selection is that HAVE is required to *retransitivize* the passive participle, allowing it to take an external argument (Hoekstra, 1984; Den Dikken, 1994, a.o.), or HAVE is otherwise involved in licensing the external argument (Kayne, 1993).

Ergativity is similarly often diachronically linked to the passive, and ergative case is widely viewed as an inherent case assigned to thematic subjects in their base position (Woolford, 1997; Ura, 2000; Legate, 2008, a.o), or otherwise an oblique case involved in argument licensing (Bok-Bennema, 1991; Johns, 1992; Mahajan, 1997, a.o.). Perfective-linked ergative case is also attributed directly to v^0, for example by Anand and Nevins (2006), who propose that ergative is licensed by perfective v^0, which for them is in fact structurally the same head as passive v^0.

These approaches to auxiliary selection and to ergativity have the advantage of descriptively linking the presence of an external argument and particular morphosyntax (auxiliary HAVE or ergative case), but there are nonetheless good reasons to divorce both auxiliary HAVE and perfective-linked ergative from the head v^0.

First, to the extent that there is evidence that aspect composes semantically outside the thematic domain of the clause, we have evidence that aspectual semantics should not be attributed to v^0. This is in line with much work that has argued for expanded functional structure in the thematic domain of the clause (Borer, 2005; Alexiadou et al., 2006; Ramchand, 2008; Pylkkänen, 2008; Harley, 2013, a.o.). Indeed, as a more general starting point it makes more sense to associate uniquely perfective morphosyntax with a projection that is directly associated with aspectual semantics—i.e. with Asp^0—rather than with head within the argument structural domain of the clause.

Second, we see in auxiliary selection languages that the perfective auxiliary can co-occur with passive BE, e.g. in the Italian example in (28). If passives involve the head involved in external argument licensing (i.e. v^0), then the passive auxiliary cannot be any lower than this head; given that the perfect auxiliary is higher than the passive auxiliary, this requires that the perfect auxiliary be located higher than v^0.[16]

(28) Le ragazze sono state arrestate.
the.F.PLgirls.F.PLare.PLbeen.F.PLarrested.F.PL
"The girls have been arrested." *(D'Alessandro and Roberts, 2008: 478)*

[16]In fact, there is reason to think that the passive auxiliary realizes a head higher than v^0, given the quite general view that auxiliary BE occurs in order to realize inflectional morphology that would otherwise be unexpressed due to the low position of the participial main verb (Dechaine, 1995; Schütze, 2003; Cowper, 2010; Bjorkman, 2011; Harwood, 2014, a.o.). Cowper (2010) and Harwood (2014), in particular, argue directly that non-finite auxiliaries in English occur in the position associated with their morphology, i.e. that the passive auxiliary occurs in a progressive aspectual head when it is realized as *being*, but in a higher perfect head when it is realized as *been*. This bears on the broader question of whether perfect or passive semantics should be associated with the auxiliary or with the participial morphology on the main verb: the existence of reduced relative clauses, which contain a participle but no auxiliary (e.g. *the book [left on the table]*), argue in favour of associating passive semantics with the participle rather than with the auxiliary. Again, we will return to the specific syntactic question of where the perfect auxiliary occurs in section 5.3.

Finally, for aspectually split languages, it is challenging to explain why an ergative-assigning v^0 head is unavailable in the imperfective—i.e., why ergative case cannot be assigned to the subject in its base position, below a higher progressive or imperfective aspectual head.

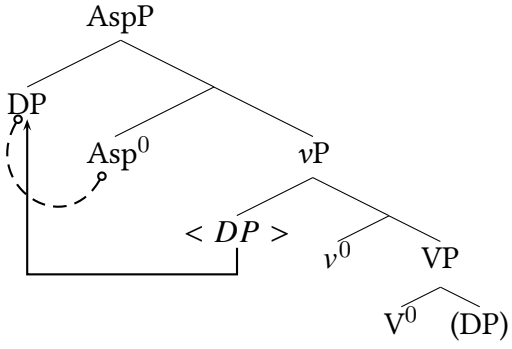
For these reasons, the remainder of this section directly attributes perfective-linked morphosyntax, including both oblique subject case and auxiliary HAVE, to properties of a higher aspectual head (perfective Asp^0). This head is realized in some languages directly as auxiliary HAVE, while in others it instead controls the morphological realization of arguments in its specifier by assigning them oblique case. In its guise as a case assigner, perfective Asp^0 resembles an applicative head, in that this head licenses a DP in its specifier by assigning a particular (oblique) case (Pylkkänen, 2008). It is unlike an applicative head, however, in not semantically introducing that argument, instead simply attracting a lower argument DP.[17] In this sense, the case licensed by Asp^0 is an instance of a structural oblique case, analogous to the oblique case required on the derived subjects of modal predicates in many languages (see e.g. Bhatt 1997 for arguments that dative modal subjects in Hindi-Urdu are derived by raising). Though it has been argued that ergative is universally an inherent case, for example by Woolford (1997), many authors have argued that ergative can arise as a structural case, among them Levin and Massam (1985), Murasugi (1992), Bobaljik (1993), Laka (1993), Bittner and Hale (1996), Bobaljik and Branigan (2006), Rezac et al. (2014).

The remainder of this section reviews how this general proposal is able to derive the specific morphosyntactic patterns introduced in section 4.

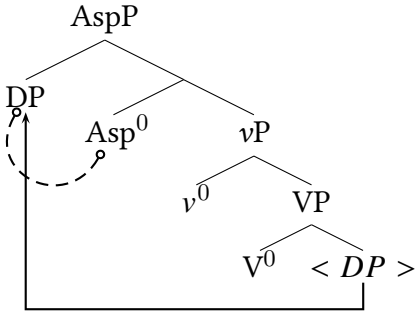
5.1 Uniform Oblique Subjects: Mingrelian, North Russian, Estonian

In languages where perfect or perfective aspect is associated with uniformly oblique subjects (including Mingrelian, North Russian, and Estonian), the syntactic effects of perfective Asp^0 are not sensitive to the argument structure of its complement. I propose that Asp^0_{perf} simply attracts the structurally highest DP in its complement, regardless of whether that DP originates as an external or internal argument. This is illustrated schematically in (29).

(29) a. Transitive/Unergative



b. Unaccusative



[17] Myler (2013, 2014) argues that the syntax of possession can involve an applicative head that does not introduce an argument, but that licenses an argument that raises into its specifier. Given that many of the perfective constructions discussed in this paper developed historically from possessive constructions, this may strengthen the parallel between perfective aspect and applicative functional heads.

The mechanism through which attraction to Spec-AspP is accomplished is not crucial to this paper: I assume that it is the result of either downwards probing by [uφ] on Asp^0 (assuming Downwards Agree: Chomsky, 2000, et seq.), or upwards probing by the DP argument itself, presumably motivated by the need to check a case feature (assuming Upwards Agree: Wurmbrand, 2011; Zeijlstra, 2012). What is crucial is only that the presence of specific case morphology on the subject is correlated with the subject having moved to Spec-AspP.[18]

For corresponding imperfective clauses, where no oblique case appears on clausal subjects, at least two potential analyses suggest themselves. The first would be that imperfective aspect in these languages is structurally unmarked, in the sense that imperfective clauses lack a syntactic aspectual projection altogether. Note, though, that this option raises some issues for semantic composition, if we take aspect to necessarily mediate between the *v*P domain (expressing something like a predicate of events) and tense (generally taken to compose with a predicate of times); this option would also face empirical issues in accounting for languages where imperfectivity is at least sometimes associated with overt morphology. The second option would be to say that the imperfective aspectual head in these languages lacks the property, however encoded, of licensing case on an argument in its specifier. This would be an arbitrary difference in the lexical specification of perfective versus imperfective aspect in these languages, one for which we would hope to find a deeper explanation, but which may be a historical accident resulting from the types of constructions from which perfects and perfectives tend to grammaticalize.

This raises the question of why perfective Asp^0 is able to check Case on the external argument in the first place, and why the Case it checks is oblique. In all of the examples reviewed here, the diachronic source of this morphosyntactic reanalysis is known: either possessive or ergative morphology has been reinterpreted as a case uniformly available to perfective subjects. From a synchronic perspective, however, it is nonetheless important to ask how the formal representation of perfective aspect could be related to its case licensing properties.[19] I return to this question in section 6; for now, note that the same issue of relating perfective interpretations to possessive syntax has arisen for prepositional analyses of the perfective auxiliary HAVE, independent of any interaction with Case.

[18]Motivating movement movement based on a higher φ-probe, as in the standard Downward Agree framework, would be more compatible with much recent work that has challenged analyses of case in terms of syntactic feature checking, particularly work proposing an alternative competition-based theory of case, e.g. Marantz (2000), Preminger (2014), Baker (2015), a.o.. To account for the correlation between Agree and movement, however, this analysis would depend on the presence of a meta EPP feature on Asp^0. Bjorkman and Zeijlstra (2015) argue that an Upwards Agree framework can motivate movement without the need for EPP features, though at the cost of requiring that case be implemented in terms of syntactic feature for a proposal that motivates movement without EPP features in an Upwards Agree system of case and agreement. As this debate is not directly relevant to the analysis developed here, I set is aside; whichever analysis is adopted, I assume that a DP in Spec-AspP is able to subsequently move to Spec-TP (in much the same way that, e.g., quirky subjects or dative experiencers are able to move to Spec-TP in other languages). The fact that such subjects are able to trigger φ-agreement in Mingrelian, but not in either North Russian or Estonian, I assume arises from independent factors determining whether non-nominative arguments are able to act as valuers for the purposes of agreement in the language (cf. Bobaljik, 2008; Baker, 2008).

[19]This question is complicated that in some of the languages under discussion, including Mingrelian and Georgian, imperfective aspect is in fact associated with uniform dative case on internal arguments (Harris, 1981, 1985), so that we must ask why perfective and imperfective aspect are both able to license particular cases, but apparently in different directions. A conclusive answer to this question is beyond the scope of this paper, though section 6 does return to the ability of perfective to license subject case.

5.2 Ergatively Aligned Oblique Subjects: Hindi-Urdu

The previous section proposed that a perfective Asp^0 head can license oblique Case on clausal subjects simply by virtue of being the most local Case assigning functional head in a clause. To extend this account to aspectually split ergativity in Hindi-Urdu, Asp^0's ability to license ergative Case on internal arguments must be limited in some way, to prevent it from licensing case on unaccusative subjects in the perfect and the perfective, which uniformly surface without ergative marking (in the unmarked "absolutive").

This is, in fact, a type of "Split-S" alignment: the marking of intransitive subjects is not uniformly absolutive, but is instead influenced by the agentivity of the subject. The division between true ergative-absolutive alignment and Split-S systerms is generally attributed to variation in case licensing by intransitive active v^0: in ergative-absolutive systems, v^0 is only able to license inherent ergative to its specifier in transitive clauses, while in Split-S systems inherent case is available to all external arguments merged in Spec-vP (i.e. to all agents), regardless of transitivity.

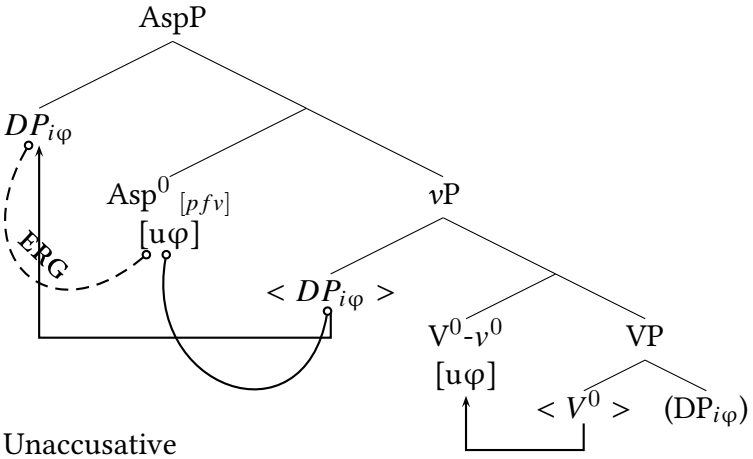
The case asymmetry between unaccusative and unergative subjects in Split-S systems can be equally well explained, however, if ergative case is in principle available in all intransitive clauses, but some other factor prevents unaccusative subjects from receiving ergative marking. One possible avenue of explanation arises from considering a broader set of candidates for movement to Asp^0. While in Mingrelian, North Russian, and Estonian, the aspectual head necessarily attracts a DP argument to its specifier, I propose that ergative alignment in Hindi-Urdu arises because Asp^0 is able to attract either the external argument DP (which moves to Spec-AspP, as in the other languages), or the participial verb itself (which undergoes local head movement to Asp^0).

This rests on the idea that Asp^0 attracts the closest nominal in its complement, and that the participial main verb counts as nominal in a relevant sense. Here I assume that it is the presence of φ-features on the participle—or more accurately on v^0—that allows it to be attracted by Asp^0.[20] For purposes of illustration, consider a downwards-probing model of Agree in which a [uφ] probe on Asp^0 (accompanied by an EPP feature) is responsible for movement. When an external argument occurs in Spec-vP, it will be the closest φ-valued element in the complement of Asp^0, and so will be the target of Agree and will move to Spec-AspP, as shown in (30a).

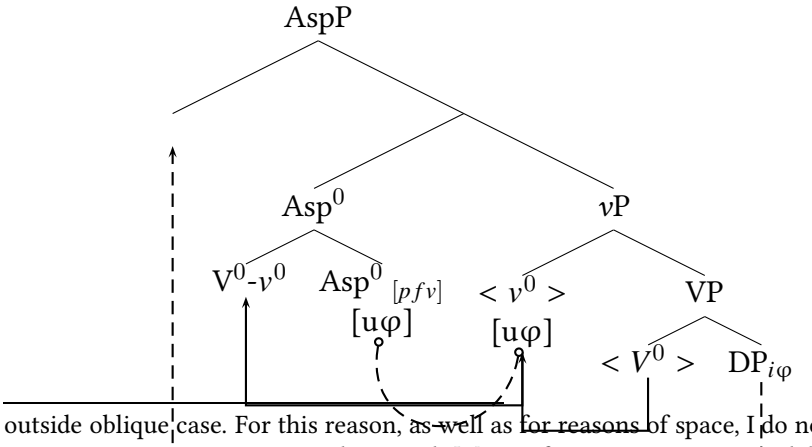
[20]This proposal has the advantage that it can be extended to auxiliary selection, as we will see in section 4.2. A case asymmetry between unaccusative and unergative subjects could also be explained, however, if accusative case were uniformly available to internal arguments, even in intransitive clauses. In Hindi-Urdu, this would mean that "absolutive" internal arguments are uniformly structurally accusative, even when they surface as intransitive subjects. This has been proposed elsewhere, for example by Bhatt (1997, 2006), based on the appearance of differential object marking on passive subjects, and the preservation of zero-morphology on unaccusative subjects in modal constructions, which otherwise require dative case. To explain the movement of unaccusative subjects to Spec-TP—as well as the movement of ergative-marked subjects to the same position—this account would require that though the presence of accusative case prevents internal arguments from establishing a case relation with Asp^0, arguments with either accusative or ergative case nonetheless remain active for the purposes of Agree with the higher head T^0. One way to frame this is in terms of a restriction on case stacking, by saying that it is possible to stack structural nominative "outside" either accusative or oblique case, but not possible to stack oblique ergative outside any structural case. Though there is a considerable literature on case stacking phenomena (Bejar and Massam, 1999; Richards, 2009 on Lardil; Pesetsky, 2013 on Russian; Gerdts and Youn, 1988; Cho and Sells, 1995; Levin, 2013 on Korean; Baker, 2015 on Cuzco Quechua; among many others), the zero-marking of core arguments in Hindi-Urdu makes it difficult to directly evaluate whether this language in fact allows the stacking of nominative or accusative

In the absence of an external argument, however, I suggest that the next potential goal for Agree is not the internal argument, but instead the valued φ-features on v^0. I suggest that v^0 is a potential goal as a result of its own prior Agree relation with the internal argument, building on Pesetsky and Torrego's 2007 suggestion that the output of Agree is feature sharing. The result of Agree between Asp^0 and v^0 will be head movement, satisfying the former's EPP requirement.[21] This is illustrated in (30b).

(30) a. Transitive/Unergative:



b. Unaccusative



outside oblique case. For this reason, as well as for reasons of space, I do not further pursue this alternative here.

As an anonymous reviewer observes, however, if accusative case is available in some languages even in intransitive clauses, this makes a possible prediction that in some language case morphology with an absolutive distribution, appearing on transitive objects and (some) intransitive subjects, could be comparatively morphologically marked. Such "marked absolutive" patterns are typologically rare—both Greenberg (1966) and Dixon (1979) suggest they are unattested—but have been recently described in a small number of languages, most clearly for the Austronesian language Nias (Brown, 2001). Notably, however, the current proposal provides a source for marked absolutive only for internal argument subjects (i.e. by suggesting they are structurally accusative); a true marked absolutive, available to both unaccusative and unergative subjects, could not be accounted for without an independent argument that unergative subjects originate lower than the head that licenses accusative case. Relevantly for the analysis of marked absolutive in Nias, a relatively low position for unergative subjects has been independently proposed for the related languages Niuean (Massam, 2012, to appear) and Samoan (Tollan, 2015).

[21] This presupposes that head movement and phrasal movement are subject to the same triggers, differing only in whether the features involved occur on the head of the probe's complement or in some other position. In the upwards-probing model of Bjorkman and Zeijlstra (2015), the ability of either the external argument or v^0 to value φfeatures on Asp^0 depends on Asp^0 having first checked some feature of theirs (e.g. a structural case feature on the external argument and a verbal inflectional feature on v^0).

The proposed agreement between v^0 and the internal argument is morphologically reflected in Hindi-Urdu as absolutively-aligned agreement. Absolutive agreement is visible in Hindi-Urdu not only on main verbs, however, but also on finite auxiliaries, as shown again in (31).

(31) Rahul-ne kitaab paṛh-ii th-ii
Rahul-ERG book(F) read-F.SG(PFV) be.PAST-F.SG
"Rahul had read the book." *(Bhatt, 2005, 760)*

If v^0 intervenes between Asp^0 and the internal argument for the purposes of φ-agreement, and if movement of v^0 to Asp^0 is what prevents the internal argument from moving to Spec-AspP (thus preventing the internal argument from being realized with ergative case), why does v^0 not prevent T^0 from agreeing with the internal argument, and why does verb movement to T^0 not prevent movement of unaccusative subjects to Spec-TP?

We might start by asking whether there is in fact evidence that unaccusative subjects move to Spec-TP in Hindi Urdu; word order does not provide clear evidence for subject movement in head-final languages, and finite agreement with the absolutive internal argument could be established indirectly, via agreement of T^0 with v^0. Unaccusative subjects in Hindi-Urdu do show evidence of occurring in a canonical subject position; beyond controlling finite agreement, they also are able to bind subject-oriented reflexives (Kidwai, 2000), and can control conjunctive participles (Subbārāo, 2012).

Assuming that movement occurs only when triggered by Agree, the movement of unaccusative subjects to Spec-TP must mean that T^0 is able to Agree directly with the internal argument, across the intervening [uφ] features in v^0. In other words, T^0 must differ from Asp^0 in being able to Agree only with DPs, not with any element bearing φ-features.[22] This can be implemented by relativizing the agreement probe on T^0 to the presence of a categorial D feature, in addition to φ-features; though v^0 bears valued φfeatures, it does not bear this categorial feature, and so will not intervene to prevent the internal argument from moving to Spec-TP.[23]

One effect of this proposal is that it divorces the ergative alignment of Hindi-Urdu's case system from the ergative alignment seen in its agreement: the mechanisms that result in "unmarked" case to internal arguments (intervention of v^0 between Asp^0 and the internal argument) are different from the mechanisms that allow them to trigger finite φ-agreement (inability of ergative DPs to value φ on T^0). This is very much in line with a recent proposal by Patel-Grosz and Grosz (2013, 2014). Patel-Grosz and Grosz argue that ergative agreement patterns have a quite different source from ergative case marking. They focus in particular on a pattern of "nested" agreement found in languages such as Kutchi Gujarati and Marwari. In perfective contexts in these languages the

[22] The same must be true of Asp^0 in North Russian, Estonian, and Mingrelian, or we would expect these languages to also exhibit ergative alignment in the distribution of perfective-linked oblique subject case.

[23] Alexiadou and Anagnostopoulou (1998) make a similar proposal that the EPP can be satisfied either by phrasal movement (of the subject to Spec-TP), or by head movement (of the verb). They correlate this with the availability of *pro*-drop, and so with whether verbal agreement in a language has a sufficiently "pronominal" character to satisfy T^0's requirement for a nominal element. While they propose this as a language-by-language parameter, however, the account developed here does require that Asp^0 and T^0 in a single language be able to differ in whether they can attract either a DP or the verb, or whether they can only attract full DP arguments.

main verb agrees with internal arguments, just as it does in Hindi-Urdu, but a finite auxiliary (if present) agrees with the surface subject. This is illustrated in (32) and (33):

(32) a. John mane jo-i ha-se.
John me(F).DOM see-PFV.F.SGAUX-FUT.3SG
"John will have seen me." (speaker is female)
b. Hu chokra-ne jo-y-a ha-is.
I(F) boys-DOM see-PFV-PLAUX-FUT.1SG
"I will have seen the boys." (speaker is female) *(Kutchi Gujarati: Patel-Grosz and Grosz, 2014, ex. 11b, 12b)*

(33) a. mhāī sītā-ne dekhī hū
I Sita-DOM saw.F am.1SG
"I have seen Sita."
b. jāp sītā-ne dekhī ho.
you(PL) Sita-DOM saw.F are.2PL
"You have seen Sita." *(Marwari: Patel-Grosz and Grosz, 2014, ex. 13a,b)*

Patel-Grosz and Grosz (2014) argue that the agreement on the main verb in these data is accomplished by v^0—plausibly as a reflex of the case licensing relationship between that head and the internal argument—while agreement on the finite auxiliary is the result of a separate relationship between T^0 and the DP attracted into its specifier. The key difference between Hindi-Urdu on the one hand and Kutchi Gujarati and Marwari on the other would then be whether ergative case renders a DP unable to value the φ-features of T^0. Just as I have argued here for Hindi-Urdu, they also attribute ergative case to the structures involved in the composition of perfective aspect. Though their account differs in some details, both share a disassociation between the mechanisms that license ergative case and the mechanisms that result in φ-agreement on verbs and auxiliaries.

As a final point, so far we have not explained the small class of transitive subjects that are not assigned ergative Case. These cases can be accommodated, however, if such subjects occur in a non-agentive subject position, so long as that position is lower than the head that licenses accusative case (within an expanded v^0 domain).[24]

By attributing ergative case in Hindi-Urdu to perfective Asp^0, we necessarily abandon the view that this case is assigned inherently to thematic subjects: its limitation to agentive external arguments is explained instead by the fact that only those arguments are merged higher than the source for accusative case. An alternative proposal appears in Anand and Nevins (2006), who propose that ergative is an inherent case assigned by v^0, but that the relevant instance of v^0 occurs only in the perfective (indeed, they attribute perfective semantics directly to this v^0 head).

[24]There is independent evidence that (non-)agentivity may be represented lower than the position associated with transitive argument licensing in Hindi-Urdu: the passive auxiliary *jaa* (lit. 'go') occurs above various light verbs, which are themselves either agentive or non-agentive; the example in (34) illustrates the light verb *di* 'give' below the passive auxiliary. This fits in with proposals that expand the internal structure of the *v*P domain, arguing for fine distinctions in the structural position of arguments based on their semantic role in event structure, e.g. Borer (2005), Ramchand (2008), a.o..

An advantage of the current account is that it does not require this kind of tight association between aspect and v^0. While it is in principle possible to associate aspectual semantics with v^0, rather than with a dedicated aspectual projection,[25] we find in Hindi-Urdu that both imperfective and progressive aspects combine productively with the passive; as the example in (34) illustrates, the passive and progressive auxiliaries are clearly separate from one another, not lending themselves to analysis as a single syntactic head.

(34) Shyam-ka ghar beech di-yaa jaa rah-aa hai
Shyam-GEN house sell give-M.SGgo(PASS) PROG-IMPF.M.SGbe.PRES.3SG
"Shyam's house is being sold off." *(Poornima, 2012, p.73)*

This suggests that alternations in voice should be represented separately in the clause from as least some categories of viewpoint aspect, providing evidence for separate Asp^0 and v^0 heads. If these heads are distinct, then a selectional account would be required to explain why ergative-assigning v^0 occurs only in the perfective, never in imperfective contexts. This is not conceptually ruled out, but a simpler account is possible by simply locating ergative case assignment on perfective Asp^0 directly, as has been done here.

Finally, we will see below in the discussion of auxiliary selection that locating this alternation on Asp^0 provides a potential extension to cases where aspectually split ergativity is further split according to the person and number of the subject, as in the example of Gowari discussed earlier.

5.3 Extension to Auxiliary HAVE and Auxiliary Selection

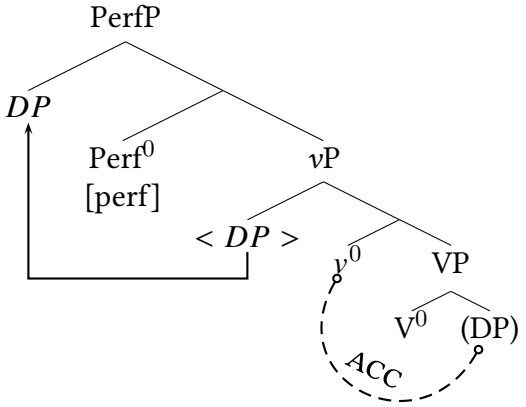
The approach just developed for aspectual splits can be extended to languages with auxiliary selection of the type found in Germanic and Romance, the main difference being in the morphological consequence of Asp^0 attracting a DP to its specifier. In languages like Hindi-Urdu, Estonian, North Russian, and Mingrelian, I have suggested that perfective Asp^0 assigns oblique case to an argument that moves to its specifier. In languages with auxiliary selection, by contrast, I suggest that perfective aspect does not influence the morphological realization of argument DPs, but instead influences the realization of the perfective auxiliary as HAVE vs. BE.

There is a long tradition of linking the presence of auxiliary HAVE very directly to transitivity, by analyzing HAVE as an intrinsically transitive verb that serves to retransitivize the passive participle main verb (Belvin and Dikken, 1997; Den Dikken, 1994; Hoekstra, 1984, 1994, a.o.). Syntactically implementing this approach in its strong form requires that the perfect contain the syntactic (and so the morphological and semantic) content of the passive. This appears to predict that perfects should involve reduced agency, or other characteristics of passive interpretation, or at least that perfect subjects, being introduced in a different structural position than subjects of other clause types, should exhibit some interpretive difference. Neither of these predictions is borne out.

[25] For a recent detailed proposal that viewpoint aspect as part of the same head that introduces the external argument, though framed in terms of syntactic features rather than compositional semantics, see Cowper and Hall (2012).

I propose instead that auxiliary HAVE arises from a structure involving a perfect head parallel to the perfective Asp^0 head involved in the oblique-subject perfectives above. Like perfective Asp^0, this perfect head does not introduce any argument, and so is not semantically transitive, but is realized as HAVE when an argument occurs in its specifier, in that sense being syntactically transitive.[26] For convenience I refer to this head as Perf^0 rather than Asp^0; while for languages like Dutch and German, where there is no aspectual contrast other than perfect/non-perfect, there would be no conflict in identifying the head as Asp^0, we will see below that for languages with a further imperfective/perfective contrast it is convenient to distinguish the perfect head Perf^0 from a lower viewpoint aspectual head Asp^0 we can represent this perfect head as Asp^0. Setting this complication aside for the moment, movement of an external argument to the specifier of Perf^0 is illustrated in (35).

(35) Perf^0 realized as HAVE when DP occurs in its specifier (as BE otherwise)



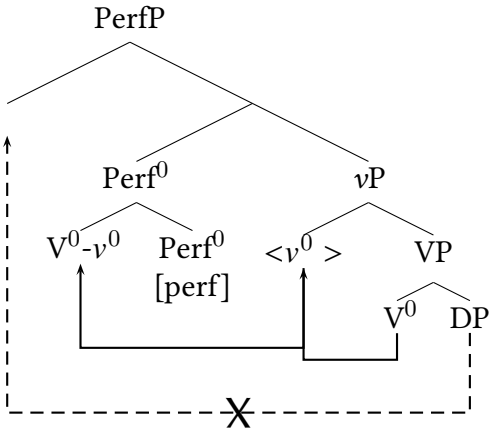
The same puzzle arises here as for aspectually split ergativity: why do internal arguments not move into Spec-PerfP, so that passives and unaccusatives show different behaviour (here auxiliary BE rather than the absence of ergative case) from unergatives and transitives? I propose that this arises from the same mechanism used to account for argument structure sensitivity in Hindi-Urdu: in unaccusative contexts, the participial verb itself undergoes movement to Perf^0, preventing the internal argument from doing so.

Again, when an external argument occurs below Perf^0 in Spec-vP, it will be the closest φ-valued element in the complement of Perf^0 and so will be attracted. When no external argument is present, however, the φ-valuation of participial v^0 insulates the internal argument from moving. This is illustrated in (36), where local movement of v^0 to Perf^0 preempts less local movement of the internal argument to Spec-PerfP.[27]

[26] A similar view of *possessive* HAVE as involving raising into the specifier of a functional head (an applicative head) can be found in the work of Myler (2013, 2014). See also Bjorkman and Cowper (2013, 2014) for this type of view of causative and modal uses of HAVE.

[27] An anonymous reviewer observes that this raises another possible explanation for the realizational difference between HAVE and BE: rather than HAVE being the realization of Perf^0 when a DP occurs in its specifier, BE could instead be the result of v^0 to Perf^0 movement. I assume that finite auxiliary BE is simply the realization of tense or other inflectional features in the absence of verb movement to T^0 (following Bjorkman, 2011, a.o.); if participle movement to Perf^0 prevents movement of Perf^0 to T^0, and it is Perf^0 that would be realized as HAVE, the two explanations yield the same basic result. The small advantage of viewing HAVE as a realization of Asp^0 when an argument occurs in its specifier is that this preserves the intuition that HAVE is in some sense a "transitive" auxiliary;

(36)



The result of this structure will be that the participial main verb is pronounced in Perf^0; I assume that finite auxiliary BE is simply the realization of finite inflection in T^0, which cannot be realized on the participial main verb (Cowper, 2010; Bjorkman, 2011; Harwood, 2014, a.o.). Whether the auxiliary is realized as HAVE, as in (35), or as BE, as in (36), the participial morphology on the main verb can be attributed either to valuation of its inflectional features by Perf^0, or to the realization of the main verb plus v^0 in the absence of further finite inflection from T^0 (potentially accounting for the identity between the passive and perfect participles).

We are now in a position to return to the question of how the perfect should be represented in languages that exhibit a further contrast between perfective and imperfective viewpoint aspect. As noted at the beginning of section 4, such languages differ in whether contrasts in viewpoint aspect are available in the perfect. In languages like English and Bulgarian, the same aspectual contrasts available elsewhere in the language are also available in the perfect, lending clear evidence that a perfect head Perf^0 can combine freely with different values of a lower aspectual head Asp^0.

In the Romance languages with auxiliary selection, by contrast—namely French and Italian—there is no contrast between perfective and imperfective in the perfect. Even setting aside the observation that in spoken varieties of both French and Italian the morphological perfect has supplanted the simple past in expressing past perfective meanings, the semantic interpretations available to the perfect in these languages suggests that the perfect is always perfective (Pancheva, 2003).[28] For this reason, we can regard the "perfect" in contemporary French and Italian is one possible value of the viewpoint aspectual head Asp^0, either in binary opposition with the imperfective, or as a subtype of perfective (i.e. in a three-way contrast between imperfective, perfective, and perfective-perfect).

The current account of auxiliary selection can be extended even if the perfect in French and Italian does involve a separate head Perf^0 above Asp^0. This type of account would have to specify that Perf^0 occurs only with perfective values of Asp^0, but otherwise the properties of Perf^0 would be the same as in (35) and (36) above: when an external argument is attracted into Spec-PerfP, Perf^0 is realized as HAVE and the participial main verb remains lower in the structure (here in

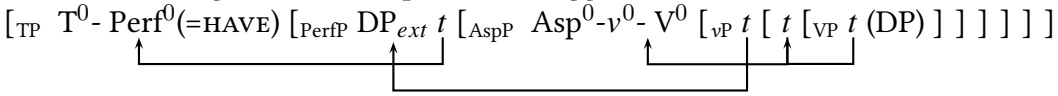
this is also relevant in the discussion of the interaction of auxiliary selection with clitic placement below.

[28]Specifically, French and Italian perfects lack so-called universal perfect interpretations, which Pancheva (2003) shows are linked to the imperfective in languages where perfects combine freely with viewpoint aspect.

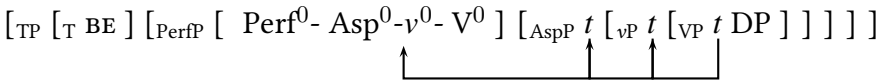
Asp^0); otherwise the verb moves to $Perf^0$ and auxiliary BE occurs to realize finite inflection in T^0. This is illustrated in (37) (for clarity, these structures do not show movement of the highest DP argument to Spec-TP, which would occur in both structures).

(37) Auxiliary selection, assuming independent projections of $Perf^0$ and Asp^0

a. Transitive/Unergative: DP in Spec-PerfP triggers HAVE



b. Unaccusative: V-movement to $Perf^0$, default BE in T^0



In conclusion, though different properties may shield internal arguments in split-ergative and auxiliary selection languages, in both cases the morphosyntax of perfectivity (ergative subject case vs. auxiliary HAVE) results from a relation between external arguments and the perfective aspectual head. For auxiliary selection, this involves movement to the specifier of the head that is itself realized as HAVE.

Corroboration for this movement-based approach to the distribution of HAVE can be found in otherwise-puzzling facts involving the interaction of auxiliary selection with clitic position, discussed in Kayne (1993). Kayne describes two patterns of interaction between clitic placement and auxiliary selection in varieties of Italian, patterns that indirectly support the idea that HAVE indicates the presence of an argument in Spec-AspP. What is shared by both patterns is that the presence of a pre-auxiliary clitic is associated with auxiliary HAVE, though they differ in other respects.

In Novara (an Italian dialect described by Turri 1973) auxiliary selection is normally determined by the person and number of the subject, with first and second persons selecting BE, while third person selects HAVE. Auxiliary HAVE is also required in Novara, however, whenever an object is expressed as a pre-auxiliary clitic (Kayne, 1993, p. 14, translations added).

(38) a. Mi i son mìa parlà
Me I am not spoken.
"I have not spoken."

b. Mi i t'ò mài parlà
Me I you$_{dat}$-have never spoken
"I have never spoken to you."

The account of auxiliary selection developed here does not offer any substantially new insight into person-based selection of the type seen in Novara,[29] but it does offer a perspective on the interaction between auxiliary selection and clitic placement, which is difficult to account for on a pure argument-licensing account where HAVE introduces the external argument (as are person-based splits more generally). If auxiliary HAVE reflects the movement of an argument through AspP, however, then the correlation between cliticization and HAVE can be explained if pre-auxiliary object clitics move through the specifier position of the aspectual phrase, triggering the spell-out

of Asp^0 as HAVE as a consequence.

The second case discussed by Kayne involves the dialect of Martiniscuro, where clitics are able to precede HAVE auxiliaries but not BE auxiliaries—though in this case the choice between these two auxiliaries is determined independently according to both the person and number of the subject (Kayne, 1993, citing Masrangellao Latini, 1981).

(39) a. Sil-lu ditte.
BE.2SG-it say.PTCP
"You (sg.) have (=are) said it."
b. (A) l'à ditte
(SUBJ.CL) it-HAVE.3SG say.PTCP
"He has said it."

These data receive a less obvious account on the current approach, but they again point to a connection between auxiliary HAVE and an argument position to the left of the perfective auxiliary.

Languages with uniform HAVE—English, Spanish, Greek, etc.—can be accounted for in one of two ways. On analogy to uniform oblique languages, one could propose that Asp^0_{perf} in these languages attracts highest DP, independently of whether that argument has already received structural case from v^0—though here it would be necessary to stipulate that the participial main verb in these languages is not nominal in the relevant sense, and so cannot prevent Asp^0_{perf} from attracting the internal argument via intervention. Alternatively, for these languages it could be the case that the distribution of auxiliary HAVE is divorced from syntactic transitivity, with the morphological realization of Asp^0 determined by its own semantic featureal content, rather than by whether any DP occupies its specifier; this proposal is made by Larsson (2009) for the non-auxiliary-selecting Germanic languages, and can potentially be generalized to other uniform HAVE-perfect languages.

6 Multiple sources for aspectual splits?

The previous section outlined what can be called a "heavy perfective" approach to aspectual splits (Patel-Grosz and Grosz, 2014). With that account in place, we can now compare this approach to recently-advocated "heavy imperfective" analyses of aspectual splits, particularly the one found in Coon (2013a, et seq.).

The heavy perfective approach has certain limits. The analysis developed in section 5 can account only for splits that fall between perfective and imperfective aspect (with perfect grouped with

[29] Splits between first and second person (selecting BE) and third person (selecting HAVE) have often been explained as resulting from the former's more complete φ-features (Kayne, 1993, et seq.), which make available a structure that circumvents the need for HAVE. While a full account of person-based splits is beyond the scope of this paper, the fact that first and second person subjects do not trigger HAVE (and so, by hypothesis, do not move through Spec-AspP) could be explained if such arguments can be licensed prior to the merger of Asp^0, for example through interaction with a Participant Phrase, a projection proposed in a very different account of person-based ergative splits and auxiliary selection by Coon and Preminger (2012).

perfective, and progressive with imperfective), and where there is a further split in intransitives, such that unergative subjects pattern with transitive external arguments. It cannot account for splits where non-ergative alignment appears only in the progressive (as in Basque), nor for splits where the non-ergative pattern is the "extended ergative" pattern found in Mayan languages.

This is a narrower scope than claimed by Coon (2010, 2013a) (building on Laka 2006's analysis of split ergativity in Basque). Coon argues that the universal direction of aspectual splits reflects a universal structural asymmetry between perfective and imperfective. Specifically, she claims that imperfective aspect is universally more complex, and that its increased structure has the potential to disrupt ergative alignment.[30]

The goal of this section is to evaluate the typological claim underlying the heavy imperfective approach. I suggest that the proposed asymmetry between perfective and imperfective structures is not in fact borne out cross-linguistically: there are many languages (both ergative and otherwise) where the perfective is (morpho-)syntactically more complex than the imperfective.

This does not mean that the heavy imperfective approach is incorrect in all instances, only that it cannot provide a universal analysis of all aspectual splits. The conclusion of this section is essentially that the uniform directionality of aspectual splits remains an open issue, given that aspectual splits seem to appear to arise from diverse structural sources.

6.1 The "heavy imperfective" analysis: perfectives are light and non-locative

Coon (2010, 2013a) bases her analysis on Laka's (2006) proposal for Basque split ergativity. As mentioned above, in Basque both imperfective and perfective aspects exhibit ergative case and agreement; only the progressive shows non-ergative alignment.[31]

(40) a. emakume-a-k ogi-ak ja-n d-it-u
woman-DET-ERG bread-DET.PLeat-PFV 3ABS-PL-AUX3ERG
"The woman has eaten (the) breads."

b. emakume-a-k ogi-ak ja-ten d-it-u
woman-DET-ERG bread-DET.PLeat-IMPF 3ABS-PL-AUX3ERG
‘ ‘The woman eats (the) breads."

c. emakume-a ogi-ak ja-te-n ari da
woman-DET bread-DET.PLeat-NOM-LOC PROG 3ABS.AUX
"The woman is eating (the) breads." *(Laka, 2006, 177)*

[30] A similar proposal is made by Baker (2015), who argues that aspectually split ergativity arises, in at least some languages, when Asp^0 is a phase head, and so divides the subject and the object into separate domains for the purposes of case competition. Baker departs from Coon, however, in arguing that perfective aspect can also disrupt ergative alignment, citing evidence from Coast Tsimshian. We return to this below in section 6.4.

[31] The data in this section is drawn from Laka (2006), but glosses have been changed to indicate the auxiliary uniformly as AUX (rather than as HAVE or BE) following Arregi (2004)'s argument that the alternation between the two auxiliary stems is allomorphy based on the number of agreement slots (the "HAVE" auxiliary allows two agreement morphemes, "BE" only one), rather than transitivity of the predicate.

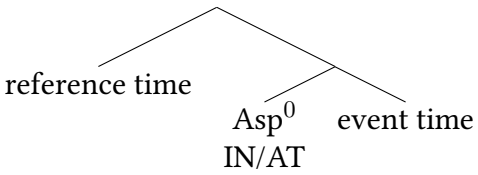
Laka's proposal is built on two observations. The first is that that though the alignment seen in the progressive is sometimes called "nominative", there is no distinct nominative case in sentences like (40c): both subject and object appear in the absolutive, which is morphologically null. Her second observation is that the complement of the progressive aspectual particle has the same form that would be predicted for a nominalized clause with locative marking. In light of these facts, Laka argues that the progressive particle *ari* is in fact an embedding verb with a locative complement, so that progressive aspect involves a biclausal structure. The absence of ergative marking thus arises not from a realignment of case, but from the fact that the surface subject in (40c) is actually the sole DP argument of the matrix clause.

Coon (2010, 2013a) extends this analysis more generally. She proposes that all aspectual splits in fact arise from increased structural complexity in imperfective (non-ergative) contexts. This allows a unified picture of aspectual splits, but raises the typological question of why only the imperfective is able to divide a clause into two case domains.

To answer this question, Coon appeals to semantic and typological links between temporal relations on the one hand and locative relations on the other. Her starting point is the idea that temporal and locative meanings are not merely typologically correlated, but deeply semantically (and even syntactically) identical, as proposed by Demirdache and Uribe-Etxebarria (2000), among others. This semantic and syntactic identity is used to account for the fact that in many languages we find clearly locative morphosyntax used to express temporal contrasts, particularly imperfective and progressive meanings, which are very frequently expressed by prepositions meaning *at* or *in* (as can be seen in the typological survey of Bybee et al., 1994, e.g.).

This type of grammaticalization, on Demirdache and Uribe-Etxebarria's account, reflects the fact that an imperfective aspectual head relates two syntactically-represented temporal arguments, a reference time and the time of an event. The imperfective states that the reference time is *in* or *contained by* the event time, in a compositional structure such as (41).[32] The locative relation corresponding to perfective, by contrast, would be one expressing the reverse of the relation expressed by *in* or *at*.

(41) Demirdache and Uribe-Etxebarria (2000) view of imperfective:



The crux of Coon's typological proposal is that no natural language has a preposition lexicalizing the relation that corresponds to the reverse of *in* or *at*, and that because of this lexical gap,

[32]Demirdache and Uribe-Etxebarria actually propose that the event time argument occurs in the specifier of Asp^0's complement. This raises a question of semantic composition, if Asp^0 (or T^0) does not directly compose with the arguments it semantically relates, and also interrupts the claimed parallel between temporal and locative heads (since the latter presumably do take their first argument as a direct complement). I set these issues aside here, as they are somewhat orthogonal to Coon's proposal.

perfectives simply do not have available to them the kind of locative morphosyntax that is available to imperfectives—and so they never contain the kind of structure that disrupts ergativity. Because perfective aspect is non-locative, it is systematically (structurally) "unmarked" relative to the imperfective.

If true, this is an elegant account of both the mechanics of aspectual splits, and of their uniform directionality. I argue below, however, that this claim about the structural relation between imperfective and perfective aspect cannot be maintained on the basis of cross-linguistic comparison: the perfective is not uniformly less structurally complex than the imperfective, and it can be expressed by prepositional syntax (albeit with non-locative prepositions).

6.2 Perfectives can be heavy…

In support of her typological claims, Coon cites a number of cases in which imperfectives (notably, many of them progressives) appear to involve more morphosyntactic structure than corresponding perfectives, in the sense of involving an additional auxiliary verb or particle. Similar evidence is cited in Coon and Preminger (2011) and Coon (2013b). On the basis of such examples, she suggests that imperfective aspect is cross-linguistically more structurally complex than the perfective.

Typological work on the morphosyntax of aspect, by contrast, presents a much less categorical picture of the relationship between imperfective and perfective. The consensus view has been that either perfective or imperfective may be the "marked" member of an aspectual contrast (Comrie, 1976; Dahl, 1985, a.o.).

For example, one of the diagnostics Coon suggests for increased structural complexity is the presence of an auxiliary verb: in Hindi-Urdu, for example, the imperfective always requires an auxiliary in the past tense, while the perfective does not, as shown again in (42), and Coon cites this as evidence that the imperfective is more syntactically complex in Hindi-Urdu.

(42) a. Lataa-ji-ne kai gaane gaa-ye.
Lataa-HON-ERG many song.M sing-PFV.M.PL
"Lataa-ji sang several songs."

b. Lataa-ji gaane gaa-tii hɛ̃ / thi̯:
Lataa-HON song.PLsing-HAB.F BE.PRES.PL / BE.PAST.F.PL
"Latta-ji sings/used to sing songs." *(Bhatt 2007: 5a, 8a)*

But if the presence of an auxiliary indicates increased structural complexity, then there are many languages where it is perfective verb forms that are more complex than their imperfective counterparts, however, often because the perfective form has developed from an earlier (complex) perfect form, as in the case of French, illustrated in (43).[33]

[33]This applies only to colloquial French: formal written French maintains the earlier synthetic past perfective form, the *passé simple*.

(43) a. Ils ont dansé.
they.M have.3PL dance.PTCP
"They danced / have danced."
b. Ils dansaient.
they.M dance.IMPF.PAST.3PL
"They danced / were dancing."

If we accept Coon's suggestion that auxiliary verbs diagnose the kind of structural complexity that can disrupt ergative alignment, then we would expect to find ergative counterparts of French, languages in which ergativity surfaces only in the imperfective and is disrupted by structure that occurs only in the perfective—but it is the absence of such patters that Coon aims to explain.

Even in Hindi-Urdu, there is no correlation between the presence of an auxiliary and the absence of ergative alignment. As we have already seen, the perfect in Hindi-Urdu involves an auxiliary construction fully parallel to (42b)—but here ergative alignment is retained. The fact that both (42b) and (44) both involve auxiliaries, though only (42b) exhibits a disruption of ergative alignment, indicates that the presence or absence of an auxiliary cannot be a reliable diagnostic for structural "markedness" of the relevant kind.

(44) Lataa-ji-ne kai gaane gaa-ye hɛ̃ / the
Lataa-HON-ERG many song.M.PL sing-PFV.M.PL BE.PRES.PL/ BE.PAST.M.PL
"Lataa-ji has/had sung several songs." *(Bhatt 2007: 5b)*

Many of the other examples discussed by Coon as structurally complex imperfectives are in fact specifically progressive. And it is indeed the case that progressives tend to be more morphosyntactically complex than either perfective or imperfective aspects (Comrie, 1976; Dahl, 1985; Bybee et al., 1994). The same is true, however, of essentially all aspectual categories beyond the basic perfective/imperfective contrast: true of inceptives, completives, duratives, and of perfects.

If we employ a simple metric for syntactic complexity ("amount of visible syntactic material") and our claim is that more material corresponds to a greater likelihood of a split, then it seems that we would expect to find splits where the imperfective (as in French) is the least complex aspectual context, and so retains ergative alignment while all other inflectional contexts (including both the progressive and the perfective) are non-ergative. What we see here is that morphological diagnostics for syntactic complexity do not in fact track the typology of aspectual splits.

6.3 . . . and perfectives can be prepositional.

The previous section argued that structural complexity (at least, as diagnosed by auxiliary verbs) does not map neatly on to the typology of aspectual splits. On the version of the "heavy imperfective" analysis developed by Coon (2013a), however, what is special about imperfective syntax is not merely that it is more complex than its perfective counterparts, but that its complexity involves specifically locative elements. According to her, this locative structure, unavailable to perfectives, is capable of disrupting ergative alignment.

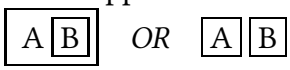
Addressing this aspect of the proposal, this section argues that though perfectives are rarely transparently locative, they can be transparently prepositional, and so this again fails to predict the universal directionality of splits.

Bybee et al. (1994) report that locative expressions analogous to *in* or *at*, or explicitly locative verbs like *sit* or *stay*, are commonly used to express imperfective or progressive meanings. Within the same set of surveyed languages, meanwhile, no similarly transparent locative expressions are used to express perfective or anterior (=perfect) meanings.

Coon proposes that this difference arises from a corresponding typological gap in the inventory of natural language prepositions: no language has a preposition that relates entities in the same way that perfective aspect relates times. In other words, no language has a preposition *blip* as in (45b) that unambiguously conveys the reverse of *in* as in (45a); the closest equivalents are ambiguous, as in (46).

(45) a. A is in B.
meaning: 

b. A is blip B.
potential meaning: 

(46) Closest approximation: A is *outside* B. (ambiguous)


If there is no locative preposition that can be extended to express a perfective relation, Coon argues, the perfective will never be built on the kind of locative structure that could disrupt ergativity,[34] and so aspectual splits are unidirectional.

There are two separate claims here. The first is that prepositional morphosyntax is never used to express perfective meanings. The second is that this morphosyntactic property of the perfective is expected, because natural language does not have the kind of preposition that would correspond to perfective meanings.

Against both these claims, consider the fact that perfectives are in fact quite frequently expressed by possessive morphosyntax: a number of such cases have already been reviewed in previous sections of this paper. A very common view is that the syntax of possession is built from a fundamentally prepositional relation (Freeze, 1992; Kayne, 1993; Boneh and Sichel, 2010; Levinson, 2011; Myler, 2013, a.o.), though it is often argued that the relevant preposition is non-locative, perhaps corresponding to non-locative WITH (e.g. *a cat with blue eyes*: Levinson, 2011). From this perspective, the expression of possession, whether with oblique subjects or with the verb HAVE, is as prepositional as a locative predication like *the cat is in the box*. Similarly, possessive perfects of the kinds discussed in section 4 are just as prepositional as imperfectives expressed by "in" or "at": both involve the extension of a prepositional construction (whether possessive or locative)

[34]Demirdache and Uribe-Etxebarria (2000) in fact argue for a stronger connection between temporal and locative meanings, so that the absence of the appropriate preposition to express perfectivity will mean that the perfective is always a default or unspecified aspect. This stronger claim underlies the implication in Coon (2013a) that imperfectives are always more structurally complex than perfectives, whether or not there is reason to posit a locative layer of clause structure.

to express an aspectual relation.[35]

If the perfective is just as prepositional as the imperfective, just built from a different preposition, the disruption of ergativity in the imperfective cannot be uniformly attributed to the presence of prepositional structure.

6.4 Why don't heavy prepositional perfectives disrupt ergativity?

The "heavy imperfective" analysis of aspectual splits proposed by Coon (2013a) is attractive precisely because it offers an elegant explanation for the otherwise puzzling unidirectionality of these splits. This account, however, rests on a universal representational asymmetry between perfective and imperfective aspects. Though this asymmetry is well-supported for languages such as Basque and Chol (and perhaps many other languages), we have seen reasons to doubt whether it can indeed be maintained as a universal generalization.

In particular, this account cannot be extended to account for ergativity in Hindi-Urdu, where there is little general evidence that ergative-assigning contexts are structurally simpler than non-ergative counterparts. This same point is made more generally for ergative and non-ergative patterns of agreement alignment in Kutchi Gujarati and Marwari by Patel-Grosz and Grosz (2014), where ergative and non-ergative patterns can co-occur in single clauses.

If the "heavy imperfective" approach cannot account for all cases of aspectual splits, this leaves the field open, as it were, for an alternative analysis framed in terms of the properties of perfective syntax. The account developed in this paper, in which ergative case is assigned directly by the perfective aspectual head Asp^0, is precisely such an account. Of particular interest is whether this approach can shed light on a class of aspectual splits not discussed here, ERG-OBL splits of the type found in Georgian, where the imperfective is associated with not only the absence of ergative case on the subject, but also the presence of oblique (specifically dative) marking on the object. Such languages may address the question of how the locative/prepositional structures of the perfective and the imperfective give rise to essentially opposite effects in alignment.

If aspectual splits can arise from more than one source—or rather, if ergative case arises from more than one source in languages with aspectual splits—this leaves open the question of why aspectual splits are nonetheless unidirectional. In languages like Basque and Chol, there is evidence that imperfective aspect involves a specifically biclausal structure, lending support to the idea that ergative case (whether licensed as an inherent case in Spec-vP or arising from some other mechanism) is unavailable to arguments introduced in the matrix intransitive clause. In languages like Hindi-Urdu, by contrast, there is no evidence that either imperfective or perfective aspect involves a biclausal structure, lending support for the view that perfective aspect introduces a source for "ergative" oblique subject case. But it remains a mystery why the perfective would apparently never create the type of heavy structure that can disrupt ergativity—in other words, why aspectual splits are unidirectional despite arising from multiple sources.

[35] Coon and Preminger (2011) in fact assume a prepositional source for HAVE in their remarks on person-based auxiliary selection, but do not address why this preposition does not have the clause-dividing property of the locative structure found in imperfectives.

One possibility is that aspectual splits are not in fact unidirectional. Baker (2015) argues that Coast Tsimshian (Sm'álgyax) exhibits an aspectually split pattern of case marking in which it is the perfective, rather than the imperfective, in which ergative alignment is disrupted. This is illustrated by the contrast between the present imperfective in (47), with ergative alignment, and the past perfective in (48), with absolutive marking on both core arguments. Note with respect to these examples that case markers in Coast Tsimshian (as in related languages) encliticize to the preceding word; they have been separated in the glosses for clarity of presentation.

(47) Yagwa-t t'uus =da 'yuuta =(a) hana'k.
PRES-3SG(ERG) push =ERG man =(ABS) woman
"The man is pushing the woman." *(Dunn 1995: 60)*

(48) Nah t'uus =a 'yuuta =(a) hana'k.
PAST push =ABS man =(ABS) woman
"The man pushed the woman." *(Dunn 1995: 66)*

Baker (2015) suggests that perfective aspect disrupts ergative alignment in Coast Tsimshian in essentially the same way that Coon (2013a) argues imperfective aspect does so in other languages, by dividing the subject and object into separate domains, so that each receives case as though it were the sole argument of an intransitive clause.

If Coast Tsimshian indeed provides a counter-example to the generalization that aspectual splits always go in the same direction, we nonetheless would hope to explain why there is nonetheless such a strong tendency for ergativity to be associated with the perfective rather than the imperfective. This tendency might be explained as resulting from a conspiracy of historical factors. Perfective aspect often arises from possessive sources, as we have discussed, but also commonly from the grammaticalization of a verb originally meaning 'finish' (Bybee et al., 1994), which being transitive would occur with ergative subjects in its original transitive use. Imperfective aspect, by contrast, often arises from locative sources, or from oblique object constructions, both of which would be expected to exhibit absolutive subjects.

These remarks are not intended to be conclusive, only to suggest a possible source for the strong tendency of aspectual splits to be unidirectional. Even if Coast Tsimshian is given some other analysis that removes it as a counterexample to the hierarchy in (1), the conclusion of this paper remains that the crosslinguistic stability of aspectual splits cannot be accounted for by attributing all such splits to properties of the imperfective. Instead, at least some splits are better accounted for in terms of an oblique subject case that is licensed by a perfective aspectual head.

7 Conclusion

The central claim of this paper has been that aspectually split ergativity fits naturally within a broader typology of perfective morphosyntax, but that this typology is complete only if ergative case is licensed directly by perfective aspect. This is a departure from recent work on aspectual

splits, particularly Coon (2013a), which has proposed that aspectual splits arise instead from imperfective disruption of underlyingly ergative alignment.

By attributing case assignment in aspectual splits to an aspectual head, the approach advocated in this paper opens the question of how heads between T^0 and v^0 are implicated more generally in case and agreement patterns, a question often set aside in mainstream work on these topics. This offers potentially new paths into examining the properties of temporal functional heads, and insight into the ways in which they develop from non-temporal sources.

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