

THE ROLE OF TENSE-COPYING AND SYNCRETISM IN THE LICENSING OF MORPHOLOGICAL PASSIVES IN THE NORDIC LANGUAGES

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Abstract

This paper discusses the morphological passive (the so-called *-s(t)* passive) in Swedish, Danish, Bokmål and Nynorsk. There are two problematic aspects about the morphological passive: (1) in all the languages mentioned except Swedish, it is restricted to certain tenses and/or conjugation classes, and (2) from a theoretical perspective, it constitutes what looks like a mirror violation: the passive voice-marker surfaces outside of the tense-marker, even though it arguably originates between tense and the lexical verb. I argue that previous analyses of the passive *-s(t)* as either a clitic realizing the external argument (Julien 2007), or as a mood marker (Heltoft and Jakobsen 1996) can neither explain the tense/declension class restrictions, nor the semantics of the *-s(t)*-passive. I argue instead that morphological passives in Danish, Bokmål and Nynorsk never contain a tense projection, and they are licensed in finite contexts when the finite form is form-identical with a non-finite form, that “fools” the syntax in the C-phase of the clause (where at least some of the underlying syntactic features of the lexical items are no longer active). In Swedish on the other hand, the tensed forms are licensed through Tense-copying, which is known to exist in Swedish to a much higher degree than in the other Scandinavian languages (Wiklund 2007). My proposal thus gets the around mirror-violation, and manages to relate the variation in restrictions on morphological passives to other familiar differences between the languages, namely differences in conjugation classes and the availability of tense copying.

1 Introduction

All the Mainland Scandinavian languages have two types of passives; one synthetic/morphological passive and one periphrastic passive. In the morphological passive, the passive marker *-s(t)* attaches outside of Tense (though present tense final *-r* is missing, as will be returned to).¹ In this paper I will refer to the morphological passive as the *-s(t)*-passive). The *-s(t)*-passive is illustrated in the Swedish example below:

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¹The relevant suffix is realized as *-s* in Swedish, Danish and the Bokmål dialects of Norway, and as *-st* in the Nynorsk dialects of Norway and Icelandic and Faroese. Icelandic and Faroese lie outside the core discussion of this paper, and will only briefly be mentioned.

- (1) Han misshandlades av två män klockan åtta igår
 He manhandle.PAST.PASS by two men clock.DEF eight yesterday
 ‘He was manhandled by two men at eight o’clock yesterday’

The periphrastic passive is of the same type as periphrastic passive found in e.g. other Germanic, Romance and Slavic languages, where a participle appears together with an auxiliary, as exemplified in (2):

- (2) Han blev misshandlad av två män klockan åtta igår.
 he was manhandle.PART.SG.CG. by two men clock.DEF eight yesterday
 ‘He was manhandled by two men at eight o’clock yesterday’

This article discusses only the morphological passive. The choice of passive, or the potential competition between the two passive forms in contexts where both are licit, will not be discussed. Rather, this article offers a unified account of two problematic aspects of the morphological passive: (1) the restrictions on tense and conjugation class in morphological passive (and especially the cross-linguistic variation with respect to these restrictions), and (2) the apparent mirror-violation that the morphological passive gives rise to. As has been discussed in detail by Marit Julien (see Julien 2007), the Scandinavian *-s(t)*-passive poses a problem for modern *syntactic* approaches to word formation (see Baker 1996, Brody 1997 and Julien 2002): the passive marker *-s(t)* attaches outside of tense morphology, i.e., further away from the verbal root than tense morphology, and since we have good reasons to assume that the Voice-projection is lower than T (as in (3), see e.g. Travis 1992 and Kratzer 1996), we would expect Voice-markers to appear closer to the root than tense markers.

- (3) Fin [Tense [Voice [v [VP]]]]

If we take the functional sequence in (3) as a starting point, we clearly see that the *-s(t)* poses problems for the syntactic approaches, i.e., it constitutes a mirror violation.

It is well known that the morphological passive is restricted to certain tenses and/or conjugation classes in Danish, Bokmål and Nynorsk, but not in Swedish, but as far as I am aware, no one has tried to explain these restrictions, and no attempt to capture the variation between the languages has been made. An overview of the availability of the morphological passive in the Scandinavian languages is shown in Table 1 below:

TABLE 1: <i>-s(t)</i>-PASSIVE: RESTRICTIONS ON TENSE AND CONJUGATION CLASS				
	Swedish	Danish	Bokmål	Nynorsk
Infinitive	✓	✓	✓	✓
Present	✓	✓	✓	*
Past (preterite)	✓	✓ Weak, * Strong	✓ conj. 2, * rest	*
Participle/supine	✓	*	*	*

As we can see in the table above, the *s(t)*-passive is mainly restricted by tense, but in the past (preterite), conjugation class also is also a factor: in Danish, preterite *-s*-passives are licit in both the first and second weak conjugation classes (*kastede-s* ‘throw.PAST.PASS’, 1st conj, *brugte-s* ‘use_{past.pass.2ndconj.}’), but not in the strong conjugation classes (e.g. **sang-s* ‘sing_{past.pass.strong}’), see Laanemets (2012). In Bokmål, only verbs in the second weak con-

jugation class can form *-s*-passives in the past preterite (e.g. *brukte-s* ‘use_{past.pass.2ndconj.}’, but not *kastet-s* ‘throw_{past.pass.1stconj.}, or **sang-s* ‘sing_{past.pass.strong.}), see Laanemets (2012) and Faarlund et al. 1997. The novel observation that lies at the core of this paper, is that in Danish, Bokmål and Nynorsk (trivially), the finite uses of the morphological passive are restricted to tenses and conjugation classes where the finite form is syncretic to a non-finite form: the infinitive in the case of the present tense, and the weak participial form in the case of the preterite. I will argue that this syncretism licenses a fake tensed form in a finite position, as is discussed in sections 3 and 4.

There is also a difference between the languages with respect to temporal interpretation of the morphological passives (including mood and aspect). Whereas the morphological passive in Swedish can have exactly the same temporal interpretation as the corresponding active forms, the morphological passives in Danish, Bokmål and Nynorsk have a more limited set of interpretation (in the tenses where they are available). I will argue that the apparently tensed forms (and the infinitives) are in fact semantically tenseless in all the languages but Swedish. The structure of the morphological passive in Danish, Bokmål and Nynorsk is thus always the following (Fin being present in finite contexts, see section 4 for further discussion):

- (4) (Fin) [Voice [v [VP]]]

Note that there is no mirror violation, as tense is absent. The passive *-s(t)* is located in Voice, and infinitival and participial morphology is located either in *v*, or a lower aspectual (or event-related) position.

As is evident from both interpretation and morphology, Swedish has fully tensed *s*-passives. I will argue that the apparent mirror violation can be accounted for with the help of tense-agreement/tense-copying. As will be shown in Section 4, tense copying, or tense agreement, as seen in e.g. VP-topicalization and complex verbal constructions, is common in Swedish, while rare or absent in the other Scandinavian languages. The structure of a tensed morphological passive in Swedish will thus be as in (5):

- (5) Fin [Tense [Voice [*v_{agr.T}* [VP]]]]

As in the other languages under discussion, the passive morpheme is located in Voice. An agreement relation between Tense and *v* (or whatever the right label is) is established, with the effect that tense morphology surfaces inside Voice.

I will argue that *-s(t)* realizes a Voice head in passive contexts, but probably not in other uses of *-s(t)* (reciprocal, reflexive and deponent), where no tense and conjugation class restrictions can be seen, as will be discussed in section 2. The voice marker has clearly developed from a reflexive marker, and I will argue that the reanalysis has taken place only where the mirror violation in some way can be obviated. From a diachronic perspective it seems clear that the passive use of *-s(t)* first appeared in tenseless infinitives (mainly under low modal verbs), see Holm (1952). Here, a straightforward mapping from underlying structure to surface structure can still be maintained, since *T* is not present. From there, the passive use of *-s(t)* has spread to tensed forms, but only where independently available morpho-syntactic operations have generated *-s(t)* in a mirror respecting fashion.

In section 2, I give a short introduction to the *-s(t)* marking in the Nordic languages and the structure of passives. In section 3 I will discuss linearization principles, and the prob-

lem posed by the morphological passive for the mirror principle. In Section 3.1 and 3.2, I discuss two previous accounts of the passive -s in Scandinavian, Julien (2007) and Heltoft and Jakobsen (1996). Both of these accounts get around the mirror paradox by saying that the passive -s is not a Voice-marker. I will show the weaknesses in their argumentation, and conclude that -s has to be analyzed as a regular Voice-morpheme, and thus another account of the mirror paradox is needed. Section 4 is the core part of the paper, where the restrictions and the strategies used in the individual languages in the individual tenses are discussed: in section 4.1 I show how tense copying is employed to form mirror violating surface structures in Swedish morphological passives, and in section 4.2 - 4.6, the patterns in Danish, Bokmål and Nynorsk are discussed, with a focus on the syncretism in the different tenses and conjugation classes. In section 5, I try to derive the syntactic effects caused by the syncretism from more general linguistic principles (phase theory). In section 6, I will summarize and problematize the findings in this paper.

2 Short description of -s(*t*) and passive voice

Diachronic studies have shown that -s(*t*) was not a dedicated passive marker in older stages of the Nordic languages. Dyvik (1980) claims that -*st* was a general de-transitivizing suffix in Old Norse, and Holm (1952) claims that a distinction between “deponent” and passive uses of -s(*t*) is hard or impossible to make in the oldest written sources of Swedish (though a clearly developed passive use of s(*t*) can be found at least as early as the 14th century). Today, -s(*t*) is used as a passive marker in Swedish, Danish, Bokmål and Nynorsk, but not in Icelandic and Faroese, where it has other non-passive uses (anti-causative, reciprocal, deponent etc.) Several non-passive uses of -s(*t*) can also be found in the present day Nordic languages.

In Swedish, there are some clear deponent -s-verbs, like *andas* ‘breathe’ and *åldras* ‘age’, and on top of that, at least two groups of non-passive -s-forms: absolute (6) and reflexive/reciprocal (7)-s-verbs (see Sundman 1987 for more in-depth discussion of non-passive -s):

- (6) Hunden biter.
dog.DEF bite.PRES.S
‘The dog bites (people) (a lot).’
- (7) a. Eleverna samlades i klassrummet.
student.PL.DEF gather.PAST.S in class.room.DEF
‘The students gathered in the classroom.’ (Reflexive)
- b. Vi kan träffas imorgon.
we can meet.INF.S tomorrow
‘We can meet tomorrow.’ (Reciprocal)

The absolute and reflexive/reciprocal uses of -s are probably lexically restricted (at least the reflexive), and their structures are different from the passive ones. One reason for treating the absolute -s as structurally different from passive -s is the fact that it triggers shortening of the stem vowel, something that passive -s never does (also sometime affecting the spelling as in case of *slåss* (absolute) and *slås* (passive), from the verb *slå* ‘hit’, ‘beat’).

It has further been claimed that there is an anti-causative use of -s that is distinct from the

passive -s, as exemplified in (8) (again, see Sundman 1987 for an extensive discussion). The *by itself* clause is licit in the “anti-causative” cases (8), but not easily in the regular passive cases (9):

- (8) Kylskåpets temperatur regleras av sig själv
 refrigerator.DEF.POSS temperature regulate.PRES.S by RFLX self
 ‘The temperature of the refrigerator adjusts/is regulated by itself’
- (8) ??Han dödades av sig själv
 he kill.PAST.S by RFLX self
 ‘He was killed (??by himself)’

However, it is not obvious that the *by itself*-phrase diagnoses anti-causativity (or unaccusativity) in Swedish. Rather, *av sig själv* seem to add the implication that there is no mentally active participant in the event, i.e. the meaning of *av sig själv* is basically “automatically”. Support for this claim can be found in the fact that *av sig själv* can be used with transitive verbs, as long as the external argument and the internal argument are inanimate, as can be seen in the following pairs:

- (9) a. Kylskåpet/*vaktmästaren reglerar temperaturen av sig själv
 refrigerator.DEF/janitor.DEF regulate.PRES temperature.DEF by RFLX self
 ‘The refrigerator/*the janitor adjusts the temperature by it/himself’
- b. Telefonen/*mannen skickade iväg ett sms av sig själv
 telephone.DEF/manDEF send.PAST off a text.message by RFLX self
 ‘The telephone/*the man sent off a text message by it/himself’

Av sig själv is restricted to clauses with inanimate external arguments and clauses without external arguments, which makes it hard to decide on an analysis for -s-forms of the type illustrated in (8-a): either they are truly anti-causative/unaccusative, or they are regular passives, with an inanimate causer as the underlying external argument, i.e., (8-a) could be derived from a structure like *the refrigerator itself adjusts its/the refrigerator’s temperature*. The fact that Icelandic has an anti-causative, but not a passive -s(t) suggests that the two categories should be treated as syntactically distinct. But on the other hand, there is no clear evidence in the input that will lead the Swedish language learner to postulate a separate anti-causative -s in addition to the passive -s. The “anti-causative” -s could thus be analyzed as a passive with an inanimate underlying external argument in Swedish.

In Bokmål, Nynorsk and Danish, the “anti-causative” -s(t) patterns with the passive -s(t), which again suggests that the passive and the “anti-causative” s(t) are the same in the mainland Nordic languages. As was mentioned in the introduction, the passive -s(t) is highly sensitive to tense and conjugation class. Deponent and reflexive/reciprocal uses of -s do not share these restrictions, but the so-called anti-causative -s(t) does.

Corpus searches reveal that the infinitive s(t)-verbs are quite common in Bokmål and Nynorsk. A search in the Nynorsk part of the Oslo korpus gives around 900 types of infinitive -st-verbs (around 7000 tokens), but only 80 preterite -st-verbs (around 1800 tokens). None of the preterite -st verbs are passives, or even anti-causatives, but are better classified as deponent, reciprocal and reflexive.² In the Bokmål part of the Oslo korpus, the difference

²Most common of the preterite -s(t) verbs are *fanst* ‘was’, ‘existed’ (deponent), *syntest* ‘seemed’ (deponent, or possibly reflexive), *kjendest* ‘felt’ (deponent), *møttest* ‘meet’ (reciprocal), and *mindest* ‘remembered’ (deponent). In

in type frequency between infinitive and preterite *-s* verbs is even bigger: around 1300 to 27. The token number of preterite *-s* verbs is still high, around 2500. The extremely small number of preterite *s*-verbs in Bokmål is surprising given that one of the conjugation classes (conjugation class 2) is said to form *-s*-passives in the preterite. However, as is clear from the corpus numbers, and also from judgments from “younger” speakers (basically, speakers below 60), the preterite *-s*-passive is not used in Bokmål today. It is not surprising that a passive rule that is only applicable to one sub-class of the verbal paradigm disappears, especially when there is another productive way of forming passives in the language (i.e., the participial passive). For the theory I will propose, the loss of morphological passives in some conjugation classes poses a small problem, and I will return to this issue in the concluding section.

I will assume that the passive *-s(t)* in Swedish, Bokmål, Nynorsk and Danish always realizes a head in the extended functional sequence of the verb, and it should thus linearize according the general linearization principles for syntactic heads within these languages. At earlier stages of these languages, and in present day Icelandic (and Faroese), *s(t)* was/is presumably a clitic, generated in an argument position (most commonly in the external argument position, SpecvP, but also sometimes lower, as discussed recently in Wood (2012)). As a clitic, *-s(t)* is not expected to interact with the linearization of the verbal heads, but rather to attach outside the verbal complex. I will leave the exact status of non-passive/non-anti-causative *-s(t)* Swedish, Danish, Bokmål and Nynorsk for further research, but in principle, it is possible that this *-s(t)* is a clitic, but it is also possible that non-passive *-s(t)* verbs are just idiosyncratically stored, in all tense forms. This latter scenario is likely to be the correct one for present day bokmål, where the total number of verb stems (excluding prefixes) that take a non-passive *-s* is as small as 10-15. In Swedish, it is also possible that all verbal *-s*'s are heads in the extended verbal functional sequence, with different Voice values.

The clitic analysis of *-st* in Icelandic has been argued for by Eythórsson (1995) and Wood (2012). As opposed to Nynorsk, Bokmål and Danish, Icelandic *-st* shows no tense/conjugation class restrictions, but attaches to both finite and non-finite verbs, outside of both tense markers and agreement markers (10-a), which the above mentioned authors take as evidence for the clitic analysis. Further, as discussed in Wood (2012), *-st* can surface after subject clitics/pronouns in the imperative at least for some speakers (10-b) (both examples from Wood 2012):

- (10) a. Dyrnar opnu-ðu-st.
 door.DEF open.3PL.PAST-ST
 ‘The door opened’
 b. Ger-ðu-st meðlimur í klúbbum.
 do-2SG.NOM.SUBJ-ST member.SG.NOM in clubDEF
 ‘Become a member of the club’

The clearest evidence that *-st* in Icelandic is not a passive marker is the fact that *-st* verbs do not allow agent *by*-phrases (11-a), as opposed to periphrastic passives in Icelandic (11-b) and *s(t)*-passives in the mainland Nordic languages (11-c) ((11-a-b) from Wood 2012, see also Sigurðsson 1989, (11-c) is Swedish).

general, psych-predicates are fairly common among the *st*-verbs.

- (11) a. Einræðisherrarnir drápu (af lögreglunni).
dictator.DEF.PL.NOM killPAST.ST (by police.DEF)
'The dictators got killed/died.'
- b. Einræðisherrarnir voru dreptir (af lögreglunni).
dictator.DEF.PL.NOM were killed (by police.DEF)
'The dictators were killed (by the police).'
- c. Diktatorn dödades (av polisen)
dictator.DEF killPAST.ST (by police.DEF)
'The dictator were killed (by the police).'

My claim in this paper is that an argument clitic has at some point been reanalyzed as Voice head in the Mainland Nordic languages, but not in Icelandic. As long as *-s(t)* is a clitic, generated in an argument position, *by*-phrases are not available (presumably since the external argument already is realized in these cases). The reanalysis has only taken place in context where the result has not been a clear mirror violating morpheme order, that is, where *-s(t)* does not surface further away from the verbal stem than Tense, or where the mirror violating Verb-Tense-Voice-order can be generated with the help of independently available morpho-syntactic operations (as will be discussed below).

Before moving on, I should say a couple of words about the form of the present tense *-s(t)*-verbs. The present tense *-r*-ending goes away, as illustrated for Swedish in (12):

- (12) arbetar_{pres.act.} – arbetas_{pres.pass} (*arbetars)

The *-r* is dropped in all *-s(t)* verbs, including deponent and reciprocal verbs, in all Nordic languages, including Icelandic. In Icelandic, *-r* is always dropped before *-st*, even in the past tense forms that ends in *-r* including the past tense for some verb classes, e.g. *fór* 'go_{past.1st/3rd.sg.}' – *fóst* 'go_{past.1st/3rd.sg.-st}' (see Anderson 1990 for discussion). The absence of present tense *-r* in morphological passives could thus not be seen as a direct trigger, or result, of the reanalysis of the clitic *-s(t)* to a Voice head. It could though have facilitated the spreading of passives from infinitives to present tense passives. I will not offer any analysis of the *-r*-deletion in this article, but just assume that this deletion takes place in the phonology, although, as will be seen, it does have consequences for the licensing of *-s*-passives in Danish and Bokmål.³

A few words need to be said about the syntactic structure of passive sentences. I will be vague about the exact syntactic structure inside the verb phrase, since it is not of direct relevance for the this article. What is crucial is that the verb phrase is dominated by a VoiceP, where the syntactic subject is introduced. VoiceP can have two values in the languages under discussion: active or passive. In the active voice, which is the unmarked voice value, the highest argument of the verb phrase is picked out as the subject. In the passive voice, something else than the highest argument, in most cases the internal argument, but sometimes an

³It should be pointed that the *-r*-deletion is less obviously morpho-phonological in nature in the Mainland Nordic languages than in Icelandic. As can be seen most clearly in Swedish (due to largest number of available tense forms), *-s* triggers deletion only of present tense *-r*, and never of an *-r* belonging to the verbal stem. This can be seen in the contrast between a passive of the past tense of the verb *bära* 'carry', *bar*, and the passive of the present tense of the verb *ta* 'take', *tar*: *Han bars (*bas) bort av vakterna* 'he was carried away by the guards' – *Locket tas (*tars) bort före användning* 'The lid is removed before use'. Note also that *-r*-deletion is not fully a phonological (or phonetic) phenomenon in Icelandic either, as the consonant cluster *-rst* can be found word finally in Icelandic, e.g. *verst* 'worst', as discussed by Anderson (1990).

expletive, is picked out as the subject. The highest argument can in that case surface as an adjunct (i.e., a *by*-phrase). Note crucially that Voice never changes the thematic or aktionsart information of the vP. Voice is thus strictly syntactic in that it does not affect the semantics of the verb, as opposed to e.g. true anti-causatives, where a cause sub-event is directly removed from the event. The passive and the active thus share aktionsart and transitivity information, as illustrated in (13) and (14):

- | | | | |
|------|----|----------------------------------|-------------------|
| (13) | a. | John hit Bill | Active, Punctual |
| | b. | Bill was hit (by John) | Passive, Punctual |
| (14) | a. | The neighbors love John | Active, State |
| | b. | John is loved (by the neighbors) | Passive, State |

I will take the passive *-s(t)* to be an instantiation of the Voice head with a passive value.⁴ Tense is located higher up in the clause. Note that we have several reasons to assume that Tense is always above Voice. First, Voice is directly sensitive to the information in the verb phrase, as can be seen in the fact that not all verbs cannot be passivized (for example, unaccusative verbs often fail to passivize). Tense on the other hand, is not sensitive to the lexical information of the verb (i.e., all verbs can carry tense marking). Secondly, we know that in complex tenses, the tense information ends up on the highest verb, while voice information ends up on the main verb, as illustrated below for the future tense (examples from Swedish):

- | | | |
|------|----|--|
| (15) | a. | Boken ska läsas av alla studenter |
| | | book.DEF shall.PRES read.INF.PASS by all students |
| | | 'The book shall be read by all students.' |
| | b. | Boken skulle läsas av alla studenter |
| | | book.DEF shall.PAST read.INF.PASS by all students |
| | | 'The book should /was going to be read by all students.' |

The language learner thus have clear evidence from the input the sequence of syntactic heads is the following:

- (16) Tense (...) [Voice (...)] [v]

Note that a vP can be spelled out without a voice projection in some cases. There is for example good reason to assume that certain type of nominalizations lack a voice value, and therefore also a structural subject (see Lundquist 2008 for discussion). At least in Danish and Norwegian, certain infinitives and past participles seem to be void of voice specification, i.e. they realize a structures that are smaller than VoiceP (at most vP) (see Wurmbrand 2001 for discussion of small infinitives). In (17) we see an infinitive without passive marking, that still gets a passive interpretation, as can be seen in the presence of the *by*-phrase. Presumably, *la* 'let' realizes Voice itself, and selects for a Voice-less infinitive (example from Bokmål):

- | | |
|------|--|
| (17) | Han lot seg lure av en journalist |
| | he let.PAST RFLX fool.INF by a journalist |
| | 'He let himself be fooled by a journalist' |

⁴In a periphrastic passive, the Voice head is presumably realized by the copula/auxiliary, though the exact structure of the periphrastic passive is not of relevance for this article.

Similarly, past participles can be ambiguous between active and passive interpretations, as exemplified in (18) (examples from Taraldsen (2009)):

- (18) a. Storeulv fikk endelig blåst taket av huset
 big.wolf got finally blown roof.DEF off house.DEF
 (preferably) 'Zeke Wolf managed to blow the roof off the house.'
 b. Smågrisene fikk blåst ned huset
 piglet.DEF.PL got blown down house.DEF
 'The piglets got the house blown down.'

In (18-a), the external argument of the main verb is chosen as the syntactic subject, while (18-b), the external argument has been demoted, and instead, the possessor of the direct object is chosen as the subject. In both cases, we can assume that *få* 'get' selects for a vP that is smaller than VoiceP. It will be crucial for the analysis of this paper that infinitive endings, and participial endings attach closer to the root than passive *-s(t)*, at least for the analysis of Danish, Bokmål and Nynorsk.⁵ We could analyze the infinitive and participial endings either as instantiations of the little *v* head, or we could take them to realize a low aspect head.

Syntactic accounts of morpheme order and the Mirror Principle

The problem that the Scandinavian morphological passive poses for the mirror principle has previously been discussed in Julien (2007). Julien argues for a syntactic account of word formation, i.e., an account where the morphemes that build up words are directly manipulated by the syntax. There is no generative lexicon that puts morphemes together into words, which later can be operated on by the syntax. The linearization of morphemes should follow the same restriction as the linearization of phrases. If the *-s(t)* is taken to be an instantiation of Voice, and if voice is taken to be located between V and T (as argued above, and in e.g., Travis 1992 and Kratzer 1996), we expect *-s(t)* to surface between V and T, and not outside T, as in (19):

- (19) [Tense [Voice [V]]] →
 a. TENSE-VOICE-VERB (base order)
 b. VERB-VOICE-TENSE (reversed order, derived by head (roll-up) movement)
 c. TENSE-VERB-VOICE (partly reversed order, derived by head movement of V to Voice)

The Mirror Principle has its origin in Baker (1985). Baker's original formulation only says that syntactic derivation and morphological derivations mirror each other:

- (20) Morphological derivations must directly reflect syntactic derivations (and vice versa) (Baker 1985, p. 375.)

In subsequent years linguists have tried to capture the fact that morphemes tend to be realized in the mirrored order, compared to their hierarchical order (i.e., it looks like a head-final

⁵It is not obvious that Swedish has any infinitives that are smaller than VoiceP. In Swedish sentences similar to (17), the passive *-s* must be present on the verb. As will be returned to, Swedish also makes a morphological distinction between active and passive past participles.

order) by appealing to constraints on head movement (see e.g. Travis (1992)). Lately, Brody’s (Brody 2000) idea that heads are by default linearized from right to left has gained more influence, see e.g. Adger et al. (2009) and Bye and Svenonius (2012). In Brody’s account, the mirrored order is the unmarked order, and non-mirrored orders are in need of explanation. For the purpose of this paper, it is not of direct importance if mirror-effects are taken to be derived by movement, or explained by a spell-out algorithm (as in Brody 2000). My analysis is however compatible with both Brody’s analysis, and a head-movement analysis.⁶

Svenonius (2007) looks at morpheme orders in different domains cross-linguistically, and shows that morpheme orders of the type exemplified in the Swedish morphological passive are indeed very rare, as shown in table 2 below:

TABLE 2: MORPHEME ORDERING, FROM SVENONIUS (2007)

	C-T-V	T-Asp-V	T-Cause-V	Art-PL-N
1-2-3	typical	typical	typical	typical
1-3-2	typical	typical	typical	typical
3-2-1	typical	typical	typical	typical
3-1-2	rare	rare	rare	rare
2-3-1	occasional	rare	occasional	rare(?)
2-1-3	rare	rare	rare	rare

The three topmost orders can all easily be derived from familiar syntactic processes, like head-movement, while the final three cannot. The Swedish morphological passive is an example of the order 3-1-2 (where the verb is the most deeply embedded element, as indicated by the number 3, and tense is the topmost element (1) and passive is the middle element (2)). The three common morpheme orders for passives (1-2-3, 1-3-2 and 3-2-1) are exemplified below:

1. 1-2-3 Seri (data from Marlett 1990) (taking the distal realis marker to be an instantiation of Tense):

(21) Tóm ki? ʔp-yo-m-p-e.
money def 1SG-DIST.REAL-NEG-PASS-give
‘I was not given the money’

2. 1-3-2: Swedish periphrastic passive (taking the auxiliary to realize Tense, and the participial ending to realize Voice or a lower projection.):⁷

⁶The morpheme order inside words has also been derived by phrasal movement (see e.g. Julien 2007 and Svenonius 2007). I think that there are many details that are still fairly poorly understood about e.g. the external syntax of the verbs arguments (where they are introduced and where they move to), so it will not be relevant for me to this option here.

⁷As Svenonius points out, the 1-3-2 order often allows for material to intervene between the first and third element, as is the case with periphrastic passives, where for example adverbs could intervene between the copula and the participle. However, nothing can intervene between the third and second element, and in general it seems to be true that strict adjacency is required for elements that are realized in a reversed order.

- (22) Han blev misshandlad av två män klockan åtta igår.
 he was manhandle.PART.SG.CG. by two men clock.DEF eight yesterday
 'He was manhandled by two men at eight o'clock yesterday'

3. 3-2-1: Oromo (data from Owens 1985):

- (23) Makiināa-n ni tolf-am-t-a.
 car-NOM FOC repair.PASS-3FEM-IMPF
 'The car will be repaired'

Mirror-violating orders are however attested, but typologically there is still a very clear tendency that morphemes line up in a scope-preserving order (spelled out either in a straight or reversed order). There are presumably many ways in which a mirror-violating orders can arise in a language, e.g. from movement of morphemes (see e.g. Muriungi 2008) or non-prototypical spell-out principles, but these are clearly marked options. In the languages under discussions in this paper, all word formation is head final, with the single exception of the morphological passive. It should thus be clear for the language learner that non head-final word formation is not a readily available option, which would make it unlikely that a reanalysis of the type sketched in this paper would take place, unless the language learner can still maintain a head-final analysis of the output. As will be argued for in section 4, a reanalysis has only taken place in the contexts where the *s(t)*-passive can still be analyzed as head-final.

In the next section, I will look at two previous analyses of the morphological passive, that both get around the mirror violation by treating the *-s(t)* morpheme as something else than a Voice marker. I will point out some obvious weaknesses in the account, and then present an analysis where *-s(t)* is a regular voice marker, in accordance with e.g. Áfarli (1992)'s take on Norwegian passives.

Julien (2007): -s(t) as a clitic pronoun

Julien (2007) argues that *-s(t)* is not voice head, but instead a pronoun-like element that is generated inside the vP. The passive *-s(t)* is argued to be generated in SpecVoiceP, while non-passive *-s(t)* could be generated in other positions within the verb phrase. *-S(t)* later cliticizes to the verb when the verb moves to a higher position, e.g. Tense, as in (24). In this sense, *-s(t)* would be similar to the reflexive pronoun *sig*, which also most naturally cliticises to the verb.

- (24) [Verb_i [Tense [_{vP} *-s(t)* t_i]]]

Julien points out that her analysis has a couple of welcome consequences. First, her analysis may bring some understanding to the interaction between modality and the passive form. It has been noticed that a deontic reading is triggered when a *-s*-passive is embedded under a modal, while an epistemic reading is preferred when a *bli*-passive is embedded under a modal (as pointed out by Vikner 1988, Hansen 1972 and Vinje 1987, but see Eide 2005 for criticism). The example below is from Norwegian (from Vinje 1987):

- (25) a. Brevet skal sendes
 letter.DEF shall send.PASS
 'The letter must be sent'
 b. Brevet skal bli sendt
 letter shall BLI.PAST send.PTC
 'The letter will be sent'

In the deontic reading, the modality is most likely to be oriented towards the demoted agent, i.e., in (25-a), it is the demoted agent that has the obligation to send the letter. If we take -s to realize the agent, this argument is possibly directly linked to the obligation-role. In (25-b), there is no external argument present to which the obligation can be ascribed, and thus only a raising/epistemic interpretation of the modal is available. The pattern in Norwegian is in fact not quite as clear as Julien describes, and there is a lot of inter-individual variation, though it seems to be the case that the -s(t)-passive is preferred in deontic modals. As I will claim in section 3, deontic modals take smaller complements than epistemic modals (see e.g. Cinque 2006 for similar claims). The general dispreference for -s(t)-passives under epistemic modals can be explained if we assume that epistemic modals select for a tensed infinitive. As I will return to in section 3, -s(t) is mainly (or only) found with infinitives without independent tense values (except in Swedish).

There are some problems with Julien's proposal. First, as we see in the English translation line in (25-a), a periphrastic passive can occur in deontic contexts in other languages, indicating that demoted agents in participial passives are present enough to be interpreted as "obligees". Secondly, deontic readings of modal verbs are available in cases where an agent is neither syntactically nor semantically present, as in (26), where the obligation presumably is directed towards the hearer:

- (26) Det ska ligga tre äpplen i varje låda
 it should lie three apples in every box
 'There should be three apples in every box'

(26) is perfectly natural where someone is giving instructions about how to package apple: 'make sure that there are three apples in every box'. The connection between the -s(t)-passive and deontic modality can in other words not be seen as an argument for a syntactically present external argument (i.e., -s(t)) in morphological passives.

Julien further points out that the morphological and periphrastic passive behave differently in the complement of the verb *försöka* (as originally noticed by Engdahl 1999):

- (27) a. Han försökte bli omvald.
 he try.PAST become re-elect.PART
 'He tried to be re-elected'
 b. ??Han försökte omväljas.
 he try.PAST re-elect.-S
 int. 'He tried to be re-elected'

In (27-a), the derived subject is interpreted as the "try-er". This interpretation is not available in (27-b), and according to Julien this is due to the fact that there is a syntactically present external argument in the the -s-passive. The interpretation that we would expect from *försöka* +

-s-passive would be something like ‘he tried people/someone to re-elect him’, which would be infelicitous. It should be noticed that in English, a *get*-passive is highly preferred in this context, i.e., *he tried to get re-elected* is preferred to *he tried to be re-elected*. The *get*-passive is often used to mark that the derived subject rather than the agent is in control of the event. The -s passive does not have this function, and neither does regular verbal passives based on participles in languages like e.g. English and German. On the other hand, the periphrastic passive has properties that are very similar to the the English *get*-passive, and is thus more natural in this context.

Julien makes a similar point about restrictions on -s(t)-passives in imperatives. Here as well, only periphrastic passives are allowed in general:

- (28) a. Bli inte arresterad!
 become not arrested
 ‘Don’t get arrested’
 b. *Arresteras inte!
 arrest -s not
 int. ‘Don’t get arrested’

(28-b) would in Julien’s analysis be interpreted as something like ‘don’t let they/people arrest you’, which is not compatible with the general syntax/semantics of imperatives. As seen in the translation line, a *get*-passive has to be used in English in this context, and has already been mentioned, the Scandinavian -s -passive does not have the semantics of a *get*-passive. It should be noted that -s-passives can be used in imperatives, if a the main verb does not select for an agent as the subject, but rather an inanimate causer or stimulus. In the corresponding English sentences, a regular passive (with the auxiliary *be*) can be used, as shown in the following two examples:

- (29) a. Kom hit och fascineras av den vackra naturen!
 come here and fascinate.PASS by the beautiful nature
 ‘Come here and be fascinated by the beautiful nature’
 b. Njut och inspireras av den vackra trädgården!
 enjoy and inspirePASS by the beautiful garden
 ‘Enjoy and be inspired by the beautiful garden.’

The examples in (29) should in Julien’s account be equally anomalous as (28-b), but they are not.

Summing up, none of the points brought up by Julien provide any evidence that -s(t) should be analyzed as anything other than a regular passive marker. It is clear that the -s(t)-passives differ from the periphrastic passive in some contexts, but that is due to the ambiguity of the periphrastic passive, which can either be used as a regular passive, or as a *get*-passive (in which case an implication that the derived subject is either in control or mentally affected by the event is added).

The main problem with Julien’s account however, is that it gives us no explanation of the restriction imposed by tense and conjugation class. A clitic should not be sensitive to tense and conjugation class. The clitic analysis thus work perfectly for Icelandic, and the non-passive uses of -s(t) in the other Nordic languages, but it cannot handle the passive -s(t).

Heltoft and Jakobsen (1996) and the mood hypothesis

Heltoft and Jakobsen (1996) analyze the *-s*-suffix in Danish as a mood marker and they claim that the *-s* adds a layer of non-subjective mood. According to them, the *s*-passive is used when the speaker wants to report on an event in an objective way, without the speakers own point of view. According to Heltoft and Jakobsen (1996), the non-subjective mood can be seen in the following contexts:

1. Rules:

- (30) Indledningen skrives til sidst. *Danish*
introduction.DEF write-S to last
'The introduction is to be written last.'
- (31) Døren åbnes utover. *Bokmål*
the.door open-S outward
'The door opens outward.'

2. Generic (maybe habitual) statements:

- (32) Der tales ikke mere dansk i Skåne. *Danish*
there speak-S no longer Danish in Scania
'Danish is no longer spoken in Scania.'

3. "Re-telling stories"/historical present (Context: the story of Jurassic Park is retold...
"They meet the guy and...")

- (33) de inbydes til en rundtur. *Danish*
they invite-s to a round-trip
'they are invited on a round-trip'

There are a number of problems with the mood-hypothesis. First, it is not entirely clear why a language would have a mood distinction linked to a certain voice value, though it could of course turn out that Voice and Mood are categories that are often related in other languages as well. A more severe problem is the restriction on tenses and conjugation classes. A semantic category like Mood should not care about an arbitrary lexical feature like conjugation class. As will be returned to later, the perfect tense, which never allows the *-s*-passive can clearly have a non-subjective mood interpretation. Finally, there are some empirical problems that Heltoft and Jakobsen (1996) can not handle. Most severely, the *-s*-passive is used in some contexts that clearly have a subjective mood, most obviously in the complement of *vilja* ('want', 'shall'), as exemplified below: some passive infinitives in the complement of a modal verb

- (34) You go to the police and express a wish that you want to be arrested:
a. Jeg vil arresteres
I want arrest.INF.PASS
b. ??Jeg vil blive arresteret (only OK with a future interpretation – 'I will be arrested') I want BLI.INF arrestPART

Despite the problems, the authors' observations are in need of an explanation, and I will try to fit them into a larger picture where both the semantic and morpho-syntactic restrictions can be explained. In fact, a more accurate re-description of the facts is that *s(t)*-passives in Danish (and Norwegian) lack tense. I take tense to be a direct link between the event description and the speech situation, and the absence of tense in the *-s*-passive thus adds some distance between the event and the speech situation/speaker, which may be perceived as "non-subjective" mood. Note that tense is expressed by the auxiliary/modal verb in (34-a), which makes it possible to have a fully "subjective" interpretation in passives embedded under modals.⁸

As we have seen above, neither Julien (2007) or Heltoft and Jakobsen (1996) manage to explain the restrictions imposed by tense and conjugation class on the *-s(t)*-passive, nor do they manage to fully capture the semantic and syntactic properties of the *-s(t)*-passive. Further, they offer no way of connecting the variation within the Nordic languages with respect to the *s(t)*-passive to other point of variation between the languages. As I will argue below, by analyzing *-s(t)* as a regular Voice head (located between T(ense) and v(erb)), we can account for both the semantic and the tense/conjugation class restrictions on the *-s(t)*-passive, and most importantly we can account for the cross-linguistic variation.

3 The role of Syncretism and Copying

So far we have learned the following:

- The *-s(t)*-passive is highly restricted by tense and conjugation class in Danish, Bokmål and Nynorsk, but not in Swedish.
- The *-s(t)*-passive is problematic for the mirror-principle of word formation (Julien 2007).
- When the *-s(t)*-passive is tensed in Danish and Norwegian, it seems to have only a defective tense interpretation (a re-analysis of the data from Heltoft and Jakobsen 1996, to be expanded below), but not in Swedish.

Ideally, it should be possible to show that these three points are all related. I will show below that a closer look at the verbal paradigms in Swedish, Danish, Bokmål and Nynorsk

⁸Laanemets (2012) finds examples of the present tense *-s*-passive in both Danish and Bokmål that seem to have both an ongoing interpretation and/or a "subjective" interpretation. Most problematic for my study is the following example (Laanemets 2012, p. 104):

i ...der drives altså tre undersgelser sideløbende nu
 there run.PRES.PASS thus three investigations simultaneously now
 'three investigations are thus (being) run simultaneously now'

It is not entirely clear from the context what type of temporal interpretation is intended here. It should be noted that the simple present tense can be used in similar contexts in English, as well as the present progressive (i.e., *the project is (being) run by a Norwegian company*). Heltoft and Jakobsen (1996) also give minimal pairs with the *-s*-passive and the *blu*-passive for process verbs in the present tense, and note that only the *bli*-passive give rise to an actual ongoing interpretation, though they note that the *-s*-passive can get an ongoing interpretation, with an *but* with the additional information that the event was planned. At the moment it is not clear how to deal with this "planned" present reading. It could be argued to be non-present as well, and in the sense that it doesn't really get its interpretation from the speech situation, but from some kind of general "plan", and this plan could accidentally happen to be realized at speech time.

provide further insight to the tense/conjugation class problem. The following three generalizations emerge:

1. A fully tensed *s(t)*-passive is only available in the varieties that freely employ copying/agreement of T-features on V/v (Swedish).
2. If tense-copying/agreement is not available, present tense *-s(t)*-passives are only available in the varieties where infinitival and present tense form are homophonous in all conjugation classes.
3. If tense-copying/agreement is not available, past tense/preterite *-s(t)*-passives are only available in the varieties that allow present tense *-s(t)*-passives, and in these languages, only in the conjugation classes that show identity in form for the simple past tense and the strong participial form.

I will claim that, except for Swedish, passive *-s(t)* can only attach outside a tensed form that is “parasitic” on a non-tensed form. More specifically, I will claim that even in the tensed *-s(t)* forms, the tense morphology never spells out T, but only a projection located below Voice, either a low aspect projection, or v itself. They are in other words finite non-tensed verbs. In section 4 I will lay out a theory of how a non-tensed form can occur in “finite” contexts. I will start with least restricted language, namely Swedish.

Tense-agreement in Swedish

As we have seen, Swedish has a full tense paradigm for the *-s*-passive, and the interpretational restrictions seen in Danish and Norwegian are not seen in Swedish, i.e., the *-s*-passive can have episodic interpretations in both the present and the past tense (35-a), and it can also be used in the complement of epistemic modals, as exemplified both for an infinitival perfect passive (35-b), and a regular infinitive passive (35-c):

- (35) a. Han misshandlades av två män klockan åtta igår.
 He manhandle.PAST.PASS by two men clock.DEF eight yesterday
 ‘He was manhandled by two men at eight o’clock yesterday.’
 b. Datorn måste ha stulits någon gång under helgen.
 computer.DEF must have steal.SUP.PASS some time during weekend.DEF
 ‘The computer must have been stolen some time during the weekend’
 c. Det här området måste bevakas av minst 200 soldater.
 this here area must guard.INF.PASS by least 200 soldiers
 ‘This area must be being surveilled by at least 200 soldiers.’ (Ambiguous,
 both in Swedish and English)

At least in (35-a), but arguably (35-b-c) as well, constitute a violation of the mirror principle. One could in principle argue that the *-s* in Swedish passives is not a simple suffix, but rather part of a “portmanteau” morpheme, that expresses both tense and passive voice, and in that way get rid of the mirror-violation. There would in that case exist four different portmanteau-suffixes in the passive paradigm: present passive, past passive, infinitival passive and perfect/participle passive. However, given the regularity in the paradigms, it is hard to argue that the language learner would not segment e.g. *-as_{inf.pass}* into *-a_{inf.}* and

-s_{pass}, and so forth for the other tenses. Further, it is hard to give an account of the passive form of the strong verbs, where tense is expressed by changing the stem vowels. One would have to store all the *-s*-forms of all the strong verbs.

I will argue that *-s* is a morpheme in Swedish, and that it spells out Voice, just like in the other Scandinavian languages. The tense marking inside between the verb and *-s* is localized on *v* (or possibly a low aspect head), and gets its value from a higher tense projection via copying or agreement (see e.g. Wiklund 2007):

(36) Tense [*Voice_s* [*v_{agr.T}* [...

Below, I will show that tense copying/agreement is common in Swedish, but rare or absent in the other Nordic variants. It seems to be possible in Swedish to spell out structures that are arguably smaller than *T* that still express Tense, and that still show tense morphology. I will argue that the verb can spell out a tense value due to agreement with a higher *T* node. Swedish has much more TMA-copying/agreement (see Wiklund 2007) than the other MLS languages (most notably Danish) as seen in the following two contexts:

1. **VP-topicalization** (From Platzack (2012)): In Swedish, a topicalized verb most naturally carries tense marking, in sharp contrast with English (compare (37-b) and (37-c)):

- (37) a. John said that he would drive the car...
 b. and *drove/drive the car he did.
 c. och körde/??köra bilen gjorde han.
 and drive.PAST/drive.INF. car.DEF did he
 'And drive the car he did'

Even though tense morphology is present, other tense-related indicators are illicit in the topicalized verb phrase, such as negation (38-a), sentence adverbials (38-b) and auxiliaries (all examples from Platzack 2012):

- (38) a. *Läste inte boken gjorde han.
 read.PAST not book.DEF did he
 int. 'Read the book, he did not'
 b. *Läste troligen boken gjorde han.
 read.PAST probably book.DEF did he
 int. 'Read the book, he probably did'
 c. *Hade läst boken hade/gjorde han
 have.PAST read book.DEF had/did he
 int. 'Read the book, he had'

Danish has been claimed to accept both tensed and non-tensed topicalized VPs. However, native speakers have a strong preference for the infinitive:

- (39) Bestille/??bestilte noget gjorde han aldrig (Sten Vikner, p.c.)
 order/ordered something did he never
 'Order something, he never did'

The Norwegian data are less clear: some speakers tend to accept both finite and non-finite forms, while other speakers accept none of them. It is not clear whether the topicalised finite forms have a different interpretation compared to the non-finite forms in Norwegian. For now, I will assume that Norwegian finite doubling is, if even possible, associated with a shift in meaning, which is not the case in Swedish.

The fronted verb phrases are presumably Voice P's, or possibly even structurally smaller,⁹ and the v node in Swedish gets its value from the superordinate Tense node via agreement or copying. In Danish and Norwegian, this agreement operation is presumably absent or highly restricted.

2. Tense/Modal/Aspect (TMA) copying from aspectual/phasal verbs to main verbs (see Wiklund (2007)):

In Swedish, Tense copying from a finite or supine aspectual or phasal verb to a main verb is possible, as exemplified in (40):

- (40) a. Han började å skrev ett brev.
 he start.PAST COMP write.PAST a letter
 'He started to write a letter.'
 b. Han slutade å sjöng.
 he stop.PAST COMP sing.PAST
 'He stopped singing.'

According to Wiklund (p.c.), no Danish dialect allows Tense-copying in a context like (40), and in Norwegian, it is a clearly marked option, as opposed to Swedish.¹⁰ The main verbs in these contexts are presumably VoiceP's or just vP's. Again, the tense morphology on the main verb presumably is possible due to an agreement operation with the superordinate tense node (here realized by the higher verb).

Let us assume that whatever operation makes it possible for tense morphology to appear on the verb in the context of VP-topicalization and TMA-copying, also is responsible for tense marking to appear inside the passive -s. The structure of a tensed -s-passive is thus:

- (41) Structure of a Swedish tensed -s(t)-passive: [Tense [Voice -s(t) [v +agr T [Verb]]]]

In Danish and Norwegian, the agreement between T and v is simply not possible in s(t)-passives, just like agreement between a superordinate T and v is not possible in VP-topicalization and in the context of phasal/aspectual verbs.¹¹ I will suggest that the only true difference

⁹Platzack (2012) gives examples of fronted verbs carrying the passive -s suggesting that a VoiceP is fronted.

¹⁰It should be noted that there is something that looks like spreading of participial or supine morphology in both Swedish and Norwegian. However, in Norwegian the supine spreading usually has a semantic effect, triggering an irrealis interpretation (Julien 2001, Eide 2005), which it does not have in Swedish. The Norwegian supine spreading should thus not be analyzed as agreement/copying, but rather as adding of mood morphology.

¹¹Everyone who believes that finite verbs in non-V2-position remain in the VP has to accept something like tense agreement/copying, tense lowering, or low base-generating of tense morphology for all the Nordic varieties. The difference between Swedish and the other Nordic languages should then be stated differently: Swedish allows T-v agreement over longer distances, and over interveners (like the passive -s), while Danish and Norwegian require adjacency between T and v.

between Swedish and the other Nordic languages is the Tense-agreement on *v*. The Tense-agreement in Swedish makes the *-s*-passive felicitous in truly tensed environments as well. In the four following subsections I will go through the restrictions on the infinitive, participle, present and past tense with a focus on Danish, Bokmål and Nynorsk, and show that syncretism, rather than tense copying, is what licenses the T-Voice order, in the mirror violating contexts.

Restrictions on the infinitive

As was mentioned in section 2, the infinitive *-s*-passive is mainly used after root modals, while the periphrastic passive is used after epistemic modals. The relevant data are repeated in (42):

- (42) a. Brevet skal sendes
letter.DEF shall send.PASS
'The letter must be sent'
- b. Brevet skal bli sendt
letter shall become send.PART
'The letter will be sent'

Research within the cartographic approach has shown that epistemic modals are located higher up on the functional hierarchy than root modals (see e.g. Cinque 2002; the observation goes back to Jackendoff (1972)). Research on modals has also indicated that epistemic modals take complements that carry their own tense, or propositional force, which is seen in the fact that complements of epistemic modals easily take independent temporal modifiers (43-a), and in some cases even a negation (43-b):

- (43) a. Han måste ha kjøpt bilen igår
he must have bought car.DEF yesterday
'He must have bought the car yesterday'
- b. Han lær visst inte vara på jobbet
he MOD.HEARSAY apparently not be at work.DEF
'He is apparently not at work'

Root modals can in general not take tensed complements, which can be seen in the fact that (43-a) is unambiguously interpreted as an epistemic modal.¹² For now, we at least have an explanation for the basic pattern, i.e., that *-s*-passives are licit in the complement of root modals but not epistemic modals in Norwegian and Danish: *-s*-passives are illicit in the complement of epistemic ("high") modals since epistemic modals select for a tensed complement, and *-s*-passives are not tensed. This point is very important, since it shows that the *-s*-passive is not primarily restricted by the form of the stem, but rather the temporal information encoded in the stem. Infinitives can be either tensed or tenseless (see e.g. Wiklund 2007 and Wurmbrand 2001), but they can only spell out the default value of Voice in the absence of overt passive morphology, just like present and past tense forms. The complement of a modal can thus be of two different sizes:

¹²Note that deontic modals are fine with future temporal modifiers, like *You must come to the party tomorrow*, but in these cases the temporal modifier might very well belong to the superordinate modal itself.

- (44) a. Passive complement of epistemic modals: Tense [Voice [v [VP (VERB) ...
 b. Passive complement of root modal: Voice (-s) [v (INF.) [VP (VERB) ...

A passive tensed infinitival needs to be spelled out as two separate words in Danish, Bokmål and Nynorsk: a copula taking care of Tense and Voice, and a participle taking care of the verb-phrase. The periphrastic passive rather than the morphological passive is thus used in complements of high modal verbs. The restriction on the two passives in the complement of modals reported by Julien (2007) and Heltoft and Jakobsen 1996 now follows from the size of the infinitival complement.

It should be noted that there is a lot of variation between speakers, especially within Norway, with respect to passive complements of modals. Some speakers allow -s-passives in the complement of epistemic modals. Similarly, speakers tend to accept episodic readings of the present tense -s-passive to a certain extent as well, at least to a higher degree than Danish speakers. In general it seems like the restrictions are more form oriented than meaning oriented in Norwegian than in Danish, giving rise to more unexpected uses of the infinitival and present tense -s-passive in Norwegian. This could have its root in some more general differences between the tense systems in the two languages, but it could also be due to a more specific change in the -s-passive in Norwegian.

The restrictions on the perfect

Only in Swedish can the -s-passive be used in the perfect tenses. There are basically two ways of explaining the absence of -s-passives in Danish, Bokmål and Nynorsk.

1. **The present/past perfect as bi-clausal/bi-temporal:** Julien (2001) and Larsson (2009) argue that all perfects are bi-clausal. The perfect auxiliary selects for a tensed complement which is realized by a perfect participle. Since the perfect participle is tensed, the -s(t)-passive of the perfect should be illicit, just as it is illicit for tensed infinitives.
2. **The Norwegian and Danish perfect participle as Voice-less:** In Swedish, the active (perfect) participle (traditionally labelled the supine) is distinct from the passive participle:

- (45) a. Jag har skjutit djuret
 I have shoot.SUP animal.DEF
 'I have shot the animal'
 b. Djuret blev skjutet
 animal.DEF BLI.PAST shoot.PART.NEUT
 'The animal was shot'

In all the other Mainland Scandinavian varieties, the active and passive participle are identical in form. Further, Danish (and to some extent Nynorsk and Bokmål), have the typical Have/Be-alternation, found in e.g. Italian, Dutch and German. In Swedish, all perfects come with the auxiliary *have*. Based on these two facts (among others), Platzack (1989) argued that the Swedish active participle is a full, voice-specified verb-form. Christensen and Taraldsen (1989) argued on the same grounds that the Norwegian and Danish active and passive participle are of the same type, basically participles

without voice specification, where the auxiliary encodes the voice of the sentence (see Kayne 1993 for discussion). The differences between the participles in Swedish and Danish/Norwegian is sketched below:

(46) Swedish active participle/supine: Voice [v [V]] (at least)

(47) Danish “active” (and passive) participle: [v [V]]

If this is the right way of characterizing the difference between Swedish and Danish/Norwegian participles, we do not expect to find the passive *-s* on active participles in Danish and Norwegian, since Voice is not present in these structures, or rather, Voice is always lexicalized by the auxiliary, and the auxiliary selecting for a perfect complement, needs to lexicalize the Voice-node (*ha* in active contexts, and *bli* or *vara* in passive contexts).

Either of the two analyses will capture the fact that *s(t)*-passives are not available in the perfect. Let us for now assume that the bi-clausal/bi-temporal analysis is the correct one, at least for perfects. Note though that I will assume that perfects have TP-recursion, and not CP-recursion (i.e., the participle/supine is a TP, and not a CP). We could further assume that the second small participle analysis is the right one for e.g. participles in the complement of *få* ‘get’, which will rule out participial *-s(t)*-passives in the complement in *get*-passives and active participial *get*-constructions.

Note that Heltoft and Jakobsen (1996)’s analysis of the *-s*-passive as non-subjective mood could not easily explain the absence of perfect *-s*-perfects in Danish and Norwegian, since perfects do not require a special subjective speaker-focus on the event. On the contrary, perfects are often found in perspective neutral reports. For example, a police report where a corpse is described would naturally contain the perfect: *The victim has been shot twice in the back and stabbed with a sharp object in chest.*¹³

Interpretation and availability of the present tense

Swedish and Nynorsk has present tense forms of the *-s(t)*-form that are distinct from the form of the infinitive (in all but conjugation 1 in Swedish, and conjugation 2 in Nynorsk), while Danish and Bokmål have identical infinitive and present tense forms for all verbs (strong verb exemplified below, see further Enger 1998 for discussion of the Bokmål forms):

- (48) a. Swedish: *skrivas_{inf}* – *skrivs_{pres}*
 b. Nynorsk: *skrivast_{inf}* – *skriv(e)st_{pres}* (Pres only with reciprocal reading)
 c. Danish/Bokmål: *skrives_{inf}* – *skrives_{Pres}*

The form-identity is due to the fact that infinitives end in *-e* in Bokmål and Danish, and the present tense end in *-er*.¹⁴ Since the present tense *-r* disappears in the present tense passive,

¹³It should be pointed out that the restriction on *-s*-passive perfects in Danish and Norwegian could follow naturally from Julien’s analysis of the passive, if we take the Danish and Norwegian perfects to lack a position for the external argument, i.e., if the “Voice-less perfect” hypothesis is correct. The restriction would be harder for Julien to explain if the bi-clausal analysis is correct.

¹⁴There are also verb stems that end in a vowel, and in these cases the infinitive is \emptyset . For these verbs the present tense is only marked with *-r*, and the present passive is only marked with *-s*, giving rise to form-identity as well.

the present passive and the infinitival passive look identical. In Nynorsk, the paradigm is more complex, but in the first conjugation class (which is the biggest of the conjugation classes), the infinitive ends in *-e*, while the present tense ends in *-ar*, giving rise to different forms for passive infinitives and passive present tense (though they do not strictly speaking exist – the *-st*-forms in the present are reciprocal, reflexive or deponent). For strong verbs, as exemplified in (48-b), the pattern is different. In Swedish, we see form identity in only the first conjugation class, where infinitives end in *-a* and the present tense ends in *-ar*. In the other classes, the infinitival suffix is *-a* (though sometimes another vowel, see last footnote), and the present tense suffix is *-er*. In the present passive forms, *-er* drops, giving active-passive pairs like *köp-er – köp-s*¹⁵

My claim is that syncretism is what licenses the mirror violation in present tense passives in Bokmål and Danish. In Nynorsk, there is no syncretism between the present tense and infinitive *st*-forms, and hence, no present tense *-st*-passives are licit. In Swedish, syncretism does not matter, since the tensed *-s*-passives are licensed via tense-copying. In section 4 I will discuss in detail why syncretism has syntactic consequences.

I will here focus on the interpretational restrictions on the present tense passive in Danish, as reported on in Heltoft and Jakobsen 1996. I will assume that the interpretational restrictions are more or less the same in Danish and Bokmål, though see the discussion in section 3.2. Since Nynorsk has no present tense *-s(t)*-passive, I will not say anything more about Nynorsk here.

As was noted in Heltoft and Jakobsen 1996, the present tense *-s*-passive is mainly used in (1) rules, (2) generic sentences and (3) the historical present tense. It is crucially not used in the episodic present tense, i.e., in sentences reporting on events that take place simultaneously with speech time. I take it that the function of Tense is to locate an event with respect to speech time (possibly via a viewpoint aspect projection, which will not be relevant for this paper), and that tense in the unmarked case is anchored to speech time.

In the context where the present tense *-s*-passive is used, there is crucially no straightforward link between speech time and event time. In the historical present, the speech time and the event time are surely not the same. The temporal interpretation is rather given by the context. In rules and generic sentences, specific events are not located in time. I will therefore assume that Tense is simply absent in the present tense *-s*-passives.¹⁶ The structure of an *-s*-passive in Danish and Bokmål is thus the following:

(49) Fin [Voice [v [V]]

As was discussed in section 2, I assume that the infinitival morphology is generated in *v*.

The absence of Tense leads to the lack of a direct link between the event and the speech situation. It should be noted that my solution in practice is not that different from that of Heltoft and Jakobsen 1996, since the crucial element in both proposals is the deficient link between the event and the speech situation/speech situation. While they make reference to

This is true in Swedish and Nynorsk as well.

¹⁵Note also that the present tense *-s*-form in Bokmål have the same tonal pattern as infinitives rather than present tenses, as seen for strong verbs: *synges₂ (inf.) - synger₁ (pres.)* vs. *synges₂ (inf.) - synges₂ (pres.)*. In Swedish as well, there is an archaic passive form that look like the Bokmål passives: *säljes₂* ('sell'-pass, meaning 'for sale'), compare with present tense *säljer₁*, present passive *säljs₁* and infinitival passive *säljas₂*.

¹⁶The present tense *-s*-passive in Danish and Bokmål can thus be characterized as a non-tensed finite form. The existence of non-tensed finite verbs have been argued for by Kiparsky (1968) in discussion of the Vedic injunctive.

the grammatical category Mood to describe the -s-passive, I only rely on the absence of Tense. My proposal is more in accordance with the morphological patterns, and does not have to make reference to a special mood-marker that is only available in the passive paradigm. As we have seen above, it can capture the interaction between passives and modal more straightforwardly as well. We will also assume that the restriction on present tense *s(t)*-passives in Nynorsk directly is triggered by the by the lack of syncretism between infinitives and present tense *s(t)*-forms.

Past tenses in Danish and Bokmål

The -s passive is used in the past tense in Danish and marginally in Bokmål, mainly in past generic contexts, and maybe past habituais, though restricted to certain conjugation classes. The relevant paradigms are given below:

- Danish: Two weak conjugation classes, and a strong conjugation class (+ irregular verbs): Only the two weak classes take passive -*s(t)* in the past tense.

TABLE 2: CHOICE OF PASSIVE: FREQUENCIES				
	Written language		Spoken language	
	-s-passive	periphrastic	-s-passive.	periphrastic
DANISH	64.1 %	35.9 %	23.1 %	76.9 %
NORWEGIAN	62.5 %	37.5 %	20.4 %	79.6 %
SWEDISH	98.7 %	1.3 %	84.2 %	15.8 %

- Bokmål: Two weak conjugation classes + strong conjugation classes (+ irregular verbs): Only the second weak conjugation class takes passive -*s(t)* in the past tense (as reported in Faarlund et al. 1997, see also Laanemets 2012).

TABLE 3: DANISH				
	Inf.	Pres.	Past	Participle
Weak 1	kaste(s)	kaster/kastes	kastede(-s)	kastet(*-s)
Weak 2	bruge(-s)	bruger/bruges	brugte(-s)	brugt(*-s)
Strong	syng(-s)	synger/synges	sang(*-s)	sunget(*-s)

As we saw above, the present tense -s-verbs in Danish and Bokmål seemed to be form-parasitic on infinitival forms. By appealing to form-parasitism it was possible to give an explanation to the fact that Nynorsk is more restricted than Bokmål and Danish. In the past tense, we seem to have the similar case form-parasitism in Bokmål and Danish. Looking carefully at the verb-paradigms, it turns out that only the conjugation classes that show form identity between the simple past tense and the weak participial form allow past tense -s-passives:

- Danish:

- (50) a. den lejede bil — de lejede en bil (conj. 1)
the rented car — they rented a car
b. den brugte bil — de brugte en bil (conj 2)
the used car — they used a car
c. den sungne/*sang melodi - de sang/*sungne en melodi (strong)
the sung melody - they sang a melody

As seen above, the weak/non-agreeing participle is identical to the simple past tense form in the conjugation 1 and conjugation 2. In the strong paradigm (50-c), the weak participial form is clearly different from the simple past tense.¹⁷

• **Bokmål:**

- (51) a. den kastede/*kasta/*kastet maten — de kasta/kastet/*kastede maten
(1 conj)
the thrown food — they threw the food
b. den brukte grillen — de brukte grillen (conj 2)
the used grill — they used the grill
c. den revne/*rev osten — de rev/*revne osten
the grated cheese — they grated the cheese

Bokmål differs from Danish in that the verbs in the first conjugation class show no syncretism between the weak participial form and the simple past tense form. The syncretism is only seen in the second conjugation class, and this is the only class the allows *-s(t)*-passives in the past tense.

Why would syncretism between the preterite and weakly agreeing participle matter? One could argue that there only are two non-agreeing, non-finite forms in Danish and Norwegian: (1) the infinitive and (2) the weak participle form. There could very well be a restriction on attaching passive morphology outside of an agreeing form.

Given that I have argued that the present tense *-s*-passives are tenseless in Danish and Bokmål, it is not obvious what a past tense *-s*-passive would actually mean, especially if they are argued to be semantically parasitic on the non-finite participle just like the present *-s*-passive is parasitic on the infinitive. It should be noted that past tense *-s*-passives are extremely rare in both Danish and Bokmål. In Bokmål it is even possible that the past tense *-s*-passive is absent in many speakers' grammar, especially younger speakers' grammar (and it is not unexpected that a form that is applicable to such a small part of the verbal paradigm sooner or later would disappear). Heltoft and Jakobsen 1996 argue that the Danish past tense *-s*-passive is still alive, but its low frequency is due to its very specific semantics (as they describe, past tense passive non-subjective mood). Heltoft and Jakobsen 1996 give two contexts where the form is still used:

¹⁷Some strong/irregular verbs seem to allow the passive *s*, as noted already by Diderichsen (1946) (see also Laanemets 2012 for discussion), although they do not have syncretic weak participle forms e.g. *toges* (take.PAST.PART) and *lodes* (let.PAST.PART). If these are just lexical exceptions, or part of a more general pattern, e.g. a ban on only monosyllabic morphological passives, as suggested by Diderichsen (1946), is at the moment not clear.

1. Rules and norms in the past.
2. Specific event, marking the distance between the speaker/source and the content of the clause. (as Heltoft and Jakobsen 1996 puts it: ‘The past -s-mood is also the way to mark a text as the minutes of a meeting, marking the text as the decision of others rather than of the person writing’.) (52) is from Heltoft and Jakobsen 1996, p. 16:

(52) Alle pengene uddeltes og adskillige medarbejdere
 All money.DEF award.PAST.PASS and several employees
 oprykkes i andre lønklasser. Mødet
 promote.PAST.PASS in other salary.grades. Meeting.DEF
 afsluttedes kl. 18.30
 terminate.PAST.PASS clock 18.30
 ‘All the money was awarded and several employees were promoted to
 other salary grades. The meeting was terminated at 18.30’

Heltoft and Jakobsen (1996) note that the periphrastic passive and the -s-passive can be used more or less interchangeably in the past tense, especially when talking about norms in the past.

I want to claim that past tense -s-passives are tenseless as well. They are only VoiceP’s, embedded directly under Fin. However, either the little *v*, or a lower aspectual projection, must have another value in the past tense passives than in the present tense -s-passive. Without going into technical details, I will for now assume that a low aspectual projection can have either a +Terminated value, or a -Terminated value. When carrying a +Terminated value, the it will spell out as a past (passive) participle, or possibly past tense if a T node is present in the structure as well. (This claim is not unproblematic, but I will leave it for further work to fully work out the consequences.)

4 Syncretism in the C-domain

In relation to the issue of form-syncretism, we must ask ourselves why “syntax” would care about form-syncretism, especially in the case of the passive paradigm. Below I will present the beginning of an analysis, that builds on comparisons to other phenomena where surface form-identity rather than identity in category or features, licenses certain syntactic structures (i.e., where phonology seems to “fool” syntax). First I will lay out some basics about finiteness and the licensing of (nominative) subjects. For this purpose, I will assume the basics of Holmberg and Platzack (1995) (with minor modifications).

Holmberg and Platzack (1995) argue that the finiteness feature [+F] in the Scandinavian languages is located in C^o , and that a C^o with [+F] needs to be lexicalized, either by a verb moving there, or by a complementizer (C^o with [+F] is what I have called Fin above). Nominative case is directly dependent on the feature F. Let us then assume that a clause with an overt nominative subject only is licensed in the complement of a C-projection with a [+F]-feature. The verb in C^o also needs to be marked with tense, present or past. That is, an infinitive or a participle cannot move to C^o to give rise to finite syntax. My claim is however that in the ‘finite’ uses of the -s-passive in Danish and Bokmål, a non-finite verb has moved to C^o , which should not be licit.

Let us assume that there is a phase-boundary between inflectional domain and the C-domain (Chomsky 2001). Let us further assume with recent phase-theory that syntactic structures are spelled out at phase-boundaries. Elements that cross a phase boundary are generally believed to escape the first phase via an edge position (see e.g. Svenonius 2004). To account for the effects of syncretism discussed in this paper, I will have to adopt a more radical version of phase theory, where all elements are spelled out at the phase boundary.¹⁸ Here “spelled out” simply means that the underlying morpho-syntactic features are phonologically realized and semantically interpreted. The abstract morpho-syntactic features are not accessible beyond the phase boundary, but only their surface form (and meaning). If this assumption is correct, it should mean that the C-domain does not really care about the underlying structure of the elements inhabiting it, but only the surface form. In Danish and Bokmål, a non-tensed verb can thus occupy C^o, but only if it on the surface looks like a tensed verb. The form of the tensed -s-passive thus fools the syntax in the case where we see syncretism (in all conjugations in the present tense, and some conjugations in the past tense). I will below briefly look at three cases where form-identity rather than category-identity matters, and which can shed light on the homophony requirement of Danish and Norwegian passives.

1. **German free relatives:** As noted by Groos and van Riemsdijk (1981), the gap in a free relative clause needs to match in case with the case of the relative pronoun, as assigned by the matrix clause, unless the form of the relative pronoun happens to be identical for both the required cases (see Vogel 2001 for clear discussion of this topic, and for variation within German).

- (53) a. Ich nehme, wen du mir empfahlst.
 I take who.ACC you me.DAT recommend
 ‘I take whomever you recommend to me.’ (Accusative in both matrix and embedded clause)
- b. *Ich nehme, wer/wen einen guten Eindruck macht.
 I take WHO.NOM/WHO.ACC a good impression makes.
 ‘I take whoever makes a good impression.’ (Accusative in matrix clause, nominative in embedded clause)
- c. Ich habe gegessen was noch übrig war.
 I have eaten WHAT-NOM/ACC.NEUT still left was
 ‘I ate what was left.’ (Accusative in matrix clause, nominative in embedded clause, but nominative-accusative syncretism in neuter gender)

In the examples above, the matrix verb requires a direct object with accusative case. (53-a) is then unproblematic since the relative pronoun is assigned accusative in the relative clause. (53-b) does not work because of a case-clash. (53-c) is structurally identical to (53-b), but comes out as grammatical since the relative pronoun looks like a nominative on the surface. If we assume that the underlying structure of the relative

¹⁸I will here assume that there is no phase-boundary between vP and TP. Phase boundaries as I use it here are only found at clause boundaries.

pronoun is invisible at the top phase of the clause, i.e., the C-domain, form-matching should be all that is required to make the sentence licit.

2. **Bound-variable reading of indexicals in German:** As discussed in Kratzer (2009), possessive first and second person pronouns can be interpreted as bound-variables, but only if the subject agreement on the verb shows syncretism with 3rd person. The following pattern is reported in Kratzer (2009):

- (54) a. Wir sind die einzigen, die unseren Sohn
 1PL be.1 / 3PL the.PL only.ones who.PL 1PL.POSS.ACC son
 versorg-en
 take.care.of-1 / 3PL
 'We are the only ones who are taking care of our son'
- b. Ihr seid die einzigen, die euren Sohn
 2PL be.2PL the.PL only.ones who.PL 2PL.POSS.ACC son
 versorg-en
 take.care.of-1 / 3PL
 'You are the only ones who are taking care of your son'

According to Kratzer, (54-a) is ambiguous, while (54-b) is not, at least for most speakers. (54-a) can have the following two readings: (1) "no one takes care of our son, except for us" and (2) "we are the only X such that X takes care of X's son" (bound variable). Only reading (1) is available for (54-b) (i.e. "no one takes care of your son except for you"). The agreement on the finite verb (*versorg-en*) is controlled by the subject relative pronoun in both examples, but in the a-example, the agreement could in principle hold between the first person pronoun and the verb. This ambiguity is presumably what triggers the possibility of interpreting the possessive pronoun as a bound variable.¹⁹ Just like in the case of the German free relatives, the syntax (or semantic computation) seems to be fooled by the syncretism. Here as well, we are dealing with dependencies that stretch over a clause boundary (a C-phase).

3. **Restrictions on topicalizations in Norwegian.** Taraldsen (1981) reports that form syncretism between subject- and object form is necessary in certain topicalizations across clause boundaries in Norwegian. This is seen in (55-a), where a topicalization of first singular or plural subject pronoun, or a singular second person subject pronoun across a clause boundary is unavailable. (55-b) shows that this operation is available for names (and other DP's not showing any case-marking):

- (55) a. *Jeg_i/du_i/vi_i hadde de trodd [t_i ville komme for sent
 I/you/we had they thought would arrive too late
 'I/you/we had they thought would arrive too late'
- b. Per_i hadde de trodd [t_i ville komme for sent
 Per had they thought would arrive too late
 'Per had they thought would arrive too late'

¹⁹I will not have anything to say about how the possessive pronoun gets its person marking. See Kratzer (2009) for discussion of this issue.

As Taraldsen (1981) shows, this is not a restriction on pronouns, but only on pronouns that have special subject- and object forms. Pronouns with syncretic subject and object forms can be topicalized across a clause boundary, as shown in (56) for the second person plural pronoun (*dere* is both the subject and object form)²⁰

- (56) Dere_i hadde de trodd [t_i ville komme for sent
 you.PLUR had they thought would arrive too late
 ‘You had they thought would arrive too late’

Let’s assume that the ungrammaticality in (55-a) is triggered by a restriction on unambiguously nominative elements in a clause (in Norwegian): a nominative element must be interpreted as a subject.²¹ The main clause cares only about the form of the topicalized pronoun, or in other words, the morpho-syntactic feature set-up of the pronoun is not visible to the main clause (alternatively, to the embedded clause).

If the syntactic effects of the syncretism were due to some general underspecification of the elements involved, we would expect to see similar effects within one clause. For example, you would expect that an oblique subject could trigger verb agreement in declension classes where the oblique case are syncretic with the nominative, or you could expect that dative objects that are syncretic with accusative object could be promoted to subjects under passive. But as far as I am aware, this never happens. Syncretism only affects syntax when there is a C-boundary between the base position and the surface position of the relevant element.²²

I will assume that syncretism plays essentially the same role in the Danish and Bokmål -s-passive paradigms as it does in the three cases above. In the cases discussed above, the C-domain mediates between two clauses, but this is not the case for the passives (these are mono-clausal structures). However, the C-domain presumably has a similar function in mono-clausal contexts, only with the difference that it does not mediate between two clauses, but between the clause and the speech situation. In both cases, we can assume that the C-domain cares about the form of the elements occupying it, rather than the feature set of the elements inside it.²³ Going back to ?, finite syntax is licensed if C is overtly realized by a complementizer (presumably merged directly in C), or by a verb. We could think of the verb

²⁰The object forms for *jeg*, *du* and *vi* are *meg*, *deg* and *oss*, and these forms can neither be used when the subject is topicalized.

²¹Taraldsen claims that the same restriction holds for topicalization of object pronouns that are non-syncretic with the subject form, at least for some speakers. For many (most?) speakers, the effect is only seen for the object forms, and I will only take into consideration speakers showing this pattern here.

²²If the version of phase theory proposed here is correct, all long-distance dependencies should be strictly form oriented. This predicts for example that long-distance dependencies could never be restricted by underlying case, number and person features of the elements involved, as long values of these features are not expressed morphologically in an unambiguous fashion. For example, the that-trace effect could not be triggered by the subject-feature (as opposed to object feature) of the moved phrase, but must have its source in either restrictions on the gap in the embedded clause, or by prosodic factors, see e.g. Bresnan (1977). Similarly, complementizer agreement in Dutch dialects cannot be directly dependent on underlying features of the subject, or the verb, but must be triggered by surface properties, see Ackema and Neeleman (1999) on complementizer agreement as prosodic checking, but see also Haegeman and van Koppen (2012) for problems with this account. How other cases of long-distance agreement fit in with my proposal is beyond the scope of this paper.

²³I have nothing really to say about embedded clauses, where the verb does not move to C. I will just assume that there is some sort of agreement between C and the embedded verb, and that C can get a finite value as long as the verbs looks like a finite verb.

as just being a copy of the lower verb (in T or v). C only cares about the surface form of the verb, i.e. it has to look tensed, and a finite syntax is licensed even when a non-tensed *-s*-form occupies C.

5 Summary and concluding remarks

I have argued in this paper that the passive *-s(t)* in the Nordic languages realizes a Voice head in the extended functional sequence of the verb, and thus is expected to linearize in accordance with other heads in the verbal functional sequence, most notably tense. The restrictions on the morphological passive now follow from available strategies for obviating the mirror violation. Swedish always makes use of tense copying/agreement. Bokmål and Danish always license mirror violating *s*-passives through syncretism. Syncretism is not an available option in the perfect, since the perfect participle does not move across a C-boundary. Nynorsk, lacking the crucial syncretism and general tense copying/agreement mechanisms, can only use the *st*-passive in the infinitive, where the *-st* suffix and the infinitival ending surface in a mirror compatible order. Table 5 shows the strategies for licensing the *s(t)*-passive in the Nordic languages (“Mirror comp.” stands for mirror compatible). In the cells with stars, neither Tense copying nor syncretism can license the *-s(t)*-passive:

TABLE 5: <i>-s(t)</i>-PASSIVE: RESTRICTIONS ON TENSE AND CONJUGATION CLASS				
	Swedish	Danish	Bokmål	Nynorsk
Infinitive	✓ Mirror comp.	✓ Mirror comp.	✓ Mirror comp.	✓ Mirror comp.
Participle/supine	✓ T copying	*	*	*
Present	✓ T copying	✓ Syncretism	✓ Syncretism	*
Past (preterite)	✓ T copying	✓ Weak, * Strong Syncretism	✓ conj. 2, * rest Syncretism	*

By analyzing passive *s(t)* as a voice marker, and by taking the mirror principle seriously, we can actually make sense of the bizarre restrictions imposed by tense and conjugation class in the Nordic languages. An analysis of passive *-s(t)* as either a clitic pronoun or a mood marker could never do that.

There are some issues that require some additional discussion. The first one is why the surface order of the morphemes of the morphological passive has not changed as the reanalysis has taken place. Why don’t we get, for example, **släpp-s-te* (‘release-Pass-Past’) instead of *släpp-te-s* (‘release-Past-Pass’) in Swedish? And why don’t we get morphological passives in all tenses in all Nordic languages with the passive morpheme preceding the tense morpheme? It is worth mentioning that there is at least one Nordic dialect where the surface order is affected by the reanalysis, and that is the Närpes dialect in southern Österbotten (Finland), as discussed in Ivars (2010). Here, the passive morpheme is realized as *-st* in the past tense and the perfect, and as *-s* in the present tense and the infinitive. It could very well be the case that the *-t* in *-st* spells out a tense node with a past value.

In general though, I think it is correct to assume that the language learner is “conservative”, as argued most prominently for by William Snyder (see e.g. Snyder 2007). The

language learner is presumably not likely to produce sequences of morphemes that are not present in the input (in the case of the Närpes dialect, *-s* and *-st* were presumably used interchangeably at some stage when the reflexive pronoun got reanalyzed). Since the mirror violation can be resolved without changing the surface order in Swedish (via tense copying), there is no pressure on the language user to switch the surface order of the morphemes.

A reason for the absence of change in morpheme order in the non-copying languages is presumably the existence of the periphrastic passive, which does not constitute a mirror violation. In recent work, Paul Kiparsky (Kiparsky 2010) has made the following generalizations concerning mirror obeying and mirror violating orders:

- (57) Mirror Generalizations (Kiparsky 2010):
- a. When different orders have different meanings, they always mirror semantic scope.
 - b. When morpheme order is fixed, then either:
 - 1. the fixed order is ambiguous between two scopes (some Bantu languages),
 - 2. only the interpretation that reflects the fixed order is available (Sanskrit and Finnish)

Nynorsk could most clearly be analyzed as a language obeying (57-a): the mirror-violating order V-Pass-Tense is never used, and instead the mirror respecting periphrastic passive has to be used. In my analysis of finite *-s*-passives in Danish and Bokmål as non-tensed, they also adhere to (57-a). Of course, it is not so straightforward to talk about “semantic scope” when discussing Voice and Tense, since they do not obviously interact scopally, i.e. a passive applied to a tensed verb would presumably have the same interpretation as a tense morpheme applied to a passive verb. But, as was discussed in section 2, we have good evidence that Voice and Tense attach/“scope” at different heights. One obvious question in connection to this is why Swedish does not adhere to (57-a), i.e., why is the morphological passive used at all in tensed contexts when there is a mirror-respecting periphrastic passive. The answer is probably that morphological and periphrastic passives differ in Swedish in more profound ways than just in the relation between Voice and Tense, see e.g. Larsson and Svenonius (2013) and Lundquist (2010) for analyses of the periphrastic passives as qualitatively different from periphrastic passives in the other Nordic languages (Lundquist 2010 argues explicitly that the periphrastic passive in Swedish always modifies the vP internal material of the clause, while the morphological passive never does). If this is correct, Swedish adheres rather to (57-b) 1, though as I have argued, the mirror violation is entirely dependent on independently available tense copying mechanisms.

The second issue that requires some discussion is the unavailability of tensed *-s(t)*-passives in cases when the tensed form *is* syncretic with the non-tensed form. As has been mentioned previously, the past *-s*-passive has basically disappeared from modern Bokmål, even though the syncretism still holds. Further, Nynorsk also has identical forms for the weak participle and the simple past tense in some conjugation classes, though they still do not allow passive past tense verbs. If we believe that syncretism always can fool syntax (over certain distances), this is surprising. However, given that there is a mirror-respecting passive (the periphrastic passive), it is maybe not unexpected that the tensed *-s(t)*-passives are disappearing.

In all the Danish and Norwegian tensed passives, there seems to be a lot of speaker variation with respect to the effect of form syncretism in the licensing of certain structures. Syn-

cretism that is restricted to a few inflectional clauses will probably not have very robust syntactic effects (but it is not really clear why). When the syncretism extends to all inflectional classes of a paradigm, the effect is more robust. Recently, Charles Yang (Yang 2013) has proposed a principle for determining the difference between a productive rule and a semi-regular list of “exceptions”. If the list consists of fewer items than the total number of items (N) divided by the natural logarithm of N, then the language learner will not postulate a rule, but rather list the sub-paradigm as exception. For example, if we assume that the total number of verbal stems (excluding prefixed verbs) is 1000 in Bokmål, then the conjugation class 2 must consist of more than $1000/\text{Log}(1000) = 145$ items for the learner to be able to postulate a special passive rule for this conjugation. I don’t know the exact number of verbs in conjugation class 2, nor the total number of verbs in Bokmål, but given that conjugation 2 is not a productive class in Bokmål (new verbs rather fall into conjugation 1), we could speculate that the number of verbs in conjugation class 2 at some point became smaller than the total number of verbs (N) divided by $\text{Log}(N)$. One would still however expect that some passive preterite verbs would still exist in a list of exceptions, but given the strength of the participial passive, these exceptions could easily be forgotten. It is also possible that the older speakers that still have a preterite passive of conjugation 2 verbs are not making use of a rule, but rather have just memorized a list of exceptions. I assume that at a certain point in time, there was a preterite passive rule, only affecting conjugation class 2, but at some point it disappeared.

The analysis proposed in this paper admittedly contains several non-standard ingredients, or at least ingredients that need further discussion, most notably the role of syncretism, and the mechanisms of tense copying. However, any analysis of a phenomenon which is simultaneously restricted by lexical/morpho-phonological properties (e.g. conjugation class) and compositional syntax/semantics properties (e.g. tense interpretation) will require some extension of the standard toolbox. None of the previous accounts of the morphological passive discussed in this paper (Julien 2007 and Heltoft and Jakobsen 1996) can explain the restrictions imposed by tense and conjugation class, and they certainly cannot explain the variation between the Nordic languages in a systematic fashion. Neither is the syntactic and semantic characterization of the morphological passive in these works fully satisfying (i.e. the existence of imperative *s(t)*-passives, and the non-subjective flavor of the *s*-passive in the complement of certain modals/auxiliaries cannot be explained). The current account attempts to capture the syntactic, semantic and morphological restrictions of the morphological passive, while also tying the variation in the behavior of the morphological passive across the Nordic languages to independent points of variation (i.e., the availability of tense copying, and the shapes of the verbal paradigms).

References

- Ackema, Peter and Ad Neeleman. 1999. *Beyond morphology: interface conditions on word formation*. Oxford University Press, Oxford.
- Adger, David, Daniel Harbour, and Laurel J. Watkins. 2009. *Mirrors and Microparameters: Phrase Structure beyond Free Word Order*. Cambridge University Press, Cambridge.

- Áfarli, Tor A. 1992. *The Syntax of Norwegian Passive Constructions*. John Benjamins, Amsterdam.
- Anderson, Stephen R. 1990. The grammar of Icelandic verbs in *-st*. In *Modern Icelandic Syntax*, edited by Joan Maling and Annie Zaenen, no. 24 in *Syntax and Semantics*, pp. 235–273. Academic Press, San Diego, Ca.
- Baker, Mark. 1985. The Mirror Principle and morphosyntactic explanation. *Linguistic Inquiry* 16 3: 373–415.
- Baker, Mark C. 1996. *The Polysynthesis Parameter*. Oxford Studies in Comparative Syntax. Oxford University Press, New York.
- Bresnan, Joan. 1977. Variables in the theory of transformation. In *Formal Syntax*, edited by Peter Culicover, Thomas Wasow, and Joan Bresnan, pp. 157–196. Academic Press, New York.
- Brody, Michael. 1997. Mirror theory. *UCL Working Papers in Linguistics* 9.
- Brody, Michael. 2000. Mirror theory: Syntactic representation in perfect syntax. *Linguistic Inquiry* 31 1: 29–56.
- Bye, Patrick and Peter Svenonius. 2012. Non-concatenative morphology as epiphenomenon. In *The Morphology and Phonology of Exponence*, edited by Jochen Trommer, pp. 427–495. Oxford University Press, Oxford.
- Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A Life in Language*, edited by Michael Kenstowicz, pp. 1–52. MIT Press, Cambridge, Ma.
- Christensen, Kirsti Koch and Knut Tarald Taraldsen. 1989. Expletive chain formation and past participle agreement in Scandinavian dialects. In *Dialect Variation and the Theory of Grammar*, edited by Paola Benincà, pp. 53–83. Foris, Dordrecht.
- Cinque, Guglielmo. 2002. Complement and adverbial PPs: Implications for clause structure. Paper presented at GLOW in Amsterdam; abstract published in GLOW newsletter.
- Cinque, Guglielmo. 2006. *Restructuring and Functional Heads: The Cartography of Syntactic Structures, Vol 4*. Oxford University Press, New York.
- Diderichsen, Paul. 1946. *Elementær dansk grammatik*. Gyldendal, København.
- Dyvik, Helge J. 1980. Har gammelnorsk passiv? In *The Nordic languages and modern linguistics*, edited by Even Hovdhaugen, vol. 4, pp. 81–107. Universitetsforlaget, Oslo.
- Eide, Kristin Mellum. 2005. *Norwegian Modals*. Mouton de Gruyter, Berlin.
- Engdahl, Elisabet. 1999. The choice between *bli*-passive and *s*-passive in Danish, Norwegian and Swedish. NORDSEM Report 3. Available at: http://www.svenska.gu.se/digitalAssets/1336/1336829_engdahl-nordsem-passivechoice-1999.pdf.

- Enger, Hans-Olav. 1998. Forholdet mellom presens s-form og infinitiv s-form. *Maal og Minne* 2: 193–206.
- Eythórsson, Thórhallur. 1995. *Functional Categories, Cliticization, and Verb Movement in the Early Germanic Languages*. Ph.D. thesis, Cornell University.
- Faarlund, Jan Terje, Svein Lie, and Kjell Ivar Vannebo. 1997. *Norsk referansegrammatikk*. Universitetsforlaget, Oslo.
- Groos, Anneke and Henk C. van Riemsdijk. 1981. Matching effects in free relatives: A parameter of core grammar. In *Theory of markedness in generative grammar: Proceeding from the 1979 GLOW conference*, edited by Adriana Belletti, Luciana Brandi, and Luigi Rizzi, pp. 171–216. Scuola Normale Superiore di Pisa, Pisa.
- Haegeman, Liliane and Marjo van Koppen. 2012. Complementizer agreement and the relation between T and C. *Linguistic Inquiry* 43:3: 441–453.
- Hansen, Erik. 1972. Modal interessens. nu bor det (komme) frem. *Danske Studie* pp. 67, 5–36.
- Heltoft, Lars and Lisbeth Falster Jakobsen. 1996. Danish passives and subject positions as a mood system: A content analysis. In *Content, Expression and Structure: Studies in Danish Functional Grammar*, edited by Elisabeth Engberg-Pedersen, Michael Fortescue, Peter Harder, Lars Heltoft, and Lisbeth Falster Jakobsen, pp. 199–234. Benjamins, Amsterdam.
- Holm, Gösta. 1952. *Om s-passivum i svenskan: företrädesvis folkmålen och den äldre fornsvenskan*. Lundastudier i nordisk språkvetenskap; 9. Gleerup, Lund.
- Holmberg, Anders and Christer Platzack. 1995. *The Role of Inflection in Scandinavian Syntax*. Oxford University Press, New York.
- Ivars, Ann-Marie. 2010. *Sydösterbottnisk syntax*. No. 84 in *Studier i nordisk filologi*. Svenska litteratursällskapet i Finland, Helsingfors.
- Jackendoff, Ray. 1972. *Semantic Interpretation in Generative Grammar*. No. 2 in *Current Studies in Linguistics*. MIT Press, Cambridge, Ma.
- Julien, Marit. 2001. The syntax of complex tenses. *The Linguistic Review* 18 2: 125–167.
- Julien, Marit. 2002. *Syntactic Heads and Word Formation*. Oxford Studies in Comparative Syntax. Oxford University Press, New York.
- Julien, Marit. 2007. On the relationship between morphology and syntax. In *The Oxford Handbook of Linguistic Interfaces*, edited by Gillian Ramchand and Charles Reiss. Oxford University Press, Oxford, UK.
- Kayne, Richard S. 1993. Toward a modular theory of auxiliary selection. *Studia Linguistica* 47 1: 3–31.
- Kiparsky, Paul. 1968. Tense and Mood in Indo-European syntax. *Foundations of Language* pp. 4, 30–37.

- Kiparsky, Paul. 2010. Optimal order and scope: inside and outside the word. Talk given at the What's in a word workshop, October 2010.
- Kratzer, Angelika. 1996. Severing the external argument from the verb. In *Phrase Structure and the Lexicon*, edited by Johann Rooryck and Laurie Zaring, pp. 109–137. Kluwer, Dordrecht.
- Kratzer, Angelika. 2009. Making a Pronoun: Fake Indexicals as Windows into the Properties of Pronouns. *Linguistic Inquiry* 40 2: 187–237.
- Laanemets, Anu. 2012. *Passiv i moderne dansk, norsk og svensk. Et korpusbaseret studie af tale- og skriftsprog*. Ph.D. thesis, University of Tartu.
- Larsson, Ida. 2009. *Participles in Time*. Ph.D. thesis, Göteborgs Universitet, Göteborg.
- Larsson, Ida and Peter Svenonius. 2013. English and Scandinavian participles at the syntax-morphology interface. Talk given at the 25th Scandinavian Conference of Linguistics, May 13–15, University of Iceland.
- Lundquist, Björn. 2008. *Nominalizations and Participles in Swedish*. Ph.D. thesis, University of Tromsø.
- Muriungi, Peter. 2008. *Phrasal Movement inside Bantu Verbs: Deriving Affix Scope and Order in Kĩtharaka*. Ph.D. thesis, University of Tromsø.
- Platzack, Christer. 1989. The swedish supine: an active verb form or the non-agreeing form of the past participle? In *Sentential Complementation and the Lexicon. Studies in honour of Wim de Geest*, edited by Dany Jaspers, Wim Klooster, Ivan Putseys, and Pieter Seuren, pp. 305–319. Foris, Dordrecht.
- Platzack, Christer. 2012. Cross germanic variation in the realm of support verbs. In *Comparative Germanic Syntax: The state of the art*, edited by Rhona Alcorn, Peter Ackema, Caroline Heycock, Dany Jaspers, Jeroen Van Craenenbroeck, and Guido Vanden Wyngaerd, pp. 279–310. John Benjamins, Amsterdam.
- Sigurðsson, Halldór Ármann. 1989. *Verbal Syntax and Case in Icelandic: A Comparative GB Approach*. Ph.D. thesis, Lund University.
- Snyder, William. 2007. *Child language: the parametric approach*. Oxford University Press, New York.
- Sundman, Marketta. 1987. *Subjektval och diates i svenskan*. Åbo akademis förlag, Åbo.
- Svenonius, Peter. 2004. On the edge. In *Peripheries: Syntactic Edges and their Effects*, edited by David Adger, Cécile de Cat, and George Tsoulas, pp. 261–287. Kluwer, Dordrecht.
- Svenonius, Peter. 2007. 1...3-2. In *The Oxford Handbook of Linguistic Interfaces*, edited by Gillian Ramchand and Charles Reiss. Oxford University Press, Oxford, UK.
- Taraldsen, Knut Tarald. 1981. Case-conflict in Norwegian Topicalization. In *Proceedings of the Eleventh Annual Meeting of the North Eastern Linguistic Society*, edited by Victoria Burke and James Pustejovsky, pp. 377–398. GLSA, University of Massachusetts, Amherst, MA.

- Taraldsen, Tarald. 2009. Unintentionally out of control. In *Argument Structure and Syntactic Relations: A cross-linguistic perspective*, edited by Maia Duguine, Susana Huidobro, and Nerea Madariaga, pp. 283–302. John Benjamins, Amsterdam.
- Travis, Lisa deMena. 1992. Inner aspect and the structure of VP. *Cahiers Linguistique de l'UQAM* 1: 130–146.
- Vikner, Sten. 1988. Modals in Danish and event expressions. *Working Papers in Scandinavian Syntax* 39: 1–33.
- Vinje, Finn-Erik. 1987. *Moderne norsk: råd og regler for praktisk språkbruk*. Universitetsforlaget, Oslo, 4. rev. utg. edn.
- Vogel, Ralf. 2001. Case conflict in german free relative constructions. an optimality theoretic treatment. In *Competition in Syntax*, edited by Gereon Müller and Wolfgang Sternefeld, pp. 341–375. de Gruyter, Berlin.
- Wiklund, Anna-Lena. 2007. *The Syntax of Tenselessness: Tense/Mood/Aspect-Agreeing Infinitivals*. Mouton de Gruyter, Berlin.
- Wood, Jim. 2012. *Icelandic Morphosyntax and argument structure*. Ph.D. thesis, University of New Yorkt.
- Wurmbrand, Susanne. 2001. *Infinitives: Restructuring and Clause Structure*. Mouton de Gruyter, Berlin.
- Yang, Charles. 2013. Tipping points. Talk given at the Biolinguistics workshop at GLOW 36, Lund University, April 2013.