

# Virtual lexical items: On the (impersonal) passive in Danish and other Germanic languages

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## Abstract

This paper deals with the passive in Germanic languages. The variation is explained including quirky case in Icelandic. Danish poses an interesting puzzle, since it allows for impersonal passives, although Danish requires a subject. Due to such a subject requirement, languages like English do not allow an impersonal passive. Danish solves the problem by inserting an expletive. The paper argues that there is a general process of expletive insertion in Danish and that the impersonal passive is just a special case. This would require lexical items that contradict the subject requirement. The paper argues for virtual lexical items that can be used as input for lexical rules but not in syntactic analyses. I also discuss passives in German, which involve participles that can be used in the perfect and in the passive and which would lead to a contradiction, if the Argument Realization Principle would apply to them. So, criteria for exempt lexical items are developed.

## 1 Introduction

This paper deals with the passive in Germanic languages. The variation is explained including quirky case in Icelandic. Danish poses an interesting puzzle, since it allows for impersonal passives, although Danish requires a subject. Due to such a subject requirement, languages like English do not allow an impersonal passive. Danish solves the problem by inserting an expletive. The paper argues that there is a general process of expletive insertion in Danish and that the impersonal passive is just a special case. This would require lexical items that contradict the subject requirement. The paper argues for virtual lexical items that can be used as input for lexical rules but not in syntactic analyses. I also discuss passives in German, which involve participles that can be used in the perfect and in the passive and which would lead to a contradiction, if the Argument Realization Principle would apply to them. So, criteria for exempt lexical items are developed.

## 2 The phenomenon

The Germanic languages are a great subject since the class of languages is relatively small but nevertheless shows a lot of variation. The languages differ from each other in permitting impersonal passives or not. There is a difference as far as the objects that can be promoted to subject are concerned. Most languages only permit the promotion of the direct object (differing in which object is the direct object), but languages like Danish allow for the promotion of either object. Most Germanic languages promote accusative objects to subject and subjects are nominative. But there is Icelandic, which allows quirky case subjects (genitive, dative, accusative).

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Almost all of the Germanic languages are V2 languages. English is the only exception. There are two classes as far as the basic order of subject, object, and verb is concerned. One group is SOV (Afrikaans, Dutch, German, ...) and another one SVO (Danish, English, Icelandic, ...).

SOV languages allow for subjectless constructions. The order of arguments is usually free. There is no special position for the subject. This is different for SVO languages, which have a fixed subject position. It is only natural that SVO languages require a subject. The only exception among the Germanic languages is Icelandic (Thráinsson 2007: 264):

- (1) a. Oft var talað um þennan mann. (Icelandic)  
 often was talked about this man.ACC.SG.M  
 'This man was often talked about.'  
 b. Aldrei hefur verið sofð í þessu rúmi.  
 never has been slept in this bed.DAT  
 'This bed has never been slept in.'

Danish is SVO and it requires a subject. While English simply does not allow impersonal passives, Danish has a patch that allows impersonal passives and adherence to the subject condition: Danish inserts an expletive that fills the subject position:

- (2) a. \* Was laughed.  
 b. I går blev der grinet hele aftenen.  
 yesterday was there laughed whole evening.DEF  
 'There was laughing yesterday the whole evening.'

A good characterization of the passive is that it is the suppression of the subject. If there is an accusative object in the active, it is promoted to subject. If there is no accusative object, we get impersonal passives:

- (3) dass gelacht wurde (German)  
 that laughed was  
 'that there was laughing there'

(3) shows a passive with a monovalent verb and (4) shows the passive of bivalent verbs that do not govern an accusative object in the active:

- (4) a. Des Opfers wurde gedacht. (German)  
 the.GEN victim AUX remembered  
 'The victim was remembered.'  
 b. Dem Mann wurde geholfen.  
 the.DAT man AUX helped.  
 'The man received help.'

If there is an accusative object, it is realized as nominative in the passive:

- (5) a. Kim liest den Roman. (German)  
 Kim reads the.ACC novel  
 ‘Kim reads the novel.’  
 b. Der Roman wird gelesen.  
 the.NOM novel is read  
 ‘The novel is read.’

If the language requires a subject, impersonal passives are ruled out, unless the language has some means to provide a subject, as in (2b).

In what follows, I discuss the analysis of the passive so far and point out the problems of the analysis of Danish by Bjerre & Bjerre (2007) and Müller & Ørsnes (2013a). I also point out a problem for the combined analysis of the perfect and passive (Haider 1986a, Müller 2003) in connection with the Argument Realization Principle.

### 3 The analysis of the passive

Earlier analyses of the passive just mapped lexical items governing a nominative and a accusative onto a lexical item just governing a nominative (Kiss 1992: 276). The problem with such proposals is that they need to mention the accusative explicitly, since the case of the NP in the passive has to be realized as nominative while keeping the linking to the respective argument. If the concept of structural case is used, case assignment can be done with reference to the actual usage environment and hence it becomes possible to see the passive as a unified phenomenon in which the personal and impersonal passive are treated by the same rule: the passive is just suppression of the subject. That the accusative object is realized in the nominative, if there is any, follows from independent principles.

#### 3.1 Structural and lexical case

If the case of arguments depends on the syntactic environment, one speaks of *structural case*. Otherwise the arguments have *lexical case*. Examples of structural cases are:

- (6) a. Der Installateur kommt. (German)  
 the.NOM plumber comes  
 ‘The plumber comes.’  
 b. Der Mann läßt den Installateur kommen.  
 the man lets the.ACC plumber come  
 ‘The man lets the plumber come.’  
 c. das Kommen des Installateurs  
 the coming of.the.GEN plumber  
 ‘the coming of the plumber’

In (6) the case of the subject of *kommen* ‘to come’ is expressed in different ways according to the environment, and in (7) the case of the object of *schlagen* ‘to defeat’ is accusative and nominative:

- (7) a. Judit schlägt *den* Weltmeister. (German)  
 Judit defeats the.ACC world.champion  
 ‘Judit defeats the world champion.’  
 b. *Der* Weltmeister wird geschlagen.  
 the.NOM world.champion AUX defeated  
 ‘The world champion is defeated.’

Genitive dependent on the verb is a lexical case: the case of a genitive object does not change with passivization.

- (8) a. Wir gedenken *der* Opfer. (German)  
 we.NOM remember the victims.GEN  
 ‘We remember the victims.’  
 b. *Der* Opfer wird gedacht.  
 the.GEN victims AUX remembered  
 ‘The victims are remembered.’  
 c. \**Die* Opfer wird / werden gedacht.  
 the.NOM victims AUX.3SG AUX.3PL remembered

(8b) is an impersonal passive, there is no subject.

I assume that all four cases can be lexical (Müller 1999: 272, Thiersch 1978: 54). All datives are lexical (Haider 1986a: 9, Müller 2001: 219–220, 2023: 186–189). Subjects in Icelandic can have all cases (Zaenen et al. 1985). The case of genitive, dative, and accusative subjects is lexical too.

### 3.1.1 The Case Principle

The Case Principle that is usually assumed in HPSG builds on work by Yip et al. (1987). Within HPSG it is assumed that all arguments are represented in a list, which is called ARGUMENT-STRUCTURE list or ARG-ST. This is assumed for all languages that have valence. Koenig & Michelson (2012) argue that Oneida does not have syntactic valence and hence this language would not have an ARG-ST representation. An example of an ARG-ST list is provided in (9), which shows the ARG-ST list of a ditransitive verb like *geben* ‘give’:

- (9) ARG-ST value for ditransitive verb in German and Icelandic:  
 ⟨ NP[*str*], NP[*ldat*], NP[*str*] ⟩

*str* stands for structural case and *ldat* for lexical dative.

There are language dependent linking constraints: for SVO languages, the first argument is the subject (SPR), the others COMPS. In the SOV languages, all ARG-ST

elements of finite verbs are in COMPS. This follows from the Argument Realization Principle, if one assumes that the SPR list contains the subject for SVO languages and is the empty list for SOV languages (Müller 2023: 75).

The Case Principle can be formulated as follows:

**Case Principle (Przepiórkowski 1999, Meurers 1999)**

- In the ARG-ST list of a verbal head, the leftmost element with structural case is assigned nominative, unless it is raised by a superordinate head.
- All other elements in the list that are not raised and have a structural case are given accusative case.
- In nominal environments, elements with a structural case are assigned the genitive case.

To illustrate how the principle works, I want to discuss some prototypical ARG-ST lists:

- (10) a. *schläft* ‘sleeps’: ARG-ST  $\langle \text{NP}[\textit{str}]_i \rangle$   
b. *unterstützt* ‘supports’: ARG-ST  $\langle \text{NP}[\textit{str}]_i, \text{NP}[\textit{str}]_j \rangle$   
c. *hilft* ‘helps’: ARG-ST  $\langle \text{NP}[\textit{str}]_i, \text{NP}[\textit{ldat}]_j \rangle$   
d. *gibt* ‘gives’: ARG-ST  $\langle \text{NP}[\textit{str}]_i, \text{NP}[\textit{ldat}]_j, \text{NP}[\textit{str}]_k \rangle$

(10) shows a mono-valent intransitive verb, two bi-valent verbs (one transitive and one intransitive) and a ditransitive verb. The first element in the ARG-ST list gets nominative. All others with structural case get accusative. This gives the desired result for the examples in (10): the first NP is always the subject and the case principle assigns it nominative. (10b) has a direct object in second position and it gets accusative. The direct object of the ditransitive verb is in third position and gets accusative as well, since it is the second NP with structural case. All NPs with lexical case get the case assigned lexically. In the example above this is dative. For the comparison with the passive, the NPs are marked with small indices (i, j, k).

Passivizing the verbs and combining them with the auxiliary results in the following ARG-ST lists for *wird* ‘is’:

- (11) a. *geschlafen wird* ‘slept is’: ARG-ST  $\langle \text{V} \rangle$   
b. *unterstützt wird* ‘supported is’: ARG-ST  $\langle \text{NP}[\textit{str}]_j, \text{V} \rangle$   
c. *geholfen wird* ‘helped is’: ARG-ST  $\langle \text{NP}[\textit{ldat}]_j, \text{V} \rangle$   
d. *gegeben wird* ‘given is’: ARG-ST  $\langle \text{NP}[\textit{ldat}]_j, \text{NP}[\textit{str}]_k, \text{V} \rangle$

In (11b–d) another NP is now in first place. The first NP with structural case gets nominative. Lexical case as in (11c–d) remains as it is, namely lexically specified.

### 3.2 The passive lexical rule

The lexical item for the passive is licenced by the following lexical rule, which maps a stem onto a fully inflected participle form. Haider (1986a: 10) suggested to designate one argument in the list of arguments of a verb. For transitive verbs and unergatives the designated argument corresponds to the subject. Unaccusative verbs do not have a designated argument, since their subject does not have subject properties but behaves like an object (for example when it comes to the formation of participle adjectives). Heinz & Matiassek (1994) and Müller (2003) formalized Haider's ideas within the framework of HPSG. Haider used underlining to designate an argument. Heinz & Matiassek and Müller use a list-valued feature `DESIGNATED ARGUMENT (DA)`. The `DA` value can be the empty list in the case of unaccusative verbs or it can contain one element which is then identical to the subject of transitive and unergative verbs. With this list-based representation of subjects a lexical rule for the passive can be specified that simply subtracts the `DA` list from the argument structure of the input verb stem.

A preliminary form of the participle formation rule is given in (12):

- (12) Lexical rule for the formation of the participle (provisional):

$$\left[ \begin{array}{l} \text{stem} \\ \text{HEAD} \quad \left[ \begin{array}{l} \text{verb} \\ \text{DA} \quad \boxed{1} \end{array} \right] \\ \text{ARG-ST} \quad \boxed{1} \oplus \boxed{2} \end{array} \right] \mapsto \left[ \begin{array}{l} \text{word} \\ \text{ARG-ST} \quad \boxed{2} \end{array} \right]$$

$\boxed{1}$  is the list with the designated argument, if there is any, and this list is subtracted from the `ARG-ST` list of the input stem. The remaining list  $\boxed{2}$  is the `ARG-ST` list of the output of the lexical rule.

- | (13)                      | ARG-ST                                                                                           | DA                          |
|---------------------------|--------------------------------------------------------------------------------------------------|-----------------------------|
| a. tanzen (dance, unerg): | $\langle \boxed{1} \text{NP}[\text{str}] \rangle$                                                | $\langle \boxed{1} \rangle$ |
| b. lesen (read, trans):   | $\langle \boxed{1} \text{NP}[\text{str}], \text{NP}[\text{str}] \rangle$                         | $\langle \boxed{1} \rangle$ |
| c. geben (give, ditrans): | $\langle \boxed{1} \text{NP}[\text{str}], \text{NP}[\text{ldat}], \text{NP}[\text{str}] \rangle$ | $\langle \boxed{1} \rangle$ |
| d. helfen (help, unerg):  | $\langle \boxed{1} \text{NP}[\text{str}], \text{NP}[\text{ldat}] \rangle$                        | $\langle \boxed{1} \rangle$ |

The resulting `ARG-ST` list of the participle is either empty or begins with an object of the active form:

- | (14)                         | ARG-ST                                                          |
|------------------------------|-----------------------------------------------------------------|
| a. getanzt (danced, unerg):  | $\langle \rangle$                                               |
| b. gelesen (read, trans):    | $\langle \text{NP}[\text{str}] \rangle$                         |
| c. gegeben (given, ditrans): | $\langle \text{NP}[\text{ldat}], \text{NP}[\text{str}] \rangle$ |
| d. geholfen (helped, unerg): | $\langle \text{NP}[\text{ldat}] \rangle$                        |

The first element of the ARG-ST list with structural case gets nominative case. So, for example, *der Aufsatz*, the underlying object of *lesen* ‘to read’, is nominative in (15):

- (15) Der Aufsatz wurde gelesen.  
       the.NOM paper AUX read  
       ‘The paper was read.’

In the following subsections, I show what kind of variation there is in the Germanic languages and how it can be covered with the machinery introduced so far. The analysis of Danish and English was first done by Müller & Ørsnes (2013a) and the analysis of Icelandic was first published in Müller (2023: 199–200).

### 3.3 Typological variation in Germanic

The previous section covered the analysis of the passive in German. In what follows, I deal with other Germanic languages and show in what respect they differ. The differences are handled by differing statements of required cases (structural or lexical) and the absence of some cases in some of the languages. For example Danish and English do not have a dative.

#### 3.3.1 English: Promotion of a different object and lack of dative

I assume that the Germanic languages have ARG-ST lists in which the arguments are in the same order. The order basically corresponds to the surface order in English and other SVO languages and to the unmarked order in SOV languages (see Höhle (1982) for the notion of unmarked order). The advantage of this is that the linking between ARG-ST list and the semantic roles is uniform across Germanic languages:

- (16) a. dass Kim dem Kind den Roman gab (German)  
       that Kim.NOM the.DAT child the.ACC novel gave  
       b. that Kim gave the child the novel

Note that what is often called the direct object is the first object in English and the second object in German. I will return to the mapping from ARG-ST to valence features in Section 3.4. The direct object is the first element of the COMPS list in SVO languages and the last element of the COMPS list of SOV languages: the element that is combined first with the verb (in normal order).

(17) shows the verbs that have been used in (13) for English:

- (17) ARG-ST
- a. dance (unerg):  $\langle \text{NP}[\textit{str}] \rangle$
  - b. read (trans):  $\langle \text{NP}[\textit{str}], \text{NP}[\textit{str}] \rangle$
  - c. give (ditrans):  $\langle \text{NP}[\textit{str}], \text{NP}[\textit{str}], \text{NP}[\textit{lacc}] \rangle$
  - d. help (trans):  $\langle \text{NP}[\textit{str}], \text{NP}[\textit{str}] \rangle$

The NPs that differ are marked in blue in (17) and in the lexical items for other languages discussed below.

English does not distinguish a dative case. The first object has structural case and the second object of *give* has lexical accusative. The fact that the secondary object has lexical accusative may seem irrelevant since it is the primary object<sup>1</sup> that will get nominative in the passive and any additional element with structural case would get accusative anyway, but I will show in the following section that Danish allows the promotion of either object and I assign the difference between Danish and English to the specification of lexical case.

A difference between German and English is that German promotes the second object, while English promotes the first object (the object that is closer to the verb, OV vs. VO):

- (18) a. dass **dem Jungen** **der Ball** gegeben wurde (German)  
 b. because **the boy** was given **the ball**

This follows from the status of the case of the arguments as structural case or lexical dative in the current analysis.

A further difference between the languages is that German has an impersonal passive for *helfen*, while English has a personal one:

- (19) a. weil ihm geholfen wurde (German)  
 because him.DAT helped was  
 b. because he was helped

Again, this is due to the lack of dative in English. The object of *help* is just a normal object with structural case that can be promoted to subject. In contrast, the object of *helfen* ‘to help’ is in the dative and passivization does not change this case, hence there is no subject and an impersonal passive results. See Müller (2002: Section 3.2.3) for the dative passive.

### 3.3.2 Danish: Primary and secondary objects

Danish is interesting, since both objects can become the subject:

- (20) a. fordi manden giver **drengen** **bolden** (Danish)  
 because man.DEF gives boy.DEF ball.DEF  
 ‘because the man gives the boy the ball’  
 b. fordi **drengen** bliver givet **bolden**  
 because boy.DEF AUX given ball.DEF  
 ‘because the boy is given the ball’

<sup>1</sup>I follow Pollard & Sag (1992: 280) in using the term *primary object* to refer to the linearly first object in English and the term *secondary object* for the object that follows the primary object. Thus the primary object of German ditransitive verbs is the dative object, while the direct object is the accusative object.



additionally also a list in which the order of the two NPs is swapped, that is, the second NP with structural case is placed first.

This provides the following results:

- (24) ARG-ST
- a. *danset* (dance, unerg):  $\langle \rangle$
  - b. *læst* (read, trans):  $\langle \text{NP}[\textit{str}]_j \rangle$
  - c. *givet* (give, ditrans):  $\langle \text{NP}[\textit{str}]_j, \text{NP}[\textit{str}]_k \rangle$   
 $\langle \text{NP}[\textit{str}]_k, \text{NP}[\textit{str}]_j \rangle$
  - d. *hjulpet* (help, trans):  $\langle \text{NP}[\textit{str}]_j \rangle$

As one can see, there are two values for ARG-ST for the ditransitive verb *givet* ‘to give’: the first one has the primary object in initial position (with the index *j*) and the second one has the secondary object in initial position (with the index *k*). The initial NPs with structural case get nominative, are mapped to the valence feature *SPR* and hence, are realized as subjects.

### 3.3.3 Icelandic: Oblique subjects

As for case and grammatical functions, Icelandic is the most interesting language among the Germanic languages. It is the only Germanic language with subjects in oblique cases. So it may come with some surprise that the lexical items for the verbs that are used within this paper are exactly the same as in German:

- (25) ARG-ST
- b. *dansa* (dance, unerg):  $\langle \text{NP}[\textit{str}] \rangle$
  - c. *lesa* (read, trans):  $\langle \text{NP}[\textit{str}], \text{NP}[\textit{str}] \rangle$
  - d. *gefa* (give, ditrans):  $\langle \text{NP}[\textit{str}], \text{NP}[\textit{ldat}], \text{NP}[\textit{str}] \rangle$
  - e. *hjálpa* (help, trans?):  $\langle \text{NP}[\textit{str}], \text{NP}[\textit{ldat}] \rangle$

The passive with monovalent intransitive verbs like *dansa* ‘to dance’ is parallel to the impersonal passive of German *tanzen* ‘to dance’ (see (1b)), but *hjálpa* ‘to help’ does not form an impersonal passive but a personal passive with a quirky subject (Zaenen et al. 1985: 456): The dative in (26) is in subject position. The object position would be the one following the participle.

- (26) Í prófinu var honum víst hjálpað. (Icelandic)  
 in the.exam was he.DAT apparently helped  
 ‘Apparently he was helped in the exam.’

*gefa* ‘give’ allows two variants: the dative object can be realized as an oblique subject or the object with the structural accusative is realized as the subject. Zaenen, Maling & Thráinsson (1985: 460) give the following examples:

- (27) a. Var ambfittin                      gefin              konunginum?              (Icelandic)  
           AUX the.maidservant.NOM.SG given.F.SG the.king.DAT  
           ‘Was the slave given to the king?’  
       b. Voru konunginum gefnar              ambfittir?  
           were the.king.DAT given.F.PL maidservants.NOM.F.PL  
           ‘Was the king given slaves?’

As Zaenen, Maling & Thráinsson point out, subjects are realized before the participle and objects follow it. So, (27) shows that the accusative object of the passive can be promoted to subject and the same is true for the dative object.

Wechsler (1995: 147–148) suggests that the highest allowable item becomes the subject. This includes NPs with lexical case in Icelandic. If one assumes the relational constraint *promote* to reorder the argument structure list in Icelandic, one would get the ARG-ST values in (28) with the respective mappings to the valence features:

- |                            |                                                                         |                                              |                                              |
|----------------------------|-------------------------------------------------------------------------|----------------------------------------------|----------------------------------------------|
| (28)                       | ARG-ST                                                                  | SPR                                          | COMPS                                        |
| a. dansað (dance, unerg):  | $\langle \rangle$                                                       | $\langle \rangle$                            | $\langle \rangle$                            |
| b. lesið (read, trans):    | $\langle \text{NP}[\textit{str}]_j \rangle$                             | $\langle \text{NP}[\textit{str}]_j \rangle$  | $\langle \rangle$                            |
| c. gefið (give, ditrans):  | $\langle \text{NP}[\textit{ldat}]_j, \text{NP}[\textit{str}]_k \rangle$ | $\langle \text{NP}[\textit{ldat}]_j \rangle$ | $\langle \text{NP}[\textit{str}]_k \rangle$  |
|                            | $\langle \text{NP}[\textit{str}]_k, \text{NP}[\textit{ldat}]_j \rangle$ | $\langle \text{NP}[\textit{str}]_k \rangle$  | $\langle \text{NP}[\textit{ldat}]_j \rangle$ |
| d. hjálpað (help, trans?): | $\langle \text{NP}[\textit{ldat}]_j \rangle$                            | $\langle \text{NP}[\textit{ldat}]_j \rangle$ | $\langle \rangle$                            |

The alternative is to keep the order of *ldat* and *str*, but to map the first element of the ARG-ST list to subject (lexical or structural), or in the case of a start with lexical case, take the first NP with structural case. The approach to take the first NP with structural case as subject was suggested by Müller (2002: 155–157), since certain remote passive constructions result in ARG-ST lists starting with a dative.

- (29) Der Erfolg              wurde uns              nicht auszukosten erlaubt.<sup>2</sup>              (German)  
       the success.NOM AUX    us.DAT not    to.enjoy              permitted

Wechsler’s principle would have to be relaxed so that instead of allowing just the highest possible role less prominent roles could be realized as subject as well.

### 3.4 Argument realization

I started discussing argument realization in the subsection on Icelandic. The mapping is usually regulated by a very general principle: the Argument Realization Principle (ARP Ginzburg & Sag 2000: 397). (30) shows a simplified version of this principle that is adapted to the grammars I developed:

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<sup>2</sup>Haider (1986b: 110)

(30) Argument Realization Principle (adapted from Ginzburg & Sag 2000: 397):

$$\left[ \begin{array}{ll} \text{SUBJ} & \boxed{1} \\ \text{SPR} & \boxed{2} \\ \text{COMPS} & \boxed{3} \\ \text{ARG-ST} & \boxed{1} \oplus \boxed{2} \oplus \boxed{3} \end{array} \right]$$

Ginzburg & Sag (2000: 397) subtract extracted elements from the `COMPS` list. I do not do this since I assume traces for extraction, hence, non-local dependencies are not introduced in the lexicon. In order to prevent overgeneration, the values of `SUBJ` and `SPR` have to be constrained. Otherwise all elements from the `ARG-ST` list could be mapped to `SUBJ` or `SPR` and none to `COMPS`. So, for SVO languages it is usually assumed that the `SPR` list contains the subject, hence, there is a constraint saying that there is exactly or at least one element in `SPR`.<sup>3</sup> I follow Pollard (1996: 295), Kiss (1995: 57, 78) and others in assuming that all arguments of finite verbs are represented on the `COMPS` list for SOV languages. So the value of `SPR` is the empty list for finite verbs in SOV languages.

### 3.5 Impersonal passive

This brings us to one of the problems discussed in this paper: the impersonal passive in Germanic languages. German and Icelandic allow subjectless constructions. So, mappings from empty `ARG-ST` lists to valence features is possible, since there is no constraint saying that there should be at least one element in the `SPR` list.

English and Danish map the first NP/VP/CP to `SPR` and the remaining arguments to `COMPS` (Müller & Ørsnes 2015). Both languages require a subject to be present. Because of the respective requirement, it is explained why there is no impersonal passive in English. But Danish allows for an impersonal passive: Danish inserts an expletive if there are no other elements, that could function as a subject. Without any special mechanisms, Danish poses a problem for the Argument Realization Principle. Danish is a problem for a general mapping: since the `ARG-ST` list of *danset* in (24a) is the empty list, both `SPR` and `COMPS` are empty as well, if the ARP is applied to the lexical item. If there is a requirement that `SPR` is non-empty, a contradiction results.

## 4 Expletives

Danish makes it possible to have impersonal passives by inserting an expletive that can function as the subject. The following subsection discusses previous attempts to cover this phenomenon by introducing the expletive in the argument mapping from `ARG-ST` to valence features.

<sup>3</sup>Icelandic really complicates the picture, since subjectless constructions are possible. The story for Icelandic would be: if there is an NP argument on the `ARG-ST` list with structural or lexical case or a sentential subject, this argument has to be realized as subject. If there is no nominal or sentential argument, `SPR` may be the empty list.



principle, it seems better to not introduce detailed disjunctions into it and hence, to treat German and Danish weather verbs alike and have them select the expletive subject. So, the lexical rules formulated below insert the expletive *der* but not the expletive *det* that is needed for weather verbs. The selection of *det* is specified in the lexical items for weather verbs directly.

The following examples show that intransitive verbs can be used with an expletive subject:

- (35) a. at der ikke går en mand på gaden (Danish)  
           that EXPL not walks a man in street.DEF  
           ‘that there is no man walking on the street’  
       b. at der ikke kommer to nye medarbejdere  
           that EXPL not come two new employees  
           ‘that two new employees will not be hired’  
       c. at der ikke venter nogle hårde forhandlinger  
           that EXPL not wait some tough negotiations  
           ‘that there are no tough negotiations ahead’

The subject of the verb is then demoted to object. These examples are carefully constructed with negation, which shows that these sentences are SVO sentences and not V2 sentences. So, the *der* really is an expletive subject and not a placeholder in the first position (see Müller & Ørsnes (2011) for an account of these). Examples without negation have been provided already by Vikner (1995: 203, 205).

Vikner (1995: 198, 200) pointed out that expletives are impossible with transitive verbs:

- (36) a. \*at der har spist nogen et æble  
           that EXPL has eaten somebody an apple  
           Intended: ‘that somebody has eaten an apple’  
       b. \*at der har spist et æble nogen  
           that EXPL has eaten an apple somebody  
           Intended: ‘that somebody has eaten an apple’

The no-object constraint trivially applies to the passive of intransitive verbs. They neither have a subject nor an accusative object:

- (37) a. fordi der ikke blev grinet (Danish)  
           because EXPL not was laughed  
       b. fordi der ikke blev arbejdet på en bog / bogen  
           because EXPL not was worked at a book book.DEF

(37a) is covered by Bjerre & Bjerre (2007), but (37b) is not since the SYN-ARGS list would contain a PP.

If an object was promoted to subject, it can be demoted to object again:

- (38) fordi der ikke blev læst en bog / \*bogen (Danish)  
           because EXPL not was read a book book.DEF

For this to be possible, the NP has to be indefinite. If there is no argument that could function as the subject, an expletive must be added (37).

## 4.2 Lexical rules for adding expletives

I suggest the following lexical rules for expletive insertion. These rules map words to words.

- (39) Lexical rule for expletive insertion in impersonal passives:

$$\left[ \text{ARG-ST } \boxed{1} \right] \mapsto \left[ \text{ARG-ST } \langle \text{NP}[\textit{lnom}]_{\textit{expl}} \rangle \oplus \boxed{1} \right] \wedge \text{no-np-str}(\boxed{1})$$

The rule in (39) states: if there is no NP with structural case among the arguments (no subject, no object), an expletive can be added. Whether there is an NP with structural case is checked by a relational constraint walking through the ARG-ST list of the input ( $\boxed{1}$ ). The expletive pronoun has lexical nominative. Since it is the only NP on the ARG-ST list, it could have structural case as well. It would be assigned nominative then. So there is no testable difference between the assumption of lexical or structural case for this lexical rule.

The second lexical rule adds an expletive subject to intransitive verbs or passives with a subject but no further object:

- (40) Lexical rule for expletive insertion with intransitive verbs or passives with an NP argument:

$$\left[ \text{ARG-ST } \langle \boxed{1} \text{ NP} \rangle \oplus \boxed{2} \right] \mapsto \left[ \text{ARG-ST } \langle \text{NP}[\textit{lnom}]_{\textit{expl}}, \boxed{1} \text{ NP}[\textit{DEF-}] \rangle \oplus \boxed{2} \right] \wedge \text{no-np-str}(\boxed{2})$$

If there is an NP argument (a subject), but no further NP with structural case among the arguments (no object), an expletive can be added. The former subject ( $\boxed{1}$ ) has to be indefinite. It would be preferable to have just one lexical rule for expletive insertion, but it seems to be impossible to add the indefiniteness constraint to the subject NP. To be able to do this, one has to stipulate that there is a subject NP and this makes it impossible to subsume this case under the case when there is no NP argument at all.

The case of the inserted expletive is lexical nominative. This means that the expletive is not the first NP in the ARG-ST list with structural case and hence, all other NPs get case as usual. So, the demoted subject in (35) gets nominative, although it is the second NP on the ARG-ST list and in object position in the sentences.

The requirement that  $\boxed{2}$  does not contain NPs with structural case prohibits transitive verbs to enter the lexical rule in (40) and hence rules out sentences like (36).

Usually, HPSG does not use grammatical functions like subject, direct object, indirect object, and so on. The work by Kathol (1991), Pollard (1994), Ryu (1997), Hellan & Nordgård (2001) has to count as exceptions. But these authors had a list-valued feature that singled out the direct object, if there was any. Having such

a list would make the relational constraint *no-np-str* superfluous. One could simply require that there is no direct object by requiring that the value of the respective feature be the empty list.

Figure 1 shows the analysis of (38). It demonstrates the application of the passivization lexical rule to the stem *læs* ‘read’ followed by the application of a lexical rule for expletive insertion.<sup>4</sup>

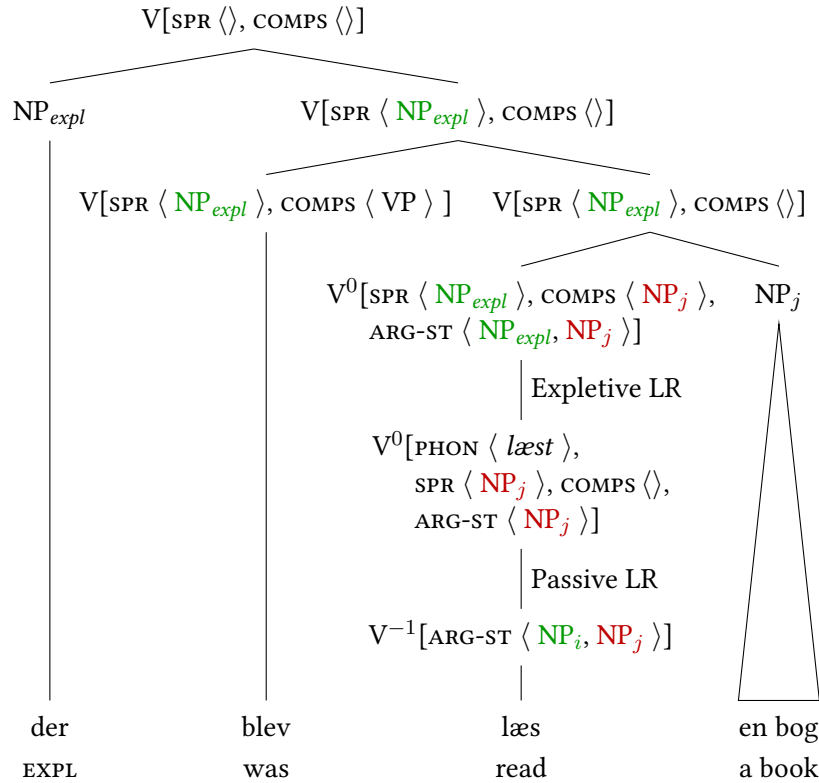


Figure 1: Passivization with promotion of object to subject and expletive insertion with demotion of subject to object

Linking phrasal patterns to grammatical functions in the way suggested by Culicover & Jackendoff (2005: Chapter 6.3) is not able to capture the interaction of valence changing processes (Müller 2013). For example, if one analyzes the passive as an alternative linking pattern in a phrasal configuration, one commits to a certain structure. Applying a further rule about expletives on top of the linking that was established earlier would result in a contradiction. The only way to get out of this would be to assume a combined linking construction that combines the effects of expletive insertion and passive and hence ignoring the fact that one is dealing with two independent phenomena.

<sup>4</sup> All  $\text{NP}_{\text{expl}}$  in Figure 1 are identical, as are all  $\text{NP}_j$ . This is usually specified by using structure sharing, that is, numbered boxes. To maintain readability, I omitted the tags in the figure.

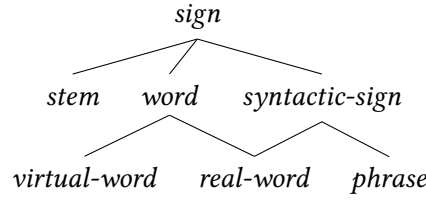


Figure 2: Subtypes of *sign* including *virtual-word* and *real-word*

## 5 Virtual and exempt lexical items

Section 3.4 already described the Argument Realization Principle that is usually assumed in approaches with an ARG-ST list. The arguments from this list are distributed to valence features like SUBJ, SPR, and COMPS. Some approaches do not assume SUBJ to be a valence feature but a head feature (Kiss 1995: Chapter 3.1.1, Müller 1999: Chapter 1.7, 2002: Chapter 1.6). In any case it has to be ensured that not all arguments are mapped to SUBJ or SPR. So it is necessary to constrain the values of the latter features. For the Germanic languages the specification of SPR depends on the language or rather language group. For SOV languages, the SPR list of verbs is always the empty list. But for SVO languages with a subject requirement, the SPR list contains exactly one or in the case of Danish at least one element (Müller & Ørsnes 2013b: 81).

Now, the problem is that the passivization of intransitive verbs results in lexical item that do not have an NP argument that could function as a subject. In fact, passive participles of mono-valent intransitive have an empty ARG-ST list. This means that SUBJ, SPR, and COMPS have to be the empty list as well, since there is no other way to split an empty list into three parts. Since there is the subject requirement in Danish, the lexical item would be ill-formed. This poses some dilemma, since this lexical item is needed as input for the lexical rule inserting an expletive.

A way to solve this problem is to distinguish between real words and virtual ones. The virtual words are lexical items that are not allowed to be used in the syntax. One way to capture this is to introduce types for real and virtual words. Figure 2 shows the type hierarchy including other subtypes of *sign*: *stem*, *syntactic-sign*, and *phrase*. Only real words are the ones that are inserted into the syntax. Immediate dominance schemata require their daughters to be of type *syntactic-sign*. So, to function as a daughter a sign has to be of type *real-word* or *phrase*.

With this type hierarchy it is possible to state the subject requirement for real words only:

$$(41) \left[ \begin{array}{c} \text{real-word} \\ \text{SYNSEM|LOC|CAT|HEAD verb} \end{array} \right] \Rightarrow \left[ \text{SYNSEM|LOC|CAT|SPR ne\_list} \right]$$

The participle with the empty SPR list would be of type *virtual-word* and hence exempt from the subject requirement.

While this looks nice, there is a problem with this solution: Lexical rules are typed (Meurers 2000). Some are subtypes of *word*, some are subtypes of *stem*. If the participle *danset* ‘danced’ is licenced by a passive lexical rule, it has the type of this rule, say *passive-lr*. This means that subtypes of respective lexical rules for virtual and real lexical items are needed: *virtual-word-passive-lr*, *real-word-passive-lr*. While *virtual-word-passive-lr* would probably be the only subtype of *virtual-word* all other types of lexical rules licensing words would have to have subtypes that are also subtypes of *real-word*. A simpler solution would be to assume a boolean feature and allow only those elements in syntax that have the value +.

Frank Van Eynde and Dan Flickinger suggested that alternative approaches like Ginzburg & Sag (2000) already used virtual lexical items, namely lexemes. I do not use the type *lexeme* in the grammars of the CoreGram project (Müller 2015). Lexical objects are either of type *stem* or of type *word*. The passive lexical rule adds the inflectional material for participles and hence licenses words. The expletive lexical rules map words to words. It would be cumbersome to assume that fully inflected participles are lexemes if their ARG-ST list is empty, but words otherwise. If the expletive lexical rules could map lexemes to words, these rules could be wrongly used to create words from uninflected lexical items.

A further problem is the analysis of passives/perfect in German. Haider (1986a) suggested that the participle is a lexical item with the designated argument blocked. The auxiliary for the perfect deblocks the subject and the one for the passive left it blocked. According to the implementation of Haider’s ideas by Müller (2003), the arguments of the ARG-ST list are all mapped to the COMPS list, as it would be required for the perfect and the designated argument is represented under SUBJ. This is necessary to be able to have one auxiliary for the perfect and modal infinitives (*haben* ‘to have’). But if the ARG-ST list of the perfect/passive lexical item in German is a list without the designated argument/subject and the subject is represented under SUBJ nevertheless, the lexical item is incompatible with the Argument Realization Principle. Earlier versions of the theory simply used SUBCAT and SUBJ without a mapping principle. That there is an inconsistency only became apparent to me when an earlier version of Müller (2026) was adapted to use ARG-ST. While first it looked as if there was a deeper problem in the theory, it turned out that this sort of inconsistency was expected: the lexical item is used both for the passive and for the perfect. This means that it has properties of both and hence is not a regular lexical item. It has to be exempt from the ARP. The boolean feature can be used for exemption of the subject requirement in Danish and for lexical items exempt of the Argument Realization Principle as well.

## 6 Further research

Bjarne Ørsnes (p.c. 2025) pointed out to me that the insertion of expletives is possible with passives of ditransitives:

- (42) Der blev tilbudt dem en ny kontrakt.  
EXPL was offered them a new contract  
‘A new contract was offered to them.’

The lexical rules provided above rule such sentences out, since they allow maximally one NP with structural case in post-verbal position: the NP that would occur in subject position without the presence of the expletive. The lexical rules were set up this way to rule out expletives with transitive verbs as in (36). So, the case in (43a) has to be ruled out, while the case in (43b) has to be permitted:

- (43) a. \* Expl NP[*str*] NP[*str*] (active)  
b. Expl NP[*str*] NP[*str*] (passive)

Even if one refers to the grammatical functions of the NPs as in (44a,b), no clear picture emerges.

- (44) a. \* Expl Subj Obj (active)  
b. Expl Subj Obj (passive)  
c. Expl Obj Obj2 (passive with grammatical functions in the active)

One could refer to the grammatical functions of the respective NPs in the active and state that the occurrence of an underlying subject together with an underlying object in postnominal position is ruled out. This would rule out the expletive within active sentences and permit expletives in passive sentences, since the underlying subject is not expressed. But it is somehow unclear what the deeper reason behind this would be. For HPSG, this approach would entail that features pointing to underlying object NPs would be needed, something that is usually not assumed within HPSG (for exceptions see Section 4.2).

Of course one could further specify the input conditions of the lexical rule so that they apply to actives only or make the constraints on the ARG-ST list dependent on the *VFORM* value. But there may be a generalization that covers the cases discussed in Section 4 and (42). If it would be possible to cover these expletives and the positional expletives that were analyzed by Müller & Ørsnes (2011) in one general approach to expletive insertion, this would be a big step forward. As for now we have at least working formal analyses of several phenomena involving expletives and I leave it for further research to unify the approaches.

## 7 Conclusion

This paper provides an analysis for the passive in Germanic. It accounts for personal and impersonal constructions, quirky subjects in Icelandic, promotion of

different objects, and subjectless constructions and impersonal passives. A general Argument Realization Principle is used for the mapping from argument structure to valence features, although there are cases in the German grammar in which the principle cannot apply. Similarly, some lexical items in the analysis of expletive insertion in the impersonal passive in Danish would violate the subject condition. The respective items are treated as virtual lexical items that can be used as input to lexical rules but may not be used in syntactic analyses as subjectless lexical items. Parts of the analyses are implemented in TRALE (Müller 2015, 2023).

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