Ergative as Perfective Oblique*

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DRAFT January 1, 2015

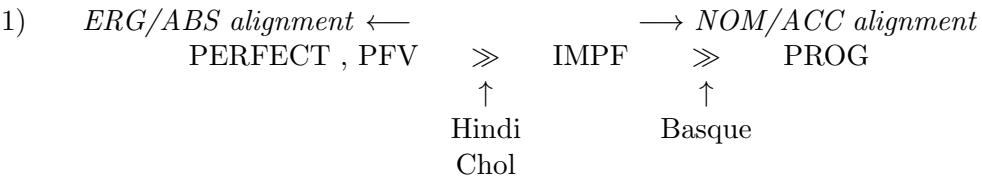
Abstract

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

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

(1)



*This work has benefitted enormously from conversations with many people over several years. I would like to especially thank Elizabeth Cowper, Claire Halpert, Sabine Iatridou, Alana Johns, Omer Preminger, David Pesetsky, and Nicholas Welch for suggestions and discussion. This work has been supported in part by the Banting Postdoctoral Fellowship program, administered by the Government of Canada.

Work on aspectual splits has aimed to explain not only why ergative alignment would be sensitive to aspect, but also why ergative alignment would be 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, 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 further 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 provides more technical discussion of how the proposal accounts for these typological patterns of perfective morphosyntax. Section 6 directly compares the proposal to the unified "marked imperfective" approach to aspectual splits advocated for 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. The description of the facts here is based in large part on Mohanan (1994).

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

[1] This sets aside primarily morphological accounts of split ergativity, including Keine (2007), and Optimality Theoretic approaches such as Woolford (2001) and Lee (2006).

marking 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 vary in whether their subject is marked ergative. In these cases the presence of ergative marking correlates with an agentive interpretation (Mohanan, 1994, 71).

(6) Optional Ergative = Correlation with Agentivity
a. Raam-ko acaanak šer dikhaa. vah / *us-ne
Ram-DAT suddenly lion.NOM appear-PFV he.NOM he-ERG

[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]This contrasts with ergative systems where all intransitive subjects appear with absolutive case, regardless of argument structure.

cillaayaa
scream-PFV
"Ram suddenly saw a lion. He screamed."

b. us-ne / *vah jaan buujhkar cillaayaa
he-ERG he.NOM deliberately shout-PFV
"He shouted deliberately." *(Mohanan, 1994, 71)*

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. 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. 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.[4] 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

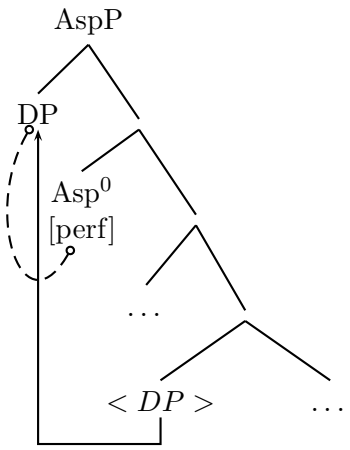
The analysis pursued in this paper is based on a quite simple idea: if ergative case appears only in the perfective, it should be linked to some syntactic element that similarly occurs only in the perfect. Work on the semantics of aspect widely assumes the presence of a dedicated projection Asp^0, e.g.: 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 widely assumed in syntactic work, but it is reasonably adopted for languages for a robust contrast between perfective and imperfective.

A perfective aspectual head Asp^0_{perf} is a natural candidate to be the source of perfective-linked ergative case. This is the core of the proposal to be developed here, that ergative in Hindi-Urdu is an oblique case assigned by Asp^0_{perf}

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

to a DP that has moved into its specifier.[5] This is illustrated schematically by the tree in in (7).

(7)



On this view perfective Asp^0 is applicative-like, in the sense that it licenses a DP in its specifier, though it does not semantically introduce that argument.[6] Ergative alignment can be explained, I argue, if Asp^0_{perf} is unable to attract internal argument DPs. In section 5 I argue that internal argument DPs in Hindi-Urdu are insulated by having been assigned accusative case by v^0. This attributes ergative alignment to the case properties of v^0, but 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.

More generally, this results in an epiphenomenal view of this aspectual split, arising from the interaction of two separate dimensions of case licensing. The first is that the perfective aspectual head can license oblique subject case. The second is an interaction with argument structure, resulting from uniform assignment of accusative case to internal arguments by v^0.

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

[5]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.

[6]Bjorkman and Cowper (2014) similarly suggests that the possessive modality construction in Hindi-Urdu (involving a dative subject in a clause with the copular verb BE, Bhatt 1997) involves a similar applicative-like head.

are in fact predicted—but crucially only if we view (some cases of) split ergativity of arising from properties 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).

The goal of this section is to demonstrate that each of these properties can be found 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 useful to say something about the relationship between perfective aspect and the perfect. In what follows I discuss perfectives and perfects together, and refer to both under the heading of "perfective aspect".[7] Some of the generalizations described in this section apply only to the perfect, and not to a general past perfective in the same language. Crucially, however, in all the languages under discussion, the perfect is uniformly perfective: the relevant languages appear to lack imperfective perfect forms (of the type that exist for example in Bulgarian, Pancheva, 2003, or in English *have been writing*). We find further links between the perfect and perfective in many languages: many languages do not morphologically distinguish the two at all, and they are often related diachronically (Comrie, 1976; Bybee et al., 1994, a.o.). Perhaps most compelling for present purposes, all aspectual splits appear to treat the perfect and perfective

[7]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 [among many others]iatridou2003ofm,alexiadou2003mpc,reed2011mps,stowell2007sop,stowell2008wpp,pancheva2003amp,pancheva200 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 is not equivalent to the perfective.

together: no language exhibits ergativity in one but not the other. For these reasons I group the perfect and the perfective together for the purposes of this paper, while noting that the relationship between the two requires more attention. In what follows I note when a particular morphosyntactic form allow or are limited to perfect interpretations.

4.1 Oblique subject case in the perfective

If the syntax of perfective aspect is the source of aspectually split ergative, we expect in principle to find languages where the perfective is in fact 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 the Kartvelian dialect of Mingrelian (Tuite, 1998).

Neither Estonian nor Russian exhibits a possessive verb HAVE, instead expressing possession with the verb BE together with oblique marking on the possessor.

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

(9) Mu-l on uus auto.
I-ADE BE.3SG new car
"I have a new car." *(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 dative case on the subject 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.

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

(11) Eto u avtomobilja ideno
that at automobile.GEN gone.PTCP.N.SG
"That was a car that went by." *(Lavine, 2000, citing Matveenko 1961, 123)*

(12) U traktora tut proexano.
at tractor.GEN here passed.by.PTCP.N.SG
"A tractor has passed by here." *(Lavine, 2000, citing Kuznecov 1954, 96)*

Jung discusses evidence that the genitive DP is indeed a canonical subject: it is able to bind reflexive *svoj* 'own' (13-a); can control infinitival PRO (13-b); and allows parallelism with nominative subjects. In these respects it is unlike other genitive arguments, such as benefactives (13-c).

(13) 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." *(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." *(Lavine, 2000, citing Matveenko 1961, 123)*

c. U menja eto ne zakončeno, no pojdu
at me.GEN this not finished.PTCP.N.SGbut go.FUT.1SG
poguljat'
take a walk.INF
"I have not finished this but will go to take a walk." *(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.[8]

[8]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 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

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 (9),

With transitive verbs, as in (14-a), the result is ambiguous between possessive and perfect interpretations, but with intransitive verbs the interpretation is unambiguously perfect.

(14) 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.' *(Lindström and Tragel, 2010, 381)*

Mingrelian (a dialect of Kartvelian) exhibits a similar association between perfective aspect and subject case, but unlike either North Russian or Estonian this is independent of grammaticalized possession, instead arising from historical loss of aspectually split ergativity, as discussed by Harris (1985) and Tuite (1998). Aspectual splits are found in related Kartvelian languages, with ergative case appearing on both transitive and unergative subjects in "series II" contexts, a category that includes the perfective (="aorist"). Mingrelian, by contrast, has lost ergative alignment in the perfective, with the historical ergative marker now appearing on all subjects in perfective contexts, regardless of argument structure.

> "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 (15) and (16). The verbs in (15) 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 (15-a) suggests that it does not have ergative distribution in Mingrelian. The verbs in (16), by contrast, occur in "series I", and their subjects occur with different (nominative) case morphology.

"I have written a book." (Viitso, 2003, 62)

(15) a. k'oč-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
father-ERG horse-NOM give.II.3SG(SUBJ).3SG(OBJ).3SG(IO)
skua-s
child-DAT
"The father gave a horse to the child."

(16) a. k̇oč-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
father.NOM give.I.3SG(SUBJ).3SG(OBJ).3SG(IO) horse-DAT
skua-s
child-DAT
"The father gives a horse to his child." *(Harris, 1985, 55-56)*

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.[9] We know independently that the morphosyntax of the perfect can be sensitive to argument structure, however, from the well-studied phenomenon of auxiliary selection.

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

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

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-ko acaanak šer dikhaa. vah / *us-ne
Ram-DAT suddenly lion.NOM appear-PFV he.NOM he-ERG
cillaayaa
scream-PFV
"Ram suddenly saw a lion. He screamed."
b. us-ne / *vah jaan buujhkar cillaayaa
he-ERG he.NOM deliberately shout-PFV
"He shouted deliberately." *(Mohanan, 1994, 71)*

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.

(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." *(Sorace, 2000, 867-8)*

Other classes of verbs show a preference in both directions, with animate agentive subjects preferring or requiring *avere*, while inanimate subjects prefer or require *essere*.

(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.' *(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." *(Sorace, 2000, 876)*

(22) Verbs expressing nonvolitional processes

a. Paolo ha tentennato / *e tentennatoa lungo prima di
Paolo has wavered / is wavered for long before of
decidersi
decide-self

"Paolo wavered for a long time before he made up his mind."

b. La fede religiosa ha tentennato / ??e tentenna taanche nei
the faith religious has wavered / is wavered even in
piu forti
the strongest
"The religious faith wavered even in the strongest people." *(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: *bhuulna* 'forget' and *laanaa* 'bring', as well as *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 *(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 mihn sleutels verloren
I have my keys lost
"I've lost my keys."

b. Ik ben mihn sleutels verloren
I am my keys lost
"I've lost my keys." *(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 marking. First and secondthird person pronouns are not overtly marked, but nonetheless fail to trigger agreement (i.e. they behave as though they bear oblique case).

In Gowari, by contrast, unmarked first and second person arguments trig-

ger agreement in otherwise-ergative contexts, while the overtly ergative third person does not:

(25) a. **mī̄** 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
then 3-ERG.SG father-DAT.SG answer.NEU.NOM.SG
di-lan.
give-NEU.3SG.PAST
"Then he gave an answer to his father."

This is particularly interesting because subject person and number are also a well-known determinant of auxiliary selection in Italian dialects.

A wide variety of patterns are attested, but in some dialects the distribution of HAVE mirrors the distribution of ergative in Gowari. In Abruzze, 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).

(26) Colledimacina (Abruzzi) (Manzini and Savoia, 2007, 206-7, ex. 22)

a. so mə'nuːtə
be.PRES.1SG come
"I have come."

b. ʎə so ca'maːtə
him be.PRES.1SG called
"I have called him."

c. e mə'nuːtə
be.PRES.3SG come
"He has come."

d. ʎə **a** ca'maːtə
him **have.pres.1sg** come
"He has called him."

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. 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, in a position such as Asp^0.

If the perfect auxiliary is located in Asp^0, however, then the morphological behaviour of Asp^0 must be able to be sensitive to argument structure even when it is not directly involved in the composition of argument structure. Given this necessity, there is no reason that ergative case need be associated with v^0 in aspectually split ergativity.

4.3 Ergativity at the intersection of two typological patterns

This section has described to 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 of subject case with perfective aspect, while auxiliary selection shares sensitivity to argument structure.

From this perspective, aspectually split ergativity is the expected result of these two morphosyntactic patterns arising in a single language. Hindi-Urdu has the same relation to oblique subject perfects that auxiliary selection has to uniform HAVE-perfect languages like English or Spanish:

(27)

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

What is important to take away here is that this unification is possible only if ergative case in Hindi-Urdu is licensed by the syntax of perfective aspect. If ergative alignment were instead suppressed by the imperfective, the typology in (27) would remain puzzlingly incomplete, absent an explanation of why the argument-structure sensitivity of auxiliary selection never arises in languages where the perfective is expressed via subject case.

5 Details of the proposal

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. For them this head is in fact identical to passive v^0.

These approaches to both auxiliary selection and to ergativity successfully account for the descriptive link between the presence of an external argument and particular morphosyntax (auxiliary HAVE or ergative case), but there are nonetheless good reasons to divorce auxiliary HAVE and perfective-linked ergative from the head v^0.

First, as a 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 v^0. 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 directly to v^0 itself.

Second, we see in auxiliary selection languages that the perfective auxiliary can co-occur with passive BE. If the passive auxiliary realizes a head involved in external argument licensing (i.e. v^0), then this requires that the perfective auxiliary *not* be associated with the same head.

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 can ergative case not be assigned to the subject in its base position, below a higher progressive or imperfective aspectual head.

For these reasons, this section develops an alternative approach in which perfective-linked morphosyntax, including both oblique subject case and auxiliary HAVE, is directly attributed 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

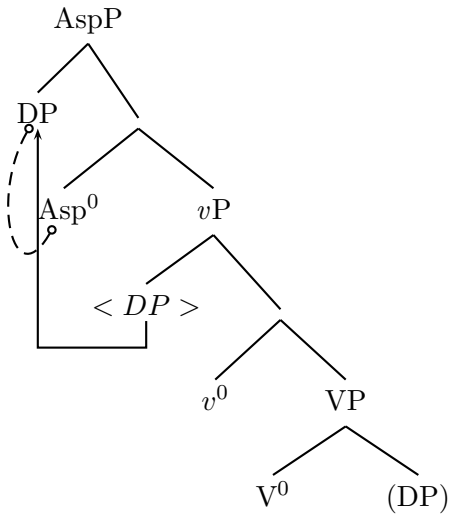
head licenses a DP in its specifier by assigning a particular (oblique) case (Pylkkänen, 2008). It is unlike an applicative head, however, in not semantically introducing that argument, instead simply attracting a lower argument DP.

The remainder of this section reviews how this general proposal is able to derive the patterns of perfective morphosyntax discussed so far.

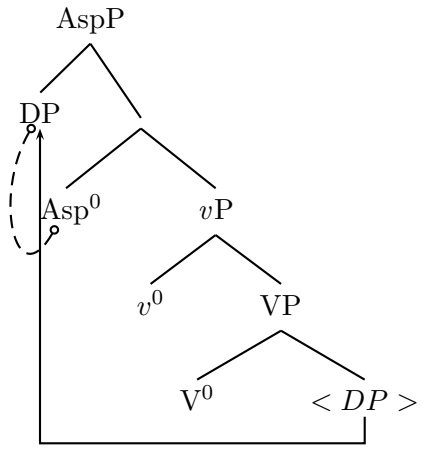
5.1 Uniform oblique subjects: Mingrelian, North Russian, Estonian

In languages where 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 (28).

(28) a. Transitive/Unergative



b. Unaccusative



In an Upwards Agree framework (Wurmbrand, 2011; Zeijlstra, 2012, a.o.), this can be formalized in terms of the DP arguments probing upwards with an uninterpretable Case feature. If we assume that perfective Asp^0 is able to check or value this feature, this provides a motive for movement to Spec-AspP.[10]

[10]The DP in Spec-AspP is, I assume, able to subsequently move to Spec-TP. Whether it triggers finite φ-agreement can be determined independently of determined independently, according to

This raises the question of why perfective Asp^0 is able to check Case in the first place, and why the Case it checks is oblique. In all of the cases 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. 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.

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 head in a clause. To extend this account to aspectually split ergativity in Hindi-Urdu, it is necessary to limit Asp^0's ability to license ergative Case on internal arguments. The relevant examples involve unaccusative subjects in the perfect and the perfective, which uniformly surface without ergative marking (in the unmarked "absolutive").

Case asymmetries between external and internal arguments are naturally explained if internal arguments have already had their structural case feature checked before Asp^0 is merged, for example by v^0—in other words, if "absolutive" internal arguments are in fact structurally accusative.

This is essentially Legate (2008)'s proposal for a subset of ergative case systems she refers to as "ABS=DEF" systems. She argues that in ABS=DEF languages, among which she includes Hindi-Urdu, the apparent distribution of an "absolutive" case is an illusion, arising from underspecification in the morphological realization of nominative and accusative structural case features.

Legate in fact identifies Hindi-Urdu as an example of an ABS=DEF language. If internal arguments are always licensed with accusative Case, then it is straightforward to explain why they cannot establish a Case checking relationship with perfective Asp^0: by the time that head merges, the structural Case feature of internal arguments has already been checked.

Note that this line of reasoning does require that accusative Case be available in unaccusative contexts, at least in Hindi-Urdu, contra the proposal that unaccusative v^0 is unable to check Case (Chomsky, 1995, et seq.). This is not an unreasonable proposal, however, at least for Hindi-Urdu: there are two contexts that appear to illustrate that accusative (or at least object-oriented

whether oblique arguments are agreement targets in the language (cf. Bobaljik, 2008; Baker, 2008).

case) is preserved on internal objects that surface as subjects.

The first type of evidence involves the appearance of differential object marking on passive subjects. Mohanan (1994) reports that for some speakers of Hindi-Urdu, passive subjects must appear with the suffix *-ko* (mentioned above as a case of differential object marking), which is otherwise available only to internal arguments. This is illustrated in (29), where the verb *jaa* (lit. 'go') is the passive auxiliary.

(29) Anil-ko uṭʰaayaa jaaegaa.
Anil-DAT carry.PFVgo.FUT
"Anil will be carried."

The second type of evidence comes from the interaction of unaccusative verbs with modal constructions. Modal subjects in Hindi-Urdu occur with dative marking. This marking is obligatory when the main verb is transitive or unergative—i.e. when the subject otherwise would have been "nominative" (or ergative). This dative marking is illustrated in (30) for what Bhatt (1997) refers to as the "obligational" construction, where the main verb is in a non-finite form that occurs under a form of the verb BE.[11]

(30) Han(-*ko) davaai pii-nii hai
Han(-*DAT) medicine.FEM drink-GER.F be.PRES
"Han has to drink the medicine." [Bhatt 1997, (24a)]

Bhatt (1997) observes that this subject marking is optional, by contrast, when the main verb is unaccusative—i.e. when the surface subject originated as an internal argument. This optionality is shown in (31).

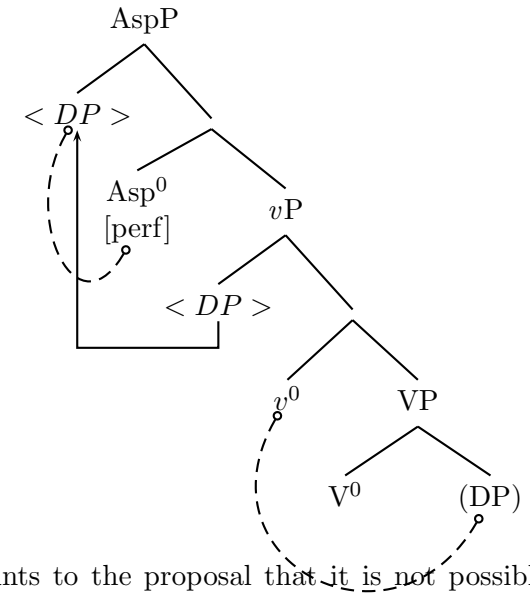
(31) yeh tehnii(-ko) kaṭ-nii hai
this branch.FEM(-DAT) be.cut-GER.FEM be.PRES
'This branch has to be cut.' [Bhatt 1997, (24b)]

Because dative morphology (i.e. *-ko*) is used for both modal subjects and for differential marking, the optional dative marking in (31) could in principle have either source. Bhatt makes the point, however, that the unmarked option in (31) can only be a case in which bare "accusative" morphology has been preserved, since bare subjects are otherwise impossible in modal contexts. Importantly for our purposes here, this analysis of the bare subject in (31) means that accusative case must be available to the single arguments of unaccusative verbs.

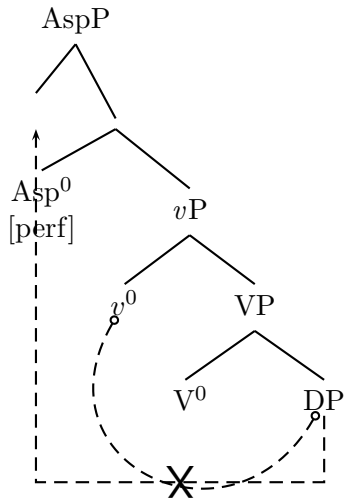
[11]Bhatt (1997) argues that the obligational construction is built on the syntax of possession, much like the English modal use of the possessive verb *have*.

If internal arguments of unaccusative verbs can receive accusative case, then we can give a uniform explanation for why neither direct objects nor unaccusative subjects receive ergative marking in Hindi-Urdu: because all internal arguments receive accusative from v^0, none retain an unvalued case feature when perfective Asp^0 later enters the structure. This is illustrated in (32-b): because an internal argument can establish a case relationship with v^0, it cannot move to the specifier of perfective Asp^0, or receive ergative case in that position.

(32) a. Transitive/Unergative:



b. Unaccusative



This amounts to the proposal that it is not possible to "stack" ergative case outside of accusative case in Hindi-Urdu. It may be, however, that other types of case stacking are possible. If ergative arguments raise to Spec-TP, for example, this suggests that they do establish some agreement relationship with T^0—perhaps a relationship for nominative case, if arguments with inherent case nonetheless require structural case checking.

A puzzle that remains is the fact that all internal arguments are able to trigger finite φ-agreement on T^0 in the perfective, as shown again in (33), and unaccusative subjects trigger φ-agreement in the imperfective as well. This appears to be at odds with the proposal that all internal arguments have accusative case licensed by v^0: if finite φ-agreement is directly linked to nominative case assignment, as it is in many current theories, then structurally accusative DPs should be inaccessible for finite agreement.

(33) 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 Asp^0 is unable to interact with internal arguments for purposes of case, how can T^0 access them (at a greater distance) for purposes of φ-agreement?

One possible way to resolve this issue would be to deny the structural link between nominative case checking and finite agreement, for example by restricting φ-agreement to the post-syntactic morphological component, as proposed by Bobaljik (2008) (though Bobaljik also argues that case is entirely computed post-syntactically).

Another path forward, and the one I pursue here, is to propose that accusative-licensed DPs in Hindi-Urdu (and perhaps also more generally) are able to establish a second case relationship with T^0, rendering them candidates for finite φagreement.

In other words, I propose that the restriction on case-stacking is indeed very narrow in Hindi-Urdu: all that is ruled out is assigning oblique case to a DP that has already been licensed with structural case. Though this might appear to be a curious kind of restriction, Bejar and Massam (1999) review facts suggesting that languages vary a great deal in the availability of multiple case licensing, and the configurations in which it is possible.[12]

This proposal divorces the ergative alignment of Hindi-Urdu's case system from the ergative alignment seen in its agreement: the mechanisms that assign "unmarked" case to internal arguments are different from the mechanisms that allow them to trigger finite φagreement. 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 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 (34) and (35):

(34) 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, (11b, 12b)]*

[12]It is certainly true that many other phenomena have been described in which it is indeed possible to assign oblique case "outside" structural case (i.e. "case stacking" phenomena, Richards 2009).

(35) 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, (13a,b)]*

Patel-Grosz and Grosz (2014) argue that these are cases where agreement on the main verb 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. 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).[13]

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).

An advantage of the current account is that it breaks this 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,[14] we find in Hindi-Urdu that both imperfective and progressive aspects combine productively with the passive. This suggests that alternations in voice should be represented separately in the clause from as least some categories of view-

[13]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.

[14]For a recent detailed proposal along these lines, though framed in terms of syntactic features rather than compositional semantics, see Cowper and Hall (2012).

point 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 case 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, perfective Asp^0 can be seen as "applicative like" in that it assigns oblique case to an argument in its specifier, without having semantically introduced that argument. 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 aspectual head itself.

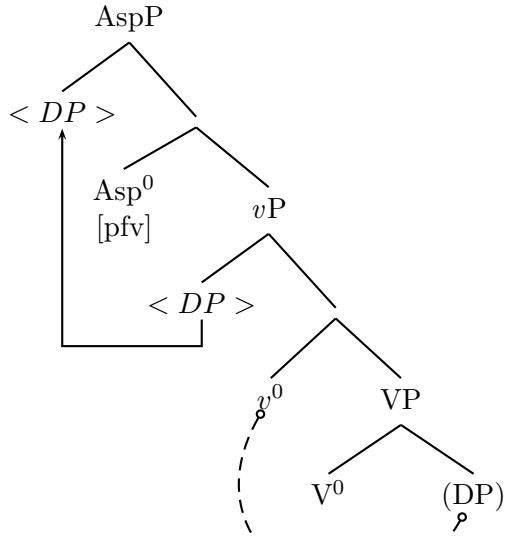
There is a long tradition of linking the presence of auxiliary HAVE very directly to transitivity. On this type of approach, HAVE is an intrinsically transitive verb that serves to "retransitivize" the passive participle main verb (Belvin and Dikken, 1997; Den Dikken, 1994; Hoekstra, 1984, 1994, a.o.).

To syntactically implement this approach in its strong form, the perfective must contain the syntactic (and so the morphological and semantic) content of the passive. As many have observed, this would seem to predict that perfectives involve reduced agency, or other characteristics of passive interpretation, a prediction that does not appear to be borne out.

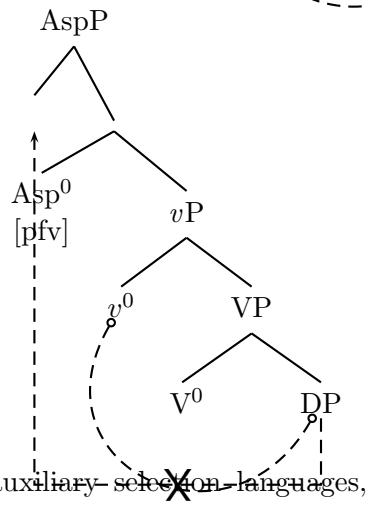
I propose instead that auxiliary HAVE reflects the same perfective Asp^0 head found in oblique-subject perfectives above: while it does not introduce any argument, and so is not semantically transitive, this head is spelled out as HAVE when an argument occurs in its specifier, in that sense being syntactically transitive.[15] This movement to Spec- Asp^0 is illustrated in the tree in (36).

[15]A similar view of possessive HAVE as involving raising into the specifier of an applicative-like head can be found in the work of Myler (2013, 2014). See also Bjorkman and Cowper (2013, 2014)

(36) Transitive/Unergative: Asp^0_{perf} realized as HAVE due to DP in Specifier



(37) Unaccusative: Asp^0_{perf} realized as BE because Specifier remains empty



For auxiliary selection languages, the same puzzle arises here as in aspectually split ergative languages: why do internal arguments not move into Spec- Asp^0, so that passives and unaccusatives show different behaviour (here auxiliary BE rather than the absence of ergative case) from unergatives and transitives? This could arise for the same reason suggested for Hindi-Urdu: internal arguments are insulated from perfective Asp^0 by having already been case-licensed by v^0.

Whereas in Hindi-Urdu, however, there was indirect corroborating evidence

for this type of view of causative and modal uses of HAVE.

that all internal arguments receive structural accusative (the preservation of differential object marking on derived subjects, for example), no such evidence exists in Germanic or Romance.

An alternative explanation for the asymmetry between external and internal arguments much therefore be sought. One possible avenue for this explanation arises from the face that perfective Asp^0 in Germanic and Romance is not a case assigner: instead, it simply attracts a DP into its specifier. When an external argument is present, it is the closest nominal in the complement of Asp^0 and so is attracted.

When no external argument is present, however, what will Asp^0 attract? It is often observed that participial verb forms in many languages, including those under consideration here, have a nominal character. Assuming those nominal properties are represented syntactically, it is reasonable to suggest that perfective Asp^0 might attract v^0, as the closest element with nominal properties in its complement. Just as the assignment of accusative case in Hindi-Urdu prevents internal arguments from moving to Spec- Asp^0, the nominal characteristics of participial v^0 insulates the internal argument in auxiliary selection languages.[16]

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 the movement of external arguments into a particular structural position. For auxiliary selection, this is a position to the left of the head that is itself realized as HAVE.

Further 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 cases is that the presence of a pre-auxiliary clitic is associated with auxiliary HAVE.

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, however, whenever an object is expressed as a pre-auxiliary clitic (Kayne, 1993, p. 14, translations added).

[16] I assume in this discussion 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.

(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."

This interaction with clitic placement is difficult to account for on a pure argument-licensing account where HAVE introduces the external argument (as are person-based splits more generally), but it 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.[17]

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 it has already received structural case from v^0. 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 featureal content, rather than by whether any DP occupies its specifier.

[17]The fact that third-person subjects more generally require HAVE could be explained if these subjects occupy a higher structural position than first and second person subjects do, or if the latter are licensed 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).

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 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 Coon (2013a).

This is a narrower scope than claimed by Coon (2010, 2013a) (based 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 is potentially able to disrupt ergative alignment.

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

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.[18]

[18]The data in this section is drawn from Laka (2006), but glosses have been changed to indicate the

(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-ten ari da
woman-DET bread-DET.PLeat-IMPF PROG 3ABS.AUX
"The woman is eating (the) breads." *(Laka, 2006, 177)*

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 (40-c): both subject and object occur in the absolutive, which is morphologically null. Her second observation is that the complement of the progressive aspectual particle looks like 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 (40-c) is actually the sole DP argument of the matrix clause.

Coon's 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 an general picture of aspectual splits, but raises the typological question of why only the imperfective is able to divide a clause into two case domains.

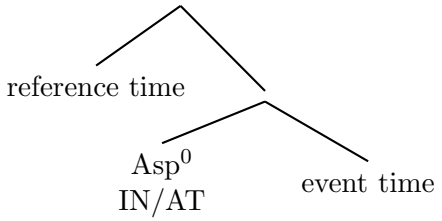
To answer this question, Coon appeals to semantic and typological links between temporal relations on the one hand and locative relations on the other. Her starting point is the idea that temporal and locative meanings are not merely typologically correlated, but deeply semantically (and even syntactically) 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

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.

account, reflects the fact that an imperfective aspectual head literally relates two 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).[19] 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 such a relation, and that because of this lexical gap, 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. What I argue below, however, is that its claims 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

[19]The structures proposed by Demirdache and Uribe-Etxebarria actually propose that the event time argument is located 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.

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).

For example, one of the diagnostics Coon suggests for increased structural complexity is the presence of an auxiliary verb. There are many languages where perfective verb forms transparently involve "more" structure 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 (42).[20]

(42) 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 in the perfective. This is obviously not the conclusion Coon intends, yet the presence of an auxiliary is the primary evidence she provides for larger imperfective structures in languages like Hindi-Urdu, citing contrasts like the one in (43):

(43) 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 / thĩ:
Lataa-HON song.PLsing-HAB.F BE.PRES.PL / BE.PAST.F.PL
"Latta-ji sings/used to sing songs." *(Bhatt 2007: 5a, 8a)*

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

In her discussion of the alignment in (43), however, Coon fails to note that Hindi-Urdu uses a parallel auxiliary-participle construction to express the perfect – but that the perfect shows ergative alignment just as the perfective does. The contrast between (42-b) and (44) demonstrates 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 /
Lataa-HON-ERG many song.M.PL sing-PFV.M.PL BE.PRES.PL/
the
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 perfect, perfective and the progressive might all be non-ergative, with the imperfective alone retaining ergative alignment. Yet that is precisely the type of split we do not find, and which Coon's account is built to exclude.

6.3 . . . and perfectives can be prepositional.

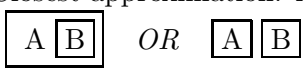
For Coon, what is special about imperfective syntax is not merely that it is more complex than its perfective counterparts, but that its complexity involves specifically locative syntax. According to her, this locative structure, unavailable to perfectives, is capable of disrupting ergative alignment. This section argues, however, 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 (45-b) that unambiguously conveys the reverse of *in* as in (45-a); 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,[21] 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 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 often argued that the relevant preposition is non-locative, perhaps corresponding to non-locative WITH (Levinson, 2011). Accepting this body of work, possessive perfects of the kinds discussed in section 4, whether involving oblique subject case or auxiliary HAVE, are just as prepositional as imperfectives expressed by "in" or "at".[22]

[21] 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.

[22] Coon and Preminger (2011) in fact assume a prepositional source for HAVE in their remarks

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* 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.

This leaves open the question of why aspectual splits are unidirectional: if splits can arise from more than one source, it is a mystery why different sources give rise to the same directionality. More pressingly, it is a mystery why "heavy perfectives" never disrupt ergative alignment in the way we see imperfectives doing. This mystery is not resolved by this paper; the point

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.

here is that neither can it be resolved by attributing all aspectual splits to properties of the imperfective.

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 aslignment.

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.

References

Aissen, Judith. 2003. Differential object marking: iconicity vs. economy. *Natural Language & Linguistic Theory* 21:435—483.

Anand, Pranav, and Andrew Nevins. 2006. The locus of ergative case assignment: Evidence from scope. In *Ergativity: Emerging issues*, ed. Diane Massam, Alana Johns, and Juvenal Ndayiragije, 3–25. Springer.

Arregi, Karlos. 2004. The have/be alternation in Basque. Ms. University of Illinois at Urbana Champaign.

Baker, Mark C. 2008. *The syntax of agreement and concord*. Cambridge University Press.

Bejar, Susana, and Diane Massam. 1999. Multiple case checking. *Syntax* 2:65–79.

Belvin, Robert, and Marcel den Dikken. 1997. *There*, happens, *to*, *be*, *have*. *Lingua* 101:151–183.

Bhatt, Rajesh. 1997. Obligation and possession. In *The Proceedings of the UPenn/MIT Workshop on Argument Structure and Aspect*, number 32 in MIT Working Papers in Linguistics.

Bhatt, Rajesh. 2005. Long distance agreement in Hindi-Urdu. *Natural Language & Linguistic Theory* 23:757–807.

Bhatt, Rajesh. 2007. Ergativity in indo-aryan languages. Talk given at the MIT Ergativity Seminar, November 2007.

Bhatt, Rajesh, and Elena Anagnostopoulou. 1996. Object shift and specificity: Evidence from ko-phrases. In *Proceedings of CLS 1996*.

Bjorkman, Bronwyn M., and Elizabeth Cowper. 2013. Inflectional shells and the syntax of causative *have*. Presentation at the 2013 CLA Annual Meeting, June 2013.

Bjorkman, Bronwyn M., and Elizabeth Cowper. 2014. Possession and necessity: from individuals to worlds. Presentation at the GLOW 37 Workshop on Possession.

Bobaljik, Jonathan David. 2008. Where's phi? agreement as a post-syntactic operation. In *Phi-theory: Phi features across interfaces and modules.*, ed. Daniel Harbour, David Adger, and Susana Béjar, 295–328. Oxford University Press.

Bok-Bennema, Reineke. 1991. *Case and agreement in Inuit*, volume 38. Walter de Gruyter.

Boneh, Nora, and Ivy Sichel. 2010. Deconstructing possession. *Natural Language & Linguistic Theory* 28:1–40.

Bybee, Joan L., Revere D. Perkins, and William Pagliuca. 1994. *The evolution of grammar*. University of Chicago Press.

Chomsky, Noam. 1995. *The minimalist program*. Cambridge, MA: MIT Press.

Comrie, Bernard. 1976. *Aspect: an introduction to the study of verbal aspect and related problems*. Cambridge Textbooks in Linguistics. Cambridge: Cambridge University Press.

Coon, Jessica. 2010. Complementation in Chol (Mayan): A theory of split ergativity. Doctoral Dissertation, MIT.

Coon, Jessica. 2013a. *Aspects of split ergativity*. Oxford University Press.

Coon, Jessica. 2013b. Tam split ergativity, part i & ii. *Language and Linguistics Compass* 7:171–200.

Coon, Jessica, and Omer Preminger. 2011. Towards a unified account of person splits. WCCFL 29.

Coon, Jessica, and Omer Preminger. 2012. Taking 'ergativity' out of split ergativity: A structural account of aspect and person splits. lingbuzz/001556.

Cowper, Elizabeth A., and Daniel Currie Hall. 2012. The syntactic uncoupling of voice and aspect in Modern English. In *Proceedings of ACL/CLA*.

Dahl, Östen. 1985. *Tense and aspect systems*. Oxford: Basil Blackwell.

Demirdache, Hamida, and Miryam Uribe-Etxebarria. 2000. The primitives of temporal relations. In *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, ed. Roger Martin, David Michaels, and Juan Uriagereka. Cambridge, MA: MIT Press.

Den Dikken, Marcel. 1994. Auxiliaries and participles. In *Proceedings of NELS*

24, volume 1, 65–79.
Dixon, R. M. W. 1979. Ergativity. *Language* 55:59–138.
Freeze, Ray. 1992. Existentials and other locatives. *Language* 68:553–595.
Giorgi, Alessandra, and Fabio Pianesi. 1997. *Tense and aspect: From semantics to morphosyntax*. Oxford University Press, USA.
Harris, Alice C. 1985. Diachronic syntax: the kartvelian case. *Syntax and Semantics* 18.
Hoekstra, Teun. 1984. *Transitivity: Grammatical relations in government-binding theory*. Dordrecht, Holland; Cinnaminson, NJ, USA: Foris Publications.
Hoekstra, Teun. 1994. HAVE as BE plus or minus. *Paths towards Universal Grammar: Studies in Honor of Richard Kayne* 199–215.
Johns, Alana. 1992. Deriving ergativity. *Linguistic Inquiry* 23:57–87.
Jung, Hakyung. 2011. *The syntax of the BE-possessive: parametric variation and surface diversities*. John Benjamins Publishing Company.
Kayne, Richard S. 1993. Toward a modular theory of auxiliary selection. *Studia Linguistica* 47:3–31.
Keine, Stefan. 2007. Reanalysing hindi split ergativity as a morphological phenomenon. In *1-2-many*, ed. Jochen Trommer and Andreas Opitz, volume 85 of *Linguistische Arbeits Berichte*, 73–127. Universität Leipzig.
Klein, W. 1994. *Time in language*. Routledge.
Kratzer, Angelika. 1998. More structural analogies between pronouns and tenses. In *Proceedings of SALT VIII*, ed. Devon Strolovitch and Aaron Lawson, volume 8, 92–110.
Kusumoto, K. 1999. Tense in embedded contexts. Doctoral Dissertation, University of Massachusetts.
Kuz'mina, I. B., and E. V. Nemčenko. 1971. Sintaksis pričastnyx form v russkiz govorax. Moskva: Nauka. [cited in: Lavine, James E. 1999. Subject Properties and Ergativity in North Russian and Lithuanian. In *Proceedings of FASL 7*.].
Laka, Itziar. 2006. Deriving split ergativity in the progressive. In *Ergativity: Emerging issues*, ed. A Johns, D. Massam, and J. Ndayiragije, 173–196. Dordrecht: Springer.
Lavine, James Eric. 2000. Topics in the syntax of nonagreeing predicates in Slavic. Doctoral Dissertation, Princeton University.
Lee, Hanjung. 2006. Parallel optimization in case systems: Evidence from case ellipsis in korean*. *Journal of East Asian Linguistics* 15:69–96.
Legate, Julie Anne. 2006. Split absolutive. In *Ergativity*, 143–171. Springer.
Legate, Julie Anne. 2008. Morphological and abstract case. *Linguistic Inquiry* 39:55–101.
Levinson, Lisa. 2011. Possessive WITH in Germanic: HAVE and the Role of

P. *Syntax* .

Lieber, Rochelle, and Harald Baayen. 1997. A semantic principle of auxiliary selection in dutch. *Natural Language & Linguistic Theory* 15:789–845.

Lindström, Liina, and Ilona Tragel. 2010. The possessive perfect construction in Estonian. *Folia Linguistica* 44:371—400.

Mahajan, Anoop. 1997. Universal grammar and the typology of ergative languages. *Studies on Universal Grammar and typological variation* 35–57.

Manzini, M. Rita, and Leonardo M. Savoia. 2007. *A unification of morphology and syntax: investigations into Romance and Albanian dialects*. Taylor & Francis.

Masrangellao Latini, G. 1981. Note di morfologia dialettale. *Quaderni difilologia et lingue romame* 3:241–249.

Mohanan, Tara. 1994. *Argument structure in Hindi*. Center for the Study of Language (CSLI).

Moravcsik, Edith A. 1978. On the distribution of ergative and accusative patterns. *Lingua* 45:233–279.

Myler, Neil. 2013. Building and interpreting have sentences in english (and other languages). Ms. New York University, December 2013.

Myler, Neil. 2014. How to turn a (not-yet-)possessed dp into a predicate nominal in cochabamba quechua. Presentation at the 2014 LSA Annual Meeting.

Pancheva, Roumyana. 2003. The aspectual makeup of perfect participles and the interpretations of the perfect. In *Perfect explorations*, ed. Artemis Alexiadou, Monika Rathert, and Arnim von Stechow, 277–306. Berlin: Mouton de Gruyter.

Paslawska, Alla, and Arnim Von Stechow. 2003. Perfect readings in Russian. In *Perfect explorations*, 307–362. Walter de Gruyter.

Patel-Grosz, Pritty, and Patrick Grosz. 2013. On ergative agreement in Kutchi Gujarati and Marwari. Talk given at GLOW 36.

Patel-Grosz, Pritty, and Patrick Grosz. 2014. Deriving 'ergative' object agreement in Western Indo-Aryan: A case study. Ms. University of Tübingen.

Perlmutter, David M. 1978. Impersonal passives and the unaccusative hypothesis. In *Proceedings of the fourth annual meeting of the Berkeley Linguistics Society*, volume 4, 157–89. Berkeley: University of California.

Pylkkänen, Liina. 2008. *Introducing arguments*. Cambridge, MA: MIT Press.

Reichenbach, Hans. 1947. *Elements of symbolic logic*. Macmillan.

Richards, Norvin. 2009. Lardil "case stacking" and the structural/inherent case distinction. Ms. MIT.

Silverstein, M. 1976. Hierarchy of features and ergativity. In *Grammatical categories in australian languages*, ed. R. M. W. Dixon, 112–171. New Jersey: Humanities Press.

Smith, Carlota S. 1991. *The parameter of aspect*. Kluwer Academic Press.

Sorace, Antonella. 2000. Gradients in auxiliary selection with intransitive verbs. *Language* 76:859–890.

Sorace, Antonella. 2004. Gradience at the lexicon-syntax interface: evidence from auxiliary selection and implications for unaccusativity. In *The unaccusativity puzzle*, ed. Artemis Alexiadou, Elena Anagnostopoulou, and Martin Everaert, 243—268. Oxford University Press, Oxford.

Tenny, Carol L. 1987. Grammaticalizing aspect and affectedness. Doctoral Dissertation, MIT.

Timberlake, Alan. 1974. The nominative object in North Russian. *Slavic transformational syntax* 10:219.

Tuite, Kevin. 1998. *Kartvelian morphosyntax: Number agreement and morphosyntactic orientation in the south caucasian languages*, volume 12. Lincom Europa.

Turri, C. 1973. *Grammatica del dialetto novarese*. Novara: La Famiglia Nuaresa.

Ura, Hiroyuki. 2000. *Checking theory and grammatical functions in universal grammar*. Oxford University Press Oxford.

Ura, Hiroyuki. 2006. A parametric syntax of aspectually conditioned split-ergativity. In *Ergativity: Emerging issues*, ed. D. Massam, J. Ndayiragije, and A Johns, 111–141. Springer.

Viitso, Tiit-Rein. 2003. Structure of the Estonian Language. In *Estonian language*, ed. Mati Erelt, Linguistica Uralica, 9–129. Estonian Academy Publishers.

Woolford, Ellen. 1997. Four-way case systems: Ergative, nominative, objective and accusative. *Natural Language & Linguistic Theory* 15:181–227.

Woolford, Ellen. 2001. Case patterns. In *Optimality theoretic syntax*, ed. Géraldine Legendre, Jane Grimshaw, and Sten Vikner, 509–543. Cambridge, MA: MIT Press.

Wurmbrand, Susi. 2011. Agree and merge. Ms. UConn.

Zeijlstra, Hedde. 2012. There is only one way to agree. *The Linguistic Review* 29:491–539.