

Case Alternations and the Icelandic Passive and Middle

Peter Svenonius

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1 Introduction

The main question to be addressed in this paper is, why is accusative case systematically lost in passives (as illustrated in (1)), while dative case is retained, equally systematically (as illustrated in (2))?

- (1) a. Stormurinn blés strompinn af húsinu.
the.storm.NOM blew the.chimney.ACC off the.house
'The storm blew the chimney off the house'
b. Strompurinn var blásinn af húsinu.
the.chimney.NOM was blown off the.house
'The chimney was blown off the house' (Zaenen and Maling 1984)
- (2) a. Skipstjórinn sökk skipinu.
the.captain.NOM sank the.ship.DAT
'The captain sank the ship'
b. Skipinu var sökkt af skipstjóranum.
the.ship.DAT was sunk by the.captain
'The ship was sunk by the captain' (Zaenen and Maling 1984)

The question is particularly pertinent in Icelandic, which allows accusative subjects, so that for example (1b) and (3) form a minimal pair.

- (3) Strompinn blés af húsinu.
the.chimney.ACC blew off the.house
'The chimney blew off the house' (Zaenen and Maling 1984)

Examples like (3) are highly marked, and only possible for a finite list of verbs under certain interpretive conditions. However, they represent a significant enough feature of Icelandic syntax that the lack of accusative case in (1b) cannot be due to a general requirement that accusative is dependent on nominative.

It is sometimes thought that the preservation of the dative in (2) is explained by an assumption that dative case is ‘lexical’ or ‘inherent,’ but the middle construction in Icelandic provides systematic alternations between dative and nominative (Zaenen and Maling 1984); for example the dative object in (4) surfaces as nominative in the middle form, as shown.

- (4) a. Ég týndi úrinu.
 I.NOM lost the.watch.DAT
 ‘I lost the watch’
 b. Úrið týndist.
 the.watch.NOM lost.MIDDLE
 ‘The watch got lost’ (Sigurðsson 1989:269)

Descriptively, the accusative could be said to be more fragile than the dative, as the dative is preserved in contexts where the accusative is lost (as in passive). However, both are structural cases, and there are contexts in which both are lost (as in the middle).

In this paper, I argue that the contrasts outlined here follow from two independently motivated assumptions, cast in a decompositional model of lexical structure. The first assumption is that dative case is determined lower in the decomposed verbal structure than accusative case; this is motivated by the lexical semantics which determine the distribution of dative case. The second assumption is that the middle is lower in the structure than the passive, which is motivated by the fact that the passive, but not the middle, implies the existence of an external argument.

2 Object Case in Icelandic

Because case alternations are so central here, it is necessary to quickly review some relevant facts about case assignment in Icelandic, before moving on to detail the passive construction.

2.1 Basic facts

For most verbs, Icelandic shows a standard nominative-accusative pattern: the subject gets nominative (in a finite clause), and an object, if there is one, gets accusative.

- (5) a. Hún vekur hana.
she.NOM wakes her.ACC
'She wakes her'
b. Hún hefur litað hana.
she.NOM has colored her.ACC
'She has colored it'

However, as noted, some verbs have dative, accusative, or genitive subjects, and certain verbs have dative, nominative or genitive objects. In fact, dative is extremely common on both subjects and objects in Icelandic, and there are many hundreds of verbs which take the dative (cf. Barðdal 2001). Most dative subjects are experiencers (see Jónsson 2003), and most dative objects can be characterized as themes, especially themes of motion (Maling 2001). A few examples of dative objects are given here to illustrate, as these are the objects whose case is preserved in passives but lost in middles.

- (6) a. Bandaríkin hafa ekki aflétt viðskiptabanni á Kúbu.
the.USA have not lifted the.trade.embargo.DAT on Cuba
'The USA has not lifted the trade embargo on Cuba'
b. Sjómennirnir reyndu að bægja háhyrningunum frá netinu.
the.sailors tried to drive the.killer.whales.DAT from the.net
'The sailors tried to drive the killer whales away from the net'
c. Þeir flögguðu færeyska fánanum.
they flew Faroese flag.DAT
'They flew the Faroese flag' (Maling and Thráinsson 1995)

Unlike German, where dative objects are oblique and behave syntactically much like PPs (Vogel and Steinbach 1998), Icelandic dative case is structural, and dative-marked objects pattern with ordinary accusative objects for various phenomena such as control, binding, secondary predication, promotion under passive, and so on (Maling 2001).

There are ditransitive verbs, which have nominative subjects and usually have a dative argument followed by an argument that can be dative, accusative, or genitive, as illustrated in (7a) (Yip et al. 1987 estimate that there are over a hundred

ditransitive verbs with a dative first object). There are also some ditransitives in which the first internal argument is accusative, and the second is dative (25 verbs), genitive (10 verbs), or accusative (one verb, *kosta* ‘cost’) (figures from Yip et al. 1987), as illustrated in (7b).

- (7) a. Ég hef gefið stráknum gjafir.
I.NOM have given the.boy.DAT gifts.ACC
‘I have given the boy gifts’
b. Hann svipti konuna aleigu sinni.
he.NOM deprived the.woman.ACC asset.DAT her.DAT
‘He deprived the woman of all of her possessions’

In addition, there are numerous examples with dative subjects, usually experiencers (Jónsson 1997-1998, Jónsson 2003). When such verbs have an object, it is usually nominative.

- (8) a. Mér blæddi.
me.DAT bled
‘I bled’
b. Fólkinu sárnuðu þessi ummæli.
the.people.DAT hurt these.NOM words.NOM
‘The people were hurt by these words’ (Jónsson 2003:129–130)

See Zaenen et al. (1985) for extensive evidence that such datives are subjects, rather than topicalized internal arguments (see also Sigurðsson 2004 for recent discussion and references).

There is also a class of what can be called ‘quirky unaccusatives,’ verbs that take a single internal (theme) argument in a non-nominative case (cf. (3) in §1), but I postpone discussion of these special cases until §5, turning to an outline of an account for the cases already discussed.

2.2 Bipartite case-assigners

There are reasons to think that accusative and dative objects get their licensing from a combination of two heads in the projection of the verb. First, consider the dative. As argued by Barðdal (1993; 2001), there are semantic correlations to the distinction between dative and accusative objects. For example, themes of motion often appear in the dative, as illustrated in (9), where the verb *skjóta* ‘shoot’ takes the dative when the object is a projectile, but accusative when the object is an affected patient.

- (9) a. Þeir skutu geimfaranum á loft.
 they shot the.astronaut.DAT on sky
 ‘They shot the astronaut into the sky’
 b. Þeir skutu geimfarann.
 they shot the.astronaut.ACC
 ‘They shot the astronaut’ (Maling and Thráinsson 1995)

I argued in Svenonius (2002) that dative appears on themes when the causing subevent does not perfectly overlap with the subevent which describes the process that the object undergoes; this is illustrated in the minimal pair in (10).

- (10) a. Þeir báru heyið upp á vagninn.
 they carried the.hay.ACC up on the.wagon
 ‘They carried the hay up onto the wagon’
 b. Þeir hentu heyinu upp á vagninn.
 they threw the.hay.DAT up on the.wagon
 ‘They threw the hay up onto the wagon’

The verb *bera* ‘carry’ describes accompanied motion, in which the external argument participates in the event as long as the internal argument undergoes it. The verb *henda* ‘throw,’ in contrast, involves a causing subevent followed by a possibly non-overlapping movement subevent.

Thus, dative on theme objects in Icelandic correlates with a particular kind of Aktionsart, one which is only possible with certain roots (*henda* but not *bera*, for example, and one use of *skjóta* but not the other). At a first approximation, we can say that verbs that take dative theme objects have a particular marked property, call it DAT.

DAT is a necessary but not a sufficient condition for dative case on theme internal arguments. Recall from (4) in §1 that dative case is lost in the middle. Dative is also absent from the unaccusative variant of a typical causative-inchoative alternation.

- (11) a. Skipstjórinn sökk skipinu.
 the.captain.NOM sank the.ship.DAT
 ‘The captain sank the ship’
 b. Skipið sökk.
 the.ship.NOM sank
 ‘The ship sank’ (Zaenen and Maling 1984)

This recalls Burzio's Generalization (Burzio 1986), whereby the existence of an external argument is necessary for the assignment of accusative case.

Assuming that the external argument is introduced by some sort of voice or causative head, it appears that both that head and DAT are necessary for a theme object to surface with dative case (cf. Watanabe 1993, in which structural case is assigned by a combination of an Agr head and V for accusative or T for nominative). Below I will assume that there are two heads associated with external arguments, Voice and Init (for *initiation*, after Ramchand 2006). I will suggest that dative themes are dependent on Voice.¹

A similar argument can be made for accusative. First, note that accusative is more 'fragile' than the dative in that it disappears under passive (cf. (1b) in §1), where an external argument is implicitly present. The sensitivity of accusative to passive voice, which affects the realization of the external argument, suggests that accusative case has a licenser at or near the heads responsible for the expression of the external argument (this is an implementation of the essence of Burzio's Generalization).

Now consider the facts about case assignment in ditransitives discussed by Holmberg (2002). Holmberg points out that although Icelandic allows impersonal passives, as in (12a), it does not allow impersonal passives of typical ditransitives, as illustrated in (12b).

- (12) a. Það hafa verið skrifaðar þrjár bækur um þetta.
 it have been written.PL three books.NOM about that
 'There have been three books written about that'
 b. *Það hafa verið gefnar stráknum gjafir.
 it have been given.PL the.boy.DAT gifts.NOM
 (Holmberg 2002)

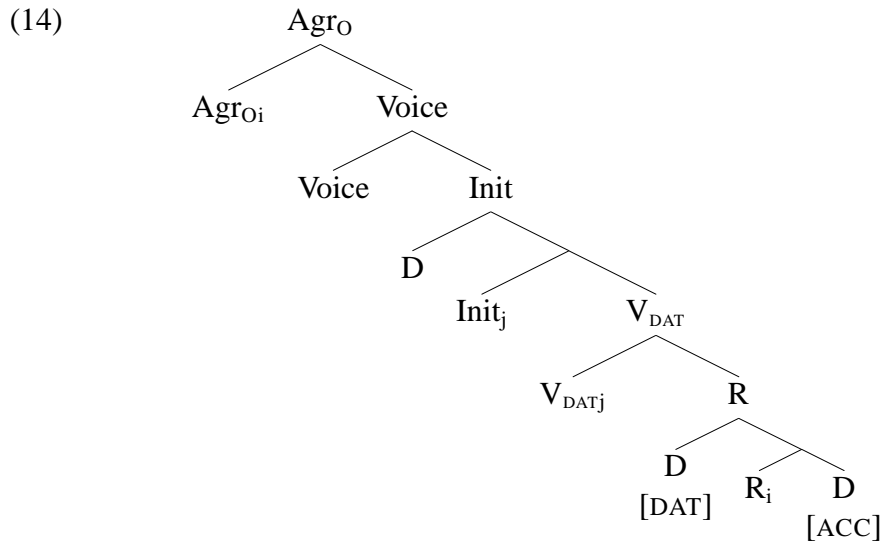
This is all the more striking given that passives of ditransitives are perfectly acceptable, if one or the other argument is promoted to subject position.

- (13) a. Stráknum voru gefnar gjafir.
 the.boy.DAT were given.PL gifts.NOM
 'The boy was given gifts'
 b. Gjafirnar voru gefnar stráknum.
 the.gifts.NOM were given.PL the.boy.DAT
 'The gifts were given to the boy' (Holmberg 2002)

Holmberg argues that the unacceptability of (12b) is due to the fact that the dative indirect object intervenes between the nominative and T (cf. 2000 “defective intervention”). Movement of either argument to SpecTP resolves this and permits the necessary Agree relation to obtain.

This means that an intervening dative DP in Icelandic blocks the formation of an Agree relation with a more distant DP (see also Holmberg and Hróarsdóttir 2003). The dative in a typical ditransitive construction (such as (7a)) is clearly between Init (the initiator head, also known as CAUSE or ν) and the accusative; for example the dative blocks Object Shift of the accusative, unless the dative itself undergoes object shift (cf. e.g. Collins and Thráinsson 1996). So accusative case cannot be assigned to an accusative direct object directly from Init under Agree, in an example like (7a). Nor can there be a low source for accusative, or else there would be no reason for the theme in (13) to be nominative.

The conclusion must be that two elements are necessary for the assignment of accusative (just as with the dative): one which is relatively high up, near Init, and interacts with passive; call this one Agr_O . The other necessary element is relatively low down, closer to the accusative argument itself, perhaps even the head introducing it. Schematically, this looks something like the following, assuming a low applicative head R to introduce the two internal arguments (Pesetsky 1995, Harley 1995, Ramchand 2006).



Agr_O and R are in a chain, as indicated by the subscripts; R can thereby check case on the accusative theme. The heads Init and V_{DAT} are also in a chain, and

check dative case on the goal.

If Agr_O is absent, as it is in the passive, then R cannot assign accusative to the object, and nominative case must be assigned instead. Suppose that nominative case cannot be assigned through R, and that the nominative case assigner must form a chain directly with the theme argument. This chain, formed as it is with a nominal, is blocked by the dative, unlike the Agr_O–V chain in (14).

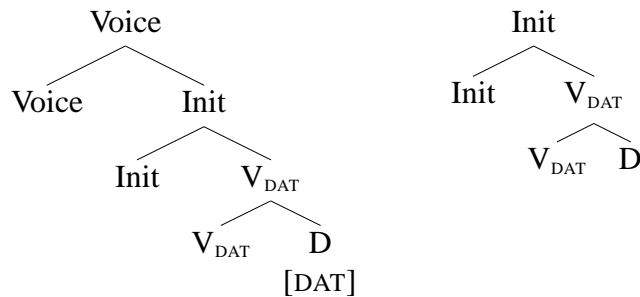
Benefactive or Goal arguments with dative case in Icelandic are different from dative themes in that their dative case is not affected by the middle.

- (15) a. Pétur bauð mér vinnu.
Pétur offered me.DAT job.ACC
'Peter offered me a job'
- b. Mér bauð-st vinna.
me.DAT offered-MID job.NOM
'I got the opportunity to get a job' (Sigurðsson 1989:260)
- (16) a. Ég hellti mjólkinni niður.
I spilled the.milk.DAT down
'I spilled the milk'
- b. Mjólkinn hellti-st niður.
the.milk.NOM spilled-MID down
'The milk spilled' (Sigurðsson 1989:265)

As shown, the verb *bjóða* 'offer, ask' contrasts with the particle verb *hella niður* 'spill' in that the middle of the former preserves dative while the latter loses it. I assume that the high licenser for the benefactive is Init, as indicated previously, but I will argue below that the high licenser for the theme is Voice.

The assumptions about case made here can be schematized as follows: verbs which take dative themes have a feature DAT; when V_{DAT} enters into an Agree relation with Voice, V_{DAT} can check dative case on a DP.² I will argue below that Voice is present in passives, but absent from middles. The alternation can be sketched as in (17) (if DAT is represented as a feature on V; alternatively it could be projected as a head, as in Koopman 2005): in (17a), dative would be licensed because both Voice and DAT are present, whereas in (17b), dative would not be licensed (cf. (4), (16)).³

- (17) a. Active (dative) b. Middle (no dative)



Accusative case is checked by V when it enters into an Agree relation with Agr_O, a marked value of Agr which is inserted when there are two DPs in vP which have unchecked case features. Setting aside some exceptional cases to be discussed in §5 (the ‘quirky unaccusatives’), the accusative case-checking value of Agr, Agr_O, is inserted only when needed; namely whenever a verb phrase contains two noun phrases whose case is not licensed. In such cases, Agr_O is merged and enters into Agree with V, which then checks accusative. In this way Agr_O has an aspect of ‘economy’ (Chomsky 1993), and the advantages of competition models of case are captured (cf. Yip et al. 1987, Marantz 1991, Haider 2000, Sigurðsson 2003, Woolford 2003). The unmarked value of Agr enters into an Agree relation not with V but with a DP with unchecked case, as discussed below.

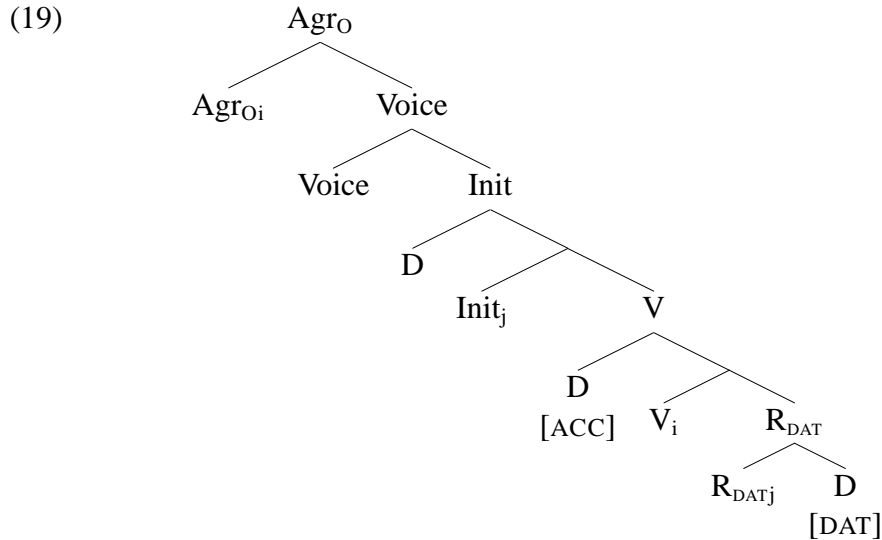
If Agr_O is structurally higher than Voice, then the relatively greater fragility of accusative than dative can be accounted for in terms of the height of the relevant licensors in the verb phrase: an Agr is inserted too late to affect the licensing of dative, but early enough to affect the licensing of accusative.

- (18) a. Active (accusative) b. Passive (no accusative)
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Thus, a basic feature of the analysis is that there is an accusative licensor higher than any dative licensor, and the passive affects verb structure which is higher than

the layer that the middle affects. Also, in general, marked options such as middle or passive reduce options higher up, rather than lower down.

Notice that if the lower head R, like V, can bear a DAT feature, then the combination of these two basic types of internal case leads to accusative-before-dative ditransitives like that illustrated in (7b) above.

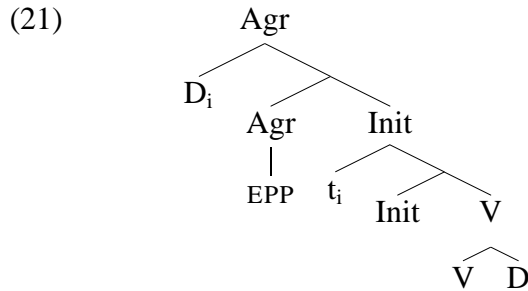


In general, when I discuss datives in this paper, I refer to dative themes, not experiencers. Details about the licensing of case on experiencers will not be relevant in the discussion to follow, so I will not pursue them here. However, there is one final point which is of importance. Icelandic generally allows nominative assignment and number agreement across a VP boundary, even when there is an external (experiencer) argument (see e.g. Sigurðsson 2006 for recent discussion and references). For example, in (20), the nominative remains in VP but controls number agreement with the finite auxiliary (see also (13a)).

- (20) Henni höfðu alltaf leiðst strákar.
her.DAT had.3PL always bored the.boys.NOM
‘She had always found the boys boring’ (Sigurðsson 2006)

Assuming that this verb projects an InitP, some part of the verb phrase spells out before T is merged (adopting Chomsky’s 2001 assumption that experiencer *v* heads a strong phase). This means that something lower than T must agree with the nominative. Given the assumptions made above about case, Agr can check number and case inside VP before the verb phrase spells out, as long as this is not

blocked by a defective intervener; the experiencer dative (whose case licensing I set aside here) does not block the assignment because it is extracted to become the subject. This is sketched in (21), assuming an EPP feature to be inserted in Agr, as a free option.⁴



I assume that a phase spells out when all uninterpretable features in it are checked (“Impatient Spell-Out,” Svenonius 2001, Holmberg and Hróarsdóttir 2003). Suppose this to be true of InitP in (21). Then $[_{\text{InitP}} \textit{leiðst strákarnir}]$ spells out. After that, some higher head, suppose it is T, checks the features on Agr. If T is finite and the features are nominative, then the derivation continues, leading to agreement on the finite auxiliary (see Svenonius 2004:275–279). Thus, the Agr–V combination only checks accusative under certain conditions; in general, it can be said to only check accusative via V, when there are two DPs with unchecked case features in the ν P. Otherwise, it checks nominative directly on a DP.

This is important for the understanding of impersonal constructions, in which nominative subjects remain inside VP, but trigger agreement outside it. If there were no phase boundary at the edge of the verb phrase, one might expect such agreement to be in person as well as number. Agr belongs to the adjectival family of agreement heads and as such cannot be specified for person features.

3 Subject Demotion in Icelandic

3.1 The Eventive Passive

The passive construction that is the focus of this study is the periphrastic passive, illustrated in (22) and (23).⁵ Finite verb agreement is glossed here in order to facilitate comparison with the participial agreement.

- (22) a. Höskuldur sannfærði hana.
Höskuldur.NOM convinced.3SG her.ACC

- ‘Höskuldur convinced her’
- b. Hún var sannfærð af Höskuldi.
 she.NOM was.3SG convinced.F.SG.NOM by Höskuldur.DAT
 ‘She was convinced by Höskuldur’ (Zaenen and Maling 1984)
- (23) a. Við kusum þá.
 we.NOM elected.1PL them.M.ACC
 ‘We elected them’
- b. Þeir voru kosnir.
 they.M.NOM were.3PL elected.M.PL.NOM
 ‘They were elected’ (Sigurðsson 1989)

The participial suffix can be analyzed as having the base allomorphs *-ð* (for weak verbs like *sannfæra* ‘persuade’ in (22)) and *-(i)n* (for strong verbs like *kjósa* ‘choose, elect’ in (23)), plus an adjectival agreement paradigm, agreeing with the promoted nominative subject in gender, number, and case. The agreement paradigm for strong participles deviates slightly from the strong paradigm for un-derived adjectives, but is identical to the paradigm for the definite suffix, which can also be analyzed as having a base *-(i)n*.⁶ I will return to this identity in §4.1 below.

Datives never control participle agreement, as illustrated in (24); the participle in such cases is identical to the neuter singular nominative form.⁷

- (24) a. Mér var boðið í veisluna.
 me.DAT was invited in the.party
 ‘I was invited to the party’
- b. *Mér var boðn-um í veisluna.
 me.DAT was invited-M.SG.DAT in the.party

Accusatives, however, do control participle agreement if they are in the right configuration (as noted in Andrews 1982, Sigurðsson 1989:309, n. 42). To see an accusative DP controlling participle agreement, a passive clause can be placed under an ECM (Exceptional Case Marking) verb like *telja* ‘believe’; the promoted internal argument then gets accusative from the ECM verb, as in (25a). For comparison, the same configuration is shown for a dative example with *bjóða* ‘invite.’ As can be seen in (25b), ECM accusative does not overwrite dative, determined lower down. Unlike the accusative example, the dative does not control agreement.

- (25) a. Hann telur hana vera sannfærð-a.
 he considers her.ACC be convinced-F.SG.ACC
 ‘He considers her to be convinced’
 b. Hann telur henni vera boðið/*boðin-ni.
 he considers her.DAT be invited/invited-F.SG.DAT
 ‘He considers her to be invited’

In sum, only nominative and accusative can be mediated or valued by the Agr head, which will also be responsible for participial agreement. This pattern is systematic, and in the examples below I generally don’t gloss the agreement, except when it is under discussion.

3.2 Adjectival Passives

The usual diagnostics for adjectival versus verbal (or stative versus eventive) passives show that Icelandic participles can be used as predicative adjectives.⁸

For example, (26a) is ambiguously eventive or adjectival, expressing either that the breaking event occurred yesterday, or that the state of being broken held yesterday. The example in (26b), however, is unambiguously eventive, because an agentive ‘by’-phrase is not possible with an adjectival passive.⁹

- (26) a. Rúðan var brotin í gær.
 the.window was broken in yesterday
 ‘The window was broken yesterday’
 b. Rúðan var brotin af skrílnum í gær.
 the.window was broken by the.mob in yesterday
 ‘The window was broken by the mob yesterday’ (Thráinsson 1999)

Other diagnostics positively identify the adjectival use. For example, certain modifiers such as *mjög* ‘much, very’ are not possible with verbal participles, so that (27a) has only an adjectival reading; and the prefix *ó-* does not combine with the eventive use of the participle, so that (27b) is also adjectival only.

- (27) a. Rúðan var mjög brotin þegar húsvörðurinn kom.
 the.window was very broken when the.landlord came
 ‘The window was very much broken when the landlord arrived’
 b. Rúðan var óbrotin í gær.
 the.window was unbroken in yesterday
 ‘The window was unbroken yesterday’ (Thráinsson 1999)

With these diagnostics in hand, it can be seen that although dative case is preserved in eventive passives (as noted in the introduction), it is lost in the adjectival passive. Take the verb *loka* ‘close,’ which takes a dative object, as illustrated in (28a). The eventive passive is given in (28b): as expected, dative case is preserved, a by-phrase is possible, the interpretation is eventive, and there is no agreement on the finite verb or the participle.

- (28) a. *Einhver lokaði dyrunum klukkan sjö.*
 somebody closed the.doors.DAT the.clock seven
 ‘Somebody closed the door at seven o’clock’
 b. *Dyrunum var lokað (af dyraverðinum) klukkan sjö.*
 the.doors.DAT was closed by the.porter the.clock seven
 ‘The door was closed (by the porter) at seven o’clock’

Now compare (29). The adjectival passive (as diagnosed here by the target state interpretation and the impossibility of a by-phrase) does not preserve dative case; the theme turns up nominative, and controls agreement both on the finite verb and on the adjectival participle.

- (29) *Dyrnar voru lokaðar (*af dyraverðinum) klukkan sjö.*
 the.doors.NOM were closed.F.PL by the.porter the.clock seven
 ‘The door was closed at seven o’clock’

To show that animacy is not relevant, consider also (30), which shows the same pattern.

- (30) a. *María bauð honum.*
 María invited him.DAT
 ‘María invited him’
 b. *Honum var boðið (af Maríu).*
 him.DAT was invited by María
 ‘He was invited (by María).’ (eventive reading)
 c. *Hann var (ó-)boðinn (*af Maríu).*
 he.NOM was un-invited.M.SG.NOM by María
 ‘He was (un-)invited’ (adjectival reading)

Another diagnostic which will become relevant later is the possibility of an instrument phrase. In Icelandic, instrument phrases are typically introduced by the preposition *með* ‘with, as illustrated in (31). The eventive passive allows the instrument phrase, while the adjectival passive does not.

- (31) a. Rúðan var brotin af skrílnum með hamri.
the.window was broken by the.mob with hammer
'The window was broken by the mob with a hammer'
- b. Rúðan var mjög brotin (*með hamri).
the.window was very broken with hammer
'The window was very much broken (*with a hammer)'
- c. Rúðan var óbrotin (*með hamri).
the.window was unbroken with hammer
'The window was unbroken (*with a hammer)'

The same fact is illustrated for the dative case, below.

- (32) a. Dyrnum var lokað með fjarstýringu.
the.doors.DAT was closed with remote.control
'The door was closed with a remote control'
- b. Dyrnar voru lokaðar (*með fjarstýringu).
the.doors.NOM were closed.F.PL with remote.control
'The door was closed (*with a remote control)'

In the introduction I suggested that the contrast between the dative and the accusative was that the accusative was more fragile than the dative, and is lost first. The basic idea in the analysis developed below is that the largest structures (transitive verbs) support accusative and dative, medium-sized structures (eventive passives) support only dative, and the smallest structures (adjectives and middles) do not support either internal case.

3.3 Middles

There are a great many verb forms in *-st* in Icelandic (cf. Sigurðsson 1989:259–262, Anderson 1990), covering much of the same range of meanings as reflexive forms in Romance, Slavic, and other languages (e.g. anticausative, reflexive, passive; cf. e.g. Alexiadou and Anagnostopoulou 2004). Setting aside a wealth of data, I will concentrate on the type which is illustrated in (33), where a transitive verb base in the *-st* form has a kind of anticausative, passive, or mediopassive meaning. The verbs *bjarga* 'rescue' and *kasta* 'throw' take dative objects, but their middles have nominative subjects.

- (33) a. Jón bjargaði-st úr eldinum.
Jón saved-MID out.of the.fire
'Jón got saved from the fire'

- b. María kastaði-st út úr bílnum.
María throw-MID out out.of the.car
'María got thrown from the car'
- c. Bjórinn kláraði-st.
the.beer finished-MID
'The beer got finished up'

The term 'middle' is used ambiguously in the literature on Icelandic to refer to a morphological class (e.g. Ottósson 1992) or to a semantically distinct construction (e.g. Sigurðsson 1989), and I will follow the latter tradition; the Icelandic middle, as used here, is an agentless voice with the *-st* suffix. It is distinct from the English middle, which has a characterizing semantics and typically requires adverbial support (*These cakes sell easily*; Stroik 1992, Ackema and Schoorlemmer 1995, Lekakou 2005).

Sigurðsson (1989) points out several ways in which the middle is distinct from the passive. For example, he shows that it does not normally allow 'by' phrases.¹⁰

- (34) a. Lögreglan drap hundinn.
the.police killed the.dog
'The police killed the dog'
- b. Hundurinn var drepinn (af lögreglunni).
the.dog was killed by the.police
'The dog was killed (by the police)'
- c. Hundurinn drap-st (*af lögreglunni).
the.dog killed-MID by the.police
'The dog got killed' (Sigurðsson 1989:268)

Similarly, the middle, unlike the eventive passive, is incompatible with agent-oriented adverbials (Sigurðsson 1989:268). The contrast can be seen in (35).

- (35) a. Bíllinn var seldur (viljandi) (af bílasala).
the.car was sold intentionally by car.salesman
'The car was sold (intentionally) (by a car salesman)'
- b. Bíllinn seldi-st (*viljandi) (*af bílasala).
the.car sold-MID intentionally by car.salesman
'The car got sold' (Hrafnbjargarson 2005)

As already noted in the introduction, the middle causes not only accusative but also dative case to be lost, just like the adjectival passive. This is illustrated again below, for completeness. First, (36a) shows that *læsa* 'lock' takes a dative object.

Second, (36b) shows that the theme is nominative in the middle voice.

- (36) a. Við læsum dyrunum.
 we lock the.doors.DAT
 ‘We are locking the doors’
 b. Dyrnar læsa-st!
 the.doors.NOM lock-MID
 ‘The doors are locking!’ (Hrafnbjargarson 2005)

For comparison, (37) shows that the dative cannot be preserved in the middle, but is preserved in the passive (note that the participle ending is *-t* after the *s* in the root, creating a sequence *st* in (37b) which is nonetheless not an *-st* form).

- (37) a. *Dyrunum læsa-st!
 the.doors.DAT lock-MID
 b. Dyrunum verður læst!
 the.doors.DAT become locked
 ‘The doors are being locked!’ (Hrafnbjargarson 2005)

So far, then, the middle has the same properties as the adjectival passive: it does not imply an agent, and it does not license dative or accusative case on its complement.

There is, however, another diagnostic which distinguishes the middle from the adjectival passive. Alexiadou et al. (2006) show that certain PPs which presuppose a causing event can be used to distinguish subclasses of agentless events. One such PP is the instrumental, which was already shown in §3.2 to be possible with the eventive passive and impossible with the adjectival passive.

(38) and (39) show that instrumentals are possible with the middle. Unaccusatives are used to show the contrast.

- (38) a. Drullukakan bakaði-st með rafmagni.
 the.mud.cake baked-MID with electricity
 ‘The mud cake was baked using electricity’
 b. Drullukakan harðnaði (*með rafmagni).
 the.mud.cake hardened with electricity
 ‘The mud cake hardened (*using electricity)’
 (39) a. Plakatið hengdi-st upp á vegginn með hamri.
 the.poster hung-MID up on the.wall with hammer
 ‘The poster was hung up on the wall with a hammer’

- b. Plakatið hékk upp á veggnum (*með hamri).
 the.poster hung up on the.wall with hammer
 ‘The poster hung up on the wall (*with a hammer)’

As with by-phrases, this test must be applied carefully. For example, a PP translating as ‘with tape’ (*með límbandi*) would be acceptable in (39b). The kind of instrumental which distinguishes between adjectival passives and middles is the kind which implies a causing event. Thus there is a sense in which the middle is causative, like the eventive passive, but not so much so that the external argument can be introduced explicitly in a by-phrase.

3.4 Nominalizations

I will not discuss nominalizations in this chapter, beyond what is stated in this section. However, they provide an important backdrop for the analytic approach taken here, because of the way in which different kinds of nominalizations show the effects of embedding different sizes of verbal structure under a nominalizer (Abney 1987, Alexiadou 2001).

Here it is sufficient to point out that dative and accusative case on theme objects is systematically lost in nominalizations in Icelandic, as discussed by Maling (2001) (judgments from Halldór Ármann Sigurðsson, personal communication).

- (40) a. Sjómennirnir björguðu flóttamanninum.
 the.sailors rescued the.refugee.DAT
 ‘The sailors rescued the refugee’
 b. björgun flóttamannsins
 rescue.N the.refugee.GEN
 ‘rescue of the refugee’
 c. ?björgun sjómannanna
 rescue.N the.sailors.GEN
 ‘the sailors’ rescue’

On the assumptions here, the nominalizer *-un* takes a smaller verb phrase than the eventive passive, since not even dative case is licensed. The possibility of the external argument here (in (40c)) might suggest that such nominalizations are larger than the middle or the adjectival passive, but it is also possible that possessors have such a wide range of interpretations that they do not clearly indicate the presence of verbal argument structure (cf. Grimshaw 1990).

4 The Decomposition of the Verb Phrase

Given the preceding discussion, the different forms can be arranged in a hierarchy according to the case properties (Nominative is not included in the table; it is sensitive to finiteness but not to these features).

(41)		Acc	Dat
	ACTIVE	yes	yes
	EVENTIVE PASSIVE	no	yes
	MIDDLE	no	no
	ADJECTIVE	no	no

Still concentrating on transitive verbs, these same forms can also be arranged around other properties such as implication of an agent or instrument.¹¹

(42)		(Implicit) Agt	Instrument
	ACTIVE	yes	yes
	EVENTIVE PASSIVE	yes	yes
	MIDDLE	no	yes
	ADJECTIVE	no	no

I suggest that these two patterns can be unified and explained if case and thematic roles are both linked to the introduction of subevents. Roughly, each verbal head introduces a subevent, and each subevent can introduce one thematic role (cf. Déchaine 1992); each case is checked by a chained pairing of a subevent head with some other head, as suggested in §2.2.

The tables in (41) and (42) can be combined as in (43); the (implicit) agent and the presence of dative do not give distinct results for these four categories, so they are combined. The categories argued in §2.2 to be involved in the assignment of VP-internal case are added to the column labels. A row is added for a verb phrase type ‘Non-agentive’ which has Init, V, and R but not Voice, though there is not space to discuss such structures here. In brief, they are transitive structures with non-agentive verbs which cannot license dative themes or passivize, but they have Agr_O because they have two DP arguments one of which requires accusative licensing.

(43)

	Agr_O	Voice	Init	V	R
Case/Theta:	Acc	Dat	Init- iator	Under- goer	Holder
ACTIVE	yes	yes	yes	yes	yes
EVENTIVE PASSIVE	no	yes	yes	yes	yes
NON-AGENTIVE	yes	no	yes	yes	yes
MIDDLE	no	no	yes	yes	yes
UNACCUSATIVE	no	no	no	yes	yes
ADJECTIVE	no	no	no	no	yes

This can be compared to the analysis of English participial constructions in Embick (2003; 2004), in which it is proposed that an adjectival participle, a resultant state passive participle, and an eventive passive participle are derived by merging a head ASP with successively larger structures.

The analysis draws more heavily on the analysis of verb structures in Ramchand (2006), where the verb phrase is decomposed into maximally three subevents: *init[iation]*, *proc[ess]*, and *res[ult]*; it is from Ramchand that the thematic role labels *Initiator*, *Undergoer*, and *Result* are taken. Ramchand, like Alexiadou et al. (2006), uses adjuncts as probes for implicit subevents. I use the more traditional label V for her *proc* and the shorter abbreviation R for her *res*.

The properties at issue here are arranged in a (partial) implicational hierarchy: the availability of accusative (Agr_O) implies the presence of two arguments, and hence (normally) a causing event Init. However, Agr_O does not strictly speaking imply the presence of Voice, since non-agentive verbs can lack Voice but have accusative case. Voice, however, implies the presence of a causing event, which in turn implies the presence of a process event (V). The implications do not go the other way; a process event may exist without a causing event (unaccusatives and middles), and a causing event may exist without the availability of accusative (passives). I include the Result head R in the table, but it seems that R may in fact be absent from a normal transitive verb (see Ramchand 2006).

However much of the verb phrase projects, the possibility of combination of the verb phrase with tense, aspect, and modality is essentially unchanged. That is, whether a verb phrase is passive, unaccusative, middle, or active transitive, it can combine with perfect aspect, past tense, or any modality or mood. I assume that this is because the verb phrase spells out separately from the material in the T-domain, as a phase (Chomsky 2000; 2001; 2005). For instance, if a maximal clause consists of the categories in (44a), then a plausible assumption is that the other licit clause types are at most those in (44b–d) (cf. Bresnan 1970, Stowell

1981).

- (44) a. Force–Fin–T–Asp ... (finite main clause)
- b. Fin–T–Asp ... (finite subordinate clause)
- c. T–Asp ... (infinitive clause)
- d. Asp ... (small clause)

Of course, if the hierarchy is richer (Cinque 1999), then there are more possibilities; also, there may be subconstituents that cannot stand alone. Each category can be assumed to have an unmarked value, a default interpretation which comes about if no marked value is inserted (see Ramchand and Svenonius to appear).

In any case, applying the same logic to the verb phrase, if a maximal verb consists of the elements in (45a), then every possible verb phrase consists of subsets of this hierarchy as in (45b–d) (cf. Wurmbrand 2001).¹²

- (45) a. Voice–Init–V–R (agentive verb)
- b. Init–V–R (non-agentive transitive verb)
- c. V–R (unaccusative verb)
- d. R (stative verb)

For the purposes of this paper I will assume that all and only the sequences in (45) can be embedded under Asp, and that the projection of the T-domain proceeds independently of the size of the structure merged with Asp. I set aside the question of what projections there are to host successive-cyclic A' movement out of *vP* (using the label *vP* now as a cover term for the verb phrase that spells out) (cf. Belletti 2004 on topic and focus projections at the edge of *vP*).

I also assume that a phase spells out when all features in it are checked (Svenonius 2001), and that the edge is the space between the node that spells out and the last head merged above it before it spells out (Svenonius 2004). Thus the edge may consist of several heads, depending on what heads are in the hierarchy and what features need to be checked. For example, if the last remaining unchecked features in VP are checked when Asp is merged, then VP spells out and Asp, Voice (if present), and Init (if present) constitute the edge.

I will illustrate how the system here works by stepping through some structures, starting with actives and then moving to middles and passives.

4.1 Active Unaccusatives

A simple present active clause consists mainly of unmarked values for functional heads. Being unmarked, they generally need not be filled with lexical material. Take for example the sentence in (46).

- (46) Það dýpkar.
 it deepens
 ‘It deepens’

The root is *dýp*- ‘deep’ (cf. *djúpur* ‘deep,’ *dýpi* ‘depth’), and it has a verbal suffix *-ka* which is used to form unaccusatives. For concreteness assume that *-ka* is the spell-out of a V head which selects a resultative complement R (for Result, cf. Ramchand and Svenonius 2002; Ramchand’s 2006 *res*), so that the lowest part of the structure underlying (46) includes the root merged with R. R introduces an argument position which must be saturated, so D is inserted.

This can be represented as in (47a), or as the equivalent (47b), representing the heads R and D only once each, for simplicity, following Brody (2000).

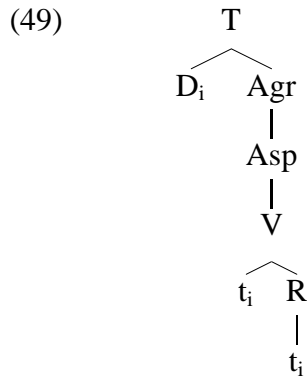
- (47) a. RP b. R
 / \
 R DP
 |
 D

I will adopt the latter and will add marked values for heads, when they appear, as dependents with small capital terminals.

V is merged to R, and it introduces an argument position as well. Assume that D is remerged, which I represent as movement leaving a coindexed trace. This means that the DP moving is interpreted both as undergoing a process (by being merged with V) and being affected or acquiring some property (by merging with R) (see Ramchand and Svenonius 2002, Ramchand 2006 for discussion of the conditions on remerging in theta positions).

- (48) V
 / \
 D_i R
 |
 t_i

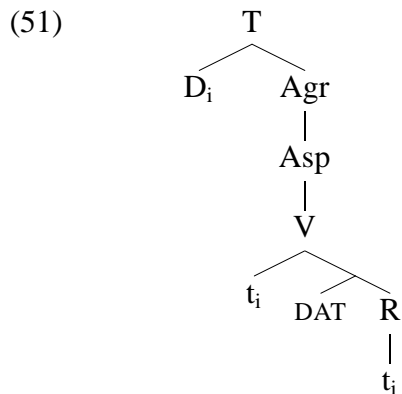
I assume that V has uninterpretable temporal-aspectual features which must be checked, and that D does as well. I also assume that the functional sequence includes heads T, Agr, and Asp. Each has an unmarked value in the sentence in (46). In general, marked values can be inserted to express meaning (e.g. past tense in T) or to rescue a derivation (e.g. accusative case in Agr, only if needed).



Agr probes *vP* and enters into Agree with DP. Asp checks temporal features on V. I suggested in §2.2 that a combination of two eventive heads could license a case; suppose that in this case, Nominative case is checked on D by the chain T–Agr. D is attracted by EPP features on T and spells out as *Pað*, and its internal structure is unavailable for further operations (though it can still be attracted for A' movement to a topic position, as long as it is not trapped within a phase). Assuming obligatory V to T, the verb does not spell out before T is merged, and then as *dýp-* with V *-ka* and T *-r* suffixed.

An unaccusative built from a dative-taking root has a marked value for V (recall V_{DAT} from §2.2), but cannot license dative in the absence of Voice (cf. (45a)). The tree for (50) (cf. (11) in §2.2) is given in (51).

- (50) *Pað sekkur.*
 it.NOM sinks
 'It sinks'

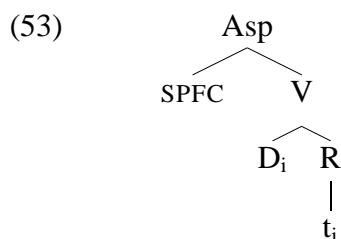


If Init is not merged in to introduce an external argument, then the configuration licensing dative does not arise. Nor does the configuration licensing accusative, since the default value for Agr is inserted unless a non-default value is necessary to distinguish two DPs, as detailed below. The default value of Agr probes for a DP with unchecked case, finds DP, and coindexes with it, as with the previous example.

In the perfect, there is a participial ending and an auxiliary *hafa* ‘have.’

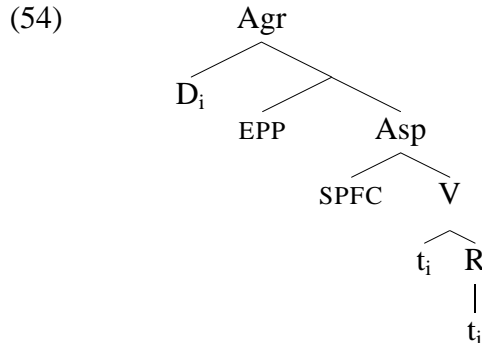
- (52) Það hefur dýpkað.
 it has deepened
 ‘It has deepened’

The derivation proceeds as before up to the merge of V, but then a marked value of the Asp head, corresponding to the participle, is merged. I label it ‘SPFC’ for ‘specific,’ as it picks out a contextually salient reference time, much like a specificity marker (cf. Ramchand’s 2004 analysis of Russian perfectivity in terms of definiteness).



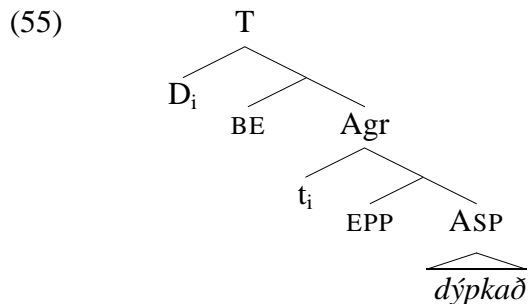
The participial Asp also checks temporal features on V. I also assume, following Ramchand and Svenonius (2004), that the participial projection is interpreted as a predicate; predicate abstraction of the participle is achieved through choosing a

marked option in Agr mentioned previously, namely the EPP feature.



This means that there are no unchecked features remaining in AspP, and the predicate spells out, in this case as *dýpkað*: the root as *dýp-*, V as *-ka*, and the participle as *-ð*, which is the specificity marker; in the nominal domain it is interpreted as definiteness, and in the verbal domain as reference to a specific result state.

Additional material must be inserted in order to support tense if this participle is to appear as a predicate in a clause. I will assume that a verb corresponding to ‘be’ is inserted in T, and that T attracts DP.



Once T has checked the case on D, D can spell out. Once C is merged, D is attracted to it, and the C–T–Agr complex spells out as *hefur*, as seen in (52) above (cf. Kayne 1993 on the derivation of auxiliary ‘have’ from ‘be’ plus a nominal element).

4.2 Active Transitives

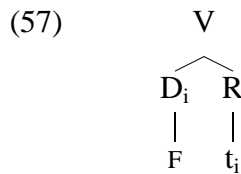
Now consider a transitive example.

- (56) Hann litar hana.
he.NOM colors her.ACC

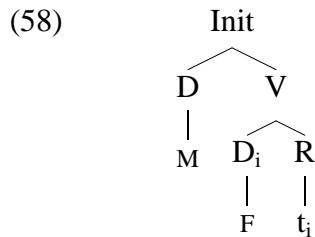
‘He colors it’

The root is *lit-* ‘color,’ which is conventionally used as a noun (*litur* ‘color’) or as a transitive resultative verb: as a verb (with *-a*), it implies that someone did something to cause something else to change color. Thus, its lexical semantics demand initiation, process, and result, which means that Init, V, and R must be projected.

Starting with a D with a feminine feature F (because the object in (56) is feminine), and merging this with R, then merging R with V and remerging D with V, we get the following structure.



When Init is merged, another argument is introduced, giving something like the following, assuming that a masculine third person singular pronoun is chosen.

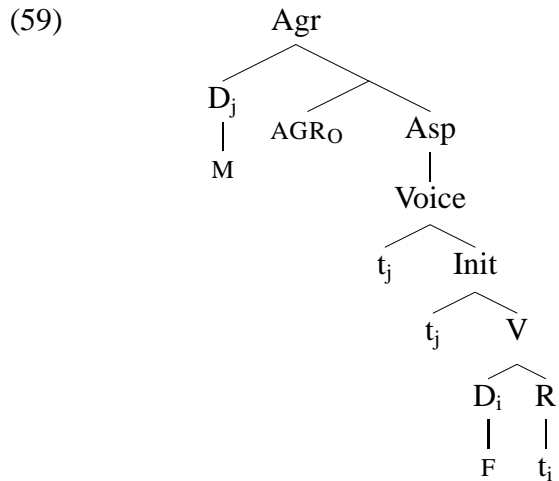


Now the pronouns have unchecked case features, and the verbal complex has unchecked temporal-aspectual features, so no part of the structure can spell out yet.

If the derivation were to proceed as with the unaccusative described above, so that an unmarked Asp, Agr, and T were to merge with this structure, it would eventually crash, as there would be no way to case-mark the object (assuming T could case-mark only the subject).

Instead, a marked value of a projection is inserted which can license V to assign accusative case, in the way discussed in §2.2. Following the spirit of Frampton and Gutmann (2002), I assume that the insertion of Agr_O is conditioned by the presence of more than one DP with unchecked case features (in this way the wrong value of Agr is not chosen, so later crash is avoided, but without look-ahead). I also assume that an agentive structure includes a Voice projection, as

shown. Finally, I assume that Agr_O has an EPP feature and therefore attracts the closest DP to its specifier.

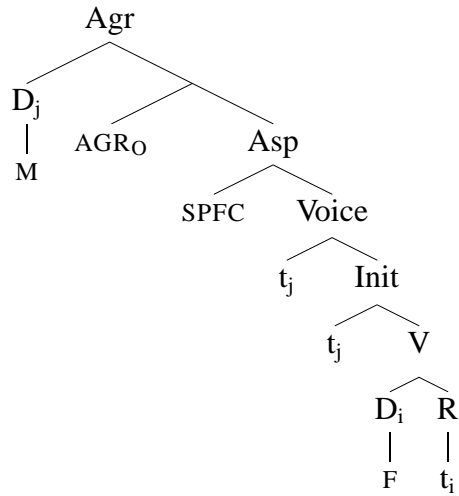


The Agr_O –V chain checks case on the internal argument. Recall that a V with the DAT feature would check dative without a need for the Agr_O head. At this stage, VoiceP can spell out as a phase, but containing nothing but the object (since Icelandic has verb movement).

Now consider the same structure but with the ‘specific’ (participial) value for Asp.

- (60) Hann hefur litað hana.
 he.NOM has colored her.ACC
 ‘He has colored it’

(61)



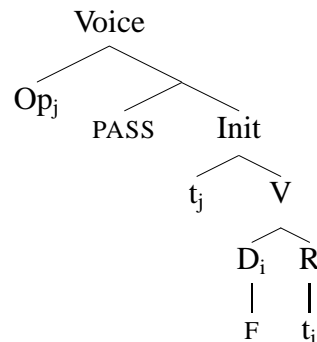
The important difference here is that the participial Asp values temporal-aspectual features on the verbal complex, unlike the default Asp. Once Agr_O checks the accusative case on the object and removes the subject, then, all features in Asp are checked, and so the predicate can spell out as the participial *litað hana* (cf. (60)). Agr–T–C spell out together as *hefur*, as before.

4.3 Passive

Passive in Icelandic suppresses the external argument. I assume the analysis of English passives in Ramchand and Svenonius (2004) to be correct in outline for Icelandic as well, namely that a crucial component of this type of passive is the introduction of a marked value of Voice, PASS, which binds the external argument introduced by Init; the only expression of the external argument which is compatible with PASS is a null operator. Any other DP inserted in SpecInitP will lead to a crash. So at a first approximation, the sentence in (62) contains the structure in (63).

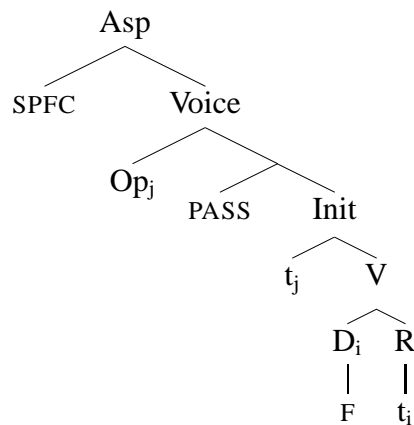
- (62) Hún er lituð.
she.NOM is colored.F.SG.NOM
'It is colored'¹³

(63)



The passive in Icelandic, like the passive in English, requires the participial form. This is a language-specific fact about PASS, since languages like Chichewa have non-participial passives (Dubinsky and Simango 1996). This means that the participle must merge outside PASS.

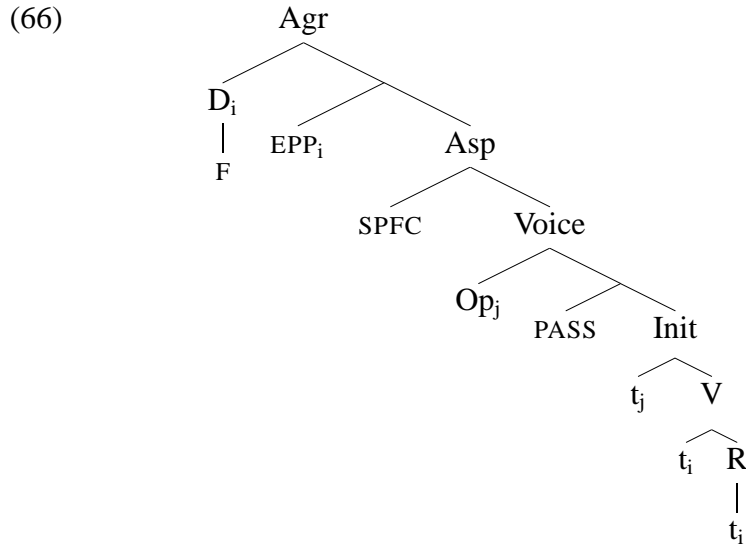
(64)



The Asp and Voice heads together can be assumed to license a case, which the null operator receives; this case is like the ergative case of ergative languages in being assigned to an external argument. Recall that Agr_O attracts a DP; the nearest DP is the null operator. This presumably happens in case there is no internal argument, namely in impersonal passives, such as those in (12a) above or (65) below.

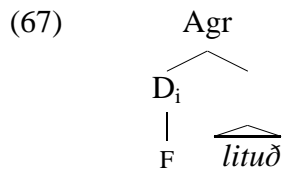
- (65) a. Páll söng hátt.
Páll sang loudly
'Páll sang (loudly)'
b. Það var sungið hátt.
it was sung loudly
'There was loud singing,' 'People sang loudly' (Sigurðsson 1989:308)

Instead, when there is an internal argument, some strategy must be found to allow the internal argument to be targeted across the external argument (see Collins 2005). A salient distinction between the Icelandic perfect and the passive is the presence in the latter of agreement. I hypothesize that this is related to the fact that the passive allows one DP to undergo A-movement across another. The tree in (64) can accordingly be expanded as in (66).



Agr can either attract D_i with the EPP option, for a typical promotion passive like this one, or leave it below for an impersonal passive. Either way, it transmits a core case; nominative here, because there is a finite clause, and there is no need to distinguish the two DPs, since Op has ergative.

This means that the predicate no longer contains any uninterpretable features, and can spell out, as *lituð*: the root *lit-*, the V *-a*, the participial suffix *-ð*, and a feminine singular agreement morpheme which is realized here as a vowel change in $a \rightarrow u$ (cf. M.SG.NOM *gamall* ~ F.SG.NOM *gömul* ‘old’).

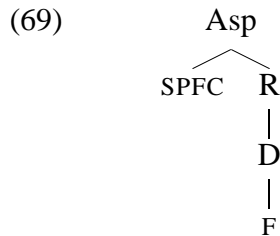


Note that since Agr is spelled out here as agreement, it cannot be used to form ‘have,’ so the auxiliary must spell out as ‘be’ (cf. Iatridou et al. 2001:222–223).

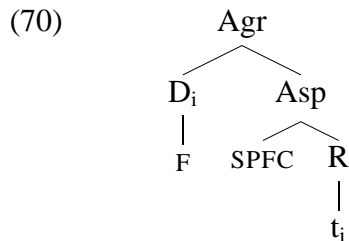
4.4 Adjectival Passive

Following Embick (2004), adjectival passives involve the same aspectual head as eventive passives, but merged on top of a subset of the structure. Since adjectival passives do not imply the occurrence of any process, I assume the participial Asp can merge on R. I assume that R in these cases has its usual argument structure (cf. Cinque 1990, Bennis 2004 on internal arguments in certain kinds of adjectives).

- (68) Hún er lituð.
 she.NOM is colored
 ‘It is colored’



This structure merges with Agr, which ultimately spells out as adjectival agreement.



The various properties of adjectival passives noted in §3.2 follow straightforwardly. There will be no possibility of a by-phrase or of agent-oriented adverbials, as there is no Init. There is no possibility of instrument phrases which presuppose the occurrence of an event, either, and there is no temporal reference because there is no process head V (following Ramchand 2006, R is stative). Importantly, dative case will also be unavailable, regardless of the properties of R, because there is no Init.

4.5 Middle

I will not be able to do justice to the Icelandic middle here. For extensive discussion of the Icelandic middle and other *-st* forms, see Valfells (1970), Sigurðsson (1989:ch. 6), Anderson (1990); for recent discussion of anticausatives, see various of the papers in Alexiadou et al. (2004).

A middle based on the verb *lita* ‘color’ is given in (71).

- (71) Hún lita-st.
 she.NOM color-MID
 ‘It turns color’

Recall that the middle has no implication of a causer, but does carry an implication of a causing event (therefore allowing an instrumental phrase).

I take the middle to be a marked option at the level of Init, a specifier [_{IP} MID] (adopting Cardinaletti and Starke’s 1999 notation I_D for the category of pronominal clitics).

- (72)
- $$\begin{array}{c}
 \text{Init} \\
 \swarrow \quad \searrow \\
 \text{I}_D \quad \text{V} \\
 | \quad \swarrow \quad \searrow \\
 \text{MID} \quad \text{D}_i \quad \text{R} \\
 \quad | \quad | \\
 \quad \text{F} \quad t_i
 \end{array}$$

The meaning contribution is, roughly, that the event was caused in some way that is dissociated from intent; it is not necessarily inadvertent, but is incompatible with salient agency.

That the middle morpheme is a specifier of Init is suggested by several considerations. First, it cannot be a V head because it combines with dative-licensing roots, as shown above in (4), or below in (73). I have argued that dative-licensing roots combine with a marked value for V. Assuming that there is a small number of discrete marked values for V, and that these values cannot freely combine, middle could not be a V head.

- (73) a. Ásdís kastaði spjótinu 53,15 metra.
 Ásdís threw the.javelin.DAT 53.15 meters
 ‘Ásdís threw the javelin 174.38 feet’
 b. Skipverjinn kastaðist fyrir borð.
 the.crewman.NOM threw.MID for board

‘The crewman was thrown overboard’

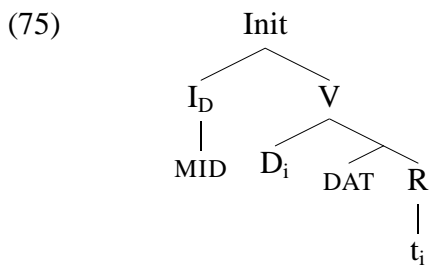
Second, it could not be an Init head because there is evidence that the highest verbal head normally determines the conjugation class to which a verb belongs; for example many Icelandic verbs which have strong unaccusative forms, but weak transitive forms (cf. Zaenen and Maling 1984). This can be explained if there is a causative Init which is weak conjugation and can combine with those verbs. The middle attaches to strong verbs which remain strong (as with e.g. *drepa* ‘kill’ in (34c) or *bjóða* ‘ask, offer’ in (15b)) and to weak verbs which remain weak (cf. (4b), (16b) or (73b)).

Despite the evidence that the middle is not an Init head, there is reason to think that the middle merges in the Init projection. The verbs with which it combines are often obligatorily transitive, and are expected to project Init; the instrument phrases introduced in (38)–(39) in §3.3.

Third, the middle morpheme (*-st*) is enclitic, attaching outside finite tense and agreement morphology.

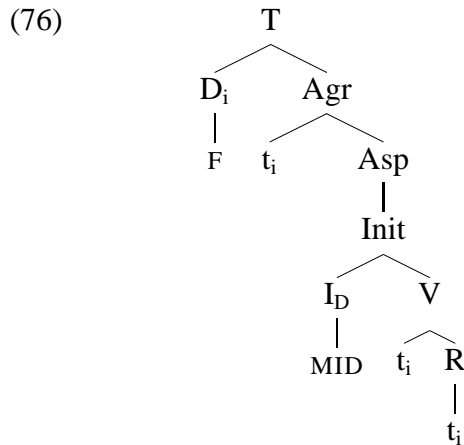
- (74) a. Maðurinn kalla-ð-i-st Jón Glón.
 the.man call-PAST-SG-MID Jón Glón
 ‘The man was called Jón Glón’
 b. Vanir köllu-ð-u-st goðin í norrænni goðfræði.
 Vanir call-PAST-PL-MID the.gods in Norse mythology
 ‘The gods were called Vanir in Norse mythology’

If the middle is a specifier of Init, then it can combine either with V or V_{DAT}. The example in (73b) would have a structure something like the following (if there is a result component to *kasta* ‘throw,’ a non-essential assumption).



The specifier is filled, and no external argument can be merged. The middle cannot be combined with Voice; in this way it is like an unaccusative or non-agentive causative, but unlike an obligatorily transitive verb such as (non-middle) *lita* ‘color.’ This prevents dative case from being checked on a theme argument,

which gets nominative instead, after T-domain material is merged (with default values in the case of (71)).



The middle can be combined with the participle to form a perfect, as noted by Anderson (1990).

5 Quirky Unaccusatives

Ordinary unaccusatives lack Init (and Voice) not because of marked morphology but because of the meaning of the root and the way in which the event is characterized. As I have mentioned, normal unaccusatives in Icelandic do not assign case to their sole internal argument, which surfaces as a nominative subject (or an accusative, if placed under an ECM verb, for example, or PRO in a control structure, etc.). Unaccusatives can form participles, though they cannot form middles or passives, because of the absence of Init, and their participle forms can be used as adjectives or can be embedded under the perfect, as might be expected.

Icelandic also has what can be called quirky unaccusatives; these are verbs with a single theme argument that shows up in a non-nominative case, usually dative or accusative. An example of this was given in §1; here are two causative-inchoative pairs.

- (77)
- a. Stormurinn rak bátinn á land.
the.storm.NOM drove the.boat.ACC on land
'The storm drove the boat onto land'
 - b. Bátinn rak á land.
the.boat.ACC drove on land

‘The boat drifted onto land’ (Zaenen and Maling 1984)

- (78) a. Jón lauk sögunni.
Jon.NOM finished the.story.DAT
‘Jon finished the story’
b. Sögunni lauk.
the.story.DAT finished
‘The story ended’ (Zaenen and Maling 1984)

Given the analysis of case I have presented here, each of these verbs must contain a pair of verbal or aspectual heads which form a chain. Assuming that the lower head in both cases is V (V_{DAT} in the dative example), the question is what the higher head is. I suggest that in both cases the verb is idiosyncratically combined with a marked value of Init, one which implies causation by a natural force or by an internal property of the theme. The Init appearing with the accusative verbs can license accusative case by entering into Agree with V; in the case of the dative verbs, Voice can merge as usual and license the dative.

As for the accusative, the conditions for insertion of Agr_O are not met, as there are not two DPs to be distinguished. I also assume that material outside vP cannot be included in an idiomatic lexical entry (Svenonius 2005), so that Agr_O cannot simply be listed together with the verb root.

Thus, these verbs must contain Init; but ordinarily Init introduces an external argument. Hence, this must be a marked value of Init, one that is listed along with these verbs much in the way an idiom is listed. Is there any independent evidence for this Init, apart from the needs of my analysis of case? There are in fact at least two pieces of evidence.

The first is based on an observation by Zaenen and Maling (1984). They note that although many causative-inchoative pairs in Icelandic have differing conjugation classes, the quirky unaccusatives never do. On the assumption that the conjugation class is determined by Init, when present, and that there is a weak conjugation Init which is combined with other strong verbs, this suggests that the quirky unaccusatives cannot combine with this causative head, something which is most simply explained if they already have an Init projection.

Second, for many of these verbs there is a salient sense that something is caused by natural forces or by internal properties. Sigurðsson (to appear) divides the accusative-taking quirky unaccusatives into two sets, the psych accusatives (with essentially experiencer subjects) as in (79a) and the ‘fate’ unaccusatives (with theme subjects) as in (79b).

- (79) a. Mig langar heim.
me.ACC longs home
'I yearn to go home'
b. Mig tók út.
me.ACC took out
'I was swept overboard'

Eythórsson (2000) and Jónsson (2003) show that experiencer accusatives tend to change to dative in modern Icelandic, while theme accusatives tend to change to nominative, underscoring the difference between them. Sigurðsson (to appear) argues that the fate unaccusatives have a specific sense of uncontrolled causation, especially by natural forces. I assume that this sense is contributed by a special idiomatic Init which is listed together with these verbs, and which has the property that it can bind V, thereby providing an internal case even in the absence of Voice and Agr_O. As before, I assume that accusative is the case which is licensed by V when the binder of V is aspectually isomorphic to it. This Init is exceptional in not introducing an external argument.

Quirky unaccusatives with dative themes can also be assumed to have an idiomatic head, presumably Init, with the necessary aktionsart properties to license dative case. This makes these datives similar to the benefactive datives mentioned in §2.2.

6 Conclusion

I have analyzed passives and middles in terms of a fine-grained decomposition of the verb phrase, one which makes use of minimalist ideas of feature-checking and cyclic spell-out. This account provides a framework in which to understand the case alternations observed in Icelandic, which are complex but systematic. The core observation is that case licensing in the Icelandic verb phrase is sensitive to thematic and event-related (aktionsart) semantics, but not so straightforwardly that a given thematic role is reflected directly by a given case.

If the analysis is correct, it gives a probe on the material right at the juncture between the ν P phase and the T-domain, where voice-related phenomena are encoded.

The model relies on a functional hierarchy which is presumably fixed for all languages, one which distinguishes a ν P phase and a T-domain. The ν P consists of some combination of the categories Voice, Init, V, and R; in general the higher categories imply the presence of the lower ones. These categories allow

the characterization of different subevents and confer thematic interpretations on DPs merged in their specifiers; in the details I largely follow Ramchand (2006).

I have maintained a careful separation of phonology and syntax, and a similar separation of conceptual material from syntax, assuming late insertion of lexical items which bear phonological and conceptual information. I have furthermore assumed that the categories Voice, Init, V, and R have marked values which do have syntactic consequences; Passive is a marked value of Voice and Middle a marked value of Init. These marked values show some cross-linguistic variation and can be thought of as functional heads, distinct from the phonological-conceptual lexical items that are associated with them.

The same architectural assumptions apply to the T-domain, where there are at least the heads Asp, Agr, and T, and doubtlessly many others (Cinque 1999). In the T-domain, as in the *v*P, higher structure is dependent on the presence of lower structure, so that every TP can be assumed to contain Asp but not vice versa. This assumption constrains the range of combinatoric possibilities and allows a simple treatment of category selection, for example one in terms of categorial grammar.

I assume that for each category, there is a default interpretation. Any marked interpretation must be forced by the insertion of lexical material (though lexical material need not necessarily have any phonological content, if it is learnable indirectly). For example, if no value is specified for Asp, then reference time is assumed to be identical to event time, in Reichenbachian terms. Any more complex aspectual value must be specified.

This model has allowed me to link the conditions on case assignment in the verb phrase in Icelandic to the assignment of thematic roles and the characterization of event structure. Many details remain to be understood, for example the exact properties of the mechanisms of feature-checking and the spelling out of phases, but I hope to have shed at least a little light on the semantic contribution of the passive and the middle in an exoskeletal model (Borer 2005a;b) with no lexical or morphological component for rules that can affect argument structure.

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Notes

¹On the separation of Voice and causation, see Pylkkänen (2002); see also Doron (2003) on the difference between causative and agentive verbs in Hebrew.

²The feature DAT could be formalized in terms of an uninterpretable feature Voice which must be checked by interpretable Voice; a DP coindexed with V with checked Voice features spells out as Dative. See Frampton and Gutmann (2000) for some discussion of the checking of uninterpretable features by interpretable features, in a way that strives to avoid look-ahead.

³For the purposes of this analysis, the DAT feature could be lower than V, cf. the analyses of ditransitives in Pesetsky (1995), Harley (1995), Pylkkänen (2002).

⁴Cf. Alexiadou and Anagnostopoulou (1998) on the externalization of arguments from vP. As noted in Svenonius (2001) and Holmberg (2002), Icelandic does not allow the order DP-Participle in passives; thus EPP on Agr requires EPP on T, in Icelandic, perhaps via Agree.

⁵Much of the discussion to follow is based on the detailed and careful exposition in Sigurðsson (1989).

⁶As pointed out to me by Tarald Taraldsen.

⁷Participles may have dative forms when used as attributive adjectives, e.g. *peysa með smelltri hettu* ‘sweater with snapped.DAT hood.DAT.’

⁸See for example Wasow (1977), Dubinsky and Simango (1996), Marantz (2001). I will not have occasion to make use of the distinction between eventive passives and what Kratzer (2000) calls Resultant State passives (Embick 2004 calls them ‘resultative’). The adjectival passives here can be equated with Kratzer’s Target State passives, or Embick’s stative passive.

⁹The expression *í gær* translates as ‘yesterday’; the preposition is not part of a verbal complex.

¹⁰Sigurðsson (1989:268) notes that the by-phrase *af sjálfu sér* ‘by itself,’ with the meaning that something was not caused at all, has the opposite distribution: acceptable with middles, unacceptable with passives (with passives, a literal, reflexive meaning is possible). In this respect middles are like unaccusatives (cf. *The door opened by itself*) (though see Chierchia 2004, in which the distribution of such phrases is used as an argument that unaccusatives are underlyingly causative).

Gunnar Hrafn Hrafnbjargarson has pointed out to me a couple of examples of *-st* verbs which allow *af*-phrases, including the following:

- (i) Ísland byggðist af Norðmönnum
Iceland built.MID by Norwegians
‘Iceland was built by Norwegians’

I will assume that by-phrases can in certain cases be introduced without linking directly to the external argument provided by the verb; for present purposes it is sufficient that the appearance of by-phrases is much more restricted in middles than in eventive passives.

¹¹This general way of approaching the problem has been explored at length by Michal Starke, to whose Nanosyntax seminars in Tromsø in 2005-6 this analysis owes a great deal.

¹²Ramchand (2006) argues that verb can have process but lack result, for example ‘roll’ or ‘dance.’ The stricter hierarchy here would have to allow for a very bleached notion of “result,” with a threat of vacuity.

¹³This string has a salient reading as an adjectival passive, like its English translation—cf. (68). The eventive reading can be brought out by using the past tense, *Hún var lituð*, ‘She/It(FEM) was colored.’

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