

Passive in Danish, English, and German

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1 The Phenomenon

In the following subsections we examine various properties of passives in which Danish, English, and German differ. We look at the morphological passive in Danish in Section 1.1, compare the personal and impersonal passives in the three languages in Section 1.2, examine the possibility to promote the objects in passives of ditransitive constructions in Section 1.3.

1.1 Morphological and Analytic Forms

Danish has two basic variants of passives. The first one is an analytic form with an auxiliary *blive* and a participle (1b) and the second one is a morphological passive that is formed by adding an *-s* suffix to a finite verb (1c,d). (1c) shows an example of passive applying to the present tense form of a verb and (1d) shows one applying to the past tense form.

- (1) a. Peter læser avisen.
Peter reads newspaper.DEF
'Peter is reading the newspaper.'
- b. Avisen bliver læst af Peter.
newspaper.DEF is read by Peter
'The newspaper is read by Peter.'
- c. Avisen læses af Peter.
newspaper.DEF read.PRES.PASS by Peter
'The newspaper is read by Peter.'
- d. Avisen læstes af Peter.
newspaper.DEF read.PAST.PASS by Peter
'The newspaper was read by Peter.'

The morphological passive may also apply to infinitives:

- (2) Avisen skal læses hver dag.
newspaper.def must read.INF.PASS every day
'The newspaper must be read every day.'

The morphological passive and its analytical counterpart are not equal in their distribution (see for instance Bjerre and Bjerre, 2007 and Engdahl, 2001), but we will not discuss the differences here.

English and German do not have morphological passives. The only possible forms are the analytic ones that are shown in (3):

- (3) a. The paper was read.

- b. Der Aufsatz wurde gelesen.
the paper.NOM was read

1.2 Personal and Impersonal Passives

We already saw instances of the personal passive in (1b) and (3). The subject in personal passives can be an NP as in (1b–d) and (3) or a clause as in (4a) or a infinitival VP as in (4b).

- (4) a. At regeringen træder tilbage, bliver
that government.DEF resigns PART is
påstået.
claimed
'It is claimed that the government resigns.'
- b. At reparere bilen, bliver forsøgt.
to repair car.DEF is tried
'It is tried to repair the car.'

We follow Reis (1982) in assuming that subjects in German are non-predicative NPs in the nominative.

Apart from personal passives, German and Danish allow for impersonal ones. (5) shows German examples and (6) the Danish analogues.

- (5) weil noch getanzt wurde
because still danced was
'because there was still dancing there'
- (6) a. Der bliver danset.
EXPL is danced
'There was dancing.'
- b. Der dances.
EXPL dance.PASS
'There is dancing.'

Danish differs from German in requiring an expletive pronoun. Without the expletive pronoun the sentences in (6) would be ungrammatical. German on the other hand does not permit an expletive as (7) shows:¹

- (7) *weil es noch getanzt wurde
because EXPL still danced was

¹ German has expletives, but these are positional expletives that are impossible in verb final clauses. Positional expletives are independent of the passive.

- (8) a. * Bliver danset.
is danced
b. * Danses.
dance.PASS

The reason for this difference is due to a typological difference between the languages: Danish is an SVO language while German is a SOV language. Danish, like English, requires the subject position to be filled. While English simply does not allow for passives if there is no element that could be promoted to subject, Danish inserts an expletive subject.

The examples in (5) and (6) show passives of mono-valent verbs but of course bi-valent intransitive verbs like the German *denken* ('think') and Danish *passé* ('take care of') also form impersonal passives:

- (9) dass an die Männer gedacht wurde
that PREP the men thought was
'that one thought about the men'
- (10) a. Der passes på
EXPL take.care.of.PRES.PASS on
børnene.
children.DEF
'Somebody takes care of the children.'
b. Der bliver passet på børnene.
EXPL is taken.care.of on children.DEF
'Somebody takes care of the children.'

1.3 Direct and Indirect Objects

While German and English do not allow for the promotion of the indirect object to subject in passives with the canonical auxiliary, both the direct and indirect object can be promoted to subject in Danish. The following German examples show that the dative object cannot be promoted to subject in passives with *werden*:

- (11) a. weil der Mann dem Jungen den
because the man.NOM the boy.DAT the
Ball schenkt
ball.ACC gives.as.a.present
'because the man gives the boy the ball as a present'
b. weil dem Jungen der Ball
because the boy.DAT the ball.NOM
geschenkt wurde
given.as.a.present was
'because the boy was given the ball as a present'
c. * weil der Junge den Ball
because the boy.NOM the ball.ACC
geschenkt wurde
given.as.a.present was
Intended: 'because the ball was given to the boy as a present'

The same is true for the indirect object in English: While the direct object can be promoted to subject as in (12a), promoting the indirect object as in (12b) is ungrammatical.²

- (12) a. because the boy was given the ball
b. * because the ball was given the boy

The intended information structural effect can be reached though by using the dative shift construction in (13a) and passivizing the verb that takes an NP and a PP object:

- (13) a. because the man gave the ball to the boy
b. because the ball was given to the boy

Danish allows for the promotion of either argument:

- (14) a. fordi manden giver drengen bolden
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 is given ball.DEF
'because the boy was given the ball'
c. fordi bolden bliver givet drengen
because ball.DEF was given boy.DEF
'because the ball was given to the boy'

2 The Analysis

2.1 Argument Structure and Valence

We follow Pollard and Sag (1994) in assuming a list-valued feature for the representation of valence information (here ARG-ST). For instance (15a,b) shows the ARG-ST values for the verb *dance* and the transitive verb *read*.

- (15) ARG-ST
a. tanzen ⟨NP[*str*]⟩
b. lesen ⟨NP[*str*], NP[*str*]⟩

The values for the respective Danish and German lexical items are identical.

str is the abbreviation for structural case. We follow Haider (1986) and Heinz and Matiasek (1994) in assuming that dative and genitive objects in German have lexical case while nominative and (most) accusative arguments of verbs get their case structurally.

The members of the ARG-ST list are mapped to valence features. For German finite verbs all arguments are mapped to the COMPS list (Pollard, 1996), for English and Danish the first element is mapped to the valence feature for the subject and the other elements are mapped to the COMPS list (see Pollard and Sag, 1994 on English, see Section 2.4 on impersonals in Danish).

² Such passivizations are possible in some English dialects. We assume that these dialects can be analyzed in parallel to the analysis of Danish that we suggest below.

Danish and English are SVO languages and the respective dominance schemata will take care of the preverbal realization of the subject and the postverbal realization of the non-subjects. German is an SOV language and allows for the combination of the verb with its arguments in any order. This is done by a version of the head-complement schema that does not restrict the order of combination (see Müller, To appear).

2.2 Designated Argument Reduction

We follow Haider (1986), Heinz and Matiasek (1994) in assuming a special list-valued feature DESIGNATED ARGUMENT (DA) that contains the designated argument of a verb. The designated argument is the subject of transitive and unergative verbs. The DA value of unaccusative verbs is the empty list. Passive is analyzed as a lexical rule that applies to a finite verb (Danish) or a verbal stem and subtracts the DA list from the argument structure list of the input verb or stem. Since we do not focus on the difference between unaccusative and unergative verbs in this paper, we will not discuss the designated argument any further and focus on transitive and unergative verbs instead.

(16) shows the ARG-ST list for *tanzen* ('to dance'), *lieben* ('to love'), *schicken* ('to give as a present'), *helfen* ('to help'):

	ARG-ST	DA
a. tanzen:	$\langle \boxed{1} \text{NP}[\textit{str}] \rangle$	$\langle \boxed{1} \rangle$
b. lesen:	$\langle \boxed{1} \text{NP}[\textit{str}], \text{NP}[\textit{str}] \rangle$	$\langle \boxed{1} \rangle$
c. schicken:	$\langle \boxed{1} \text{NP}[\textit{str}], \text{NP}[\textit{str}], \text{NP}[\textit{ldat}] \rangle$	$\langle \boxed{1} \rangle$
d. helfen:	$\langle \boxed{1} \text{NP}[\textit{str}], \text{NP}[\textit{ldat}] \rangle$	$\langle \boxed{1} \rangle$

We follow Meurers (1999) and Przepiórkowski (1999) in assuming that the first element in the ARG-ST list that has structural case gets nominative and all other elements in the ARG-ST list that have structural case get accusative (for a formalization of case assignment see Meurers, 1999; Przepiórkowski, 1999). Lexical case is not affected by passivization, so for instance the dative arguments of *schicken* and *helfen* stay in the dative even when the verb is passivized. (17) shows an example:

(17) weil ihm geholfen wurde
because him.DAT helped was
'because he was helped'

(19) shows the result of the application of the participle formation rule in (18):

(18) Lexical rule for the formation of the participle (preliminary):

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

The designated argument is blocked. The ARG-ST list of the participle is either empty or starts with a former object:

(19)	ARG-ST
a. getanzt (unerg):	$\langle \rangle$
b. gelesen (trans):	$\langle \text{NP}[\textit{str}] \rangle$
c. geschenkt (ditrans):	$\langle \text{NP}[\textit{str}], \text{NP}[\textit{ldat}] \rangle$
d. geholfen (unerg):	$\langle \text{NP}[\textit{ldat}] \rangle$

Since the first element on the ARG-ST list with structural case gets nominative, we have an explanation for the passive in (3b).

The respective argument structures for the English verbs are given in (20):

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

English differs from German in not having dative arguments. The object of *help* has structural case like the object of *love*. This explains the contrast between (17) and its translation. The NP *ihm* keeps its case, that is, it is not realized as a subject. (17) is an impersonal passive. The NP *he* is realized as subject and is assigned nominative. The case of the indirect object of the ditransitive verb is a lexical accusative. This will be explained in the following subsection.

2.3 Direct and Indirect Objects

Danish is similar to English in not having a dative case, but it is different from both German and English in allowing the promotion of both objects of ditransitive verbs. We assume that the difference is best captured by assuming that in Danish both objects have structural case while in German and English the secondary object has lexical case. (21) shows the ARG-ST values of the respective verbs:

(21)	ARG-ST
a. danse (unerg):	$\langle \text{NP}[\textit{str}] \rangle$
b. læse (trans):	$\langle \text{NP}[\textit{str}], \text{NP}[\textit{str}] \rangle$
c. give (ditrans):	$\langle \text{NP}[\textit{str}], \text{NP}[\textit{str}], \text{NP}[\textit{str}] \rangle$
d. hjælpe (trans):	$\langle \text{NP}[\textit{str}], \text{NP}[\textit{str}] \rangle$

If the personal passive is seen as the promotion of an object that has structural case, the Danish facts and the differences between Danish and the other languages under consideration are explained: Danish has two objects with structural case and hence both of them can be promoted

to subject as in (14b) and (14c). German and English have only one object with structural case, the direct object and hence only the direct object can function as the subject in passives.

The lexical rule in (18) does not account for the passive variants in which an indirect object is promoted to subject. For such a promotion the second object with structural case has to be placed before the first object with structural case in the ARG-ST list. This can be achieved by non-deterministically deleting an NP with structural case from [2] in (18) and adding it at the beginning of [2]. *delete* and *append* are standard relational constraints and their formulation will not be given here. However, [2] may not contain NPs with structural case at all. The passivization then results in impersonal passives. We therefore formulate (22) as the general lexical rule for passives, where *promote* is a relational constraint that identifies its arguments [2] and [3] if [2] does not contain an NP with structural case and otherwise deletes an NP with structural case from [2] and appends it at the beginning of [2] and returns [3]:

(22) Passive lexical rule for Danish, English, and German:

$$\left[\begin{array}{l} \text{HEAD} \\ \text{ARG-ST} \end{array} \begin{array}{l} \left[\begin{array}{l} \text{DA} \\ \text{verb} \end{array} \right] \\ \left[\text{1} \oplus \text{2} \right] \end{array} \right] \mapsto \left[\text{ARG-ST} \right] \left[\text{3} \right] \wedge$$

promote([2], [3])

Promote is defined as follows:

$$(23) \quad \begin{aligned} \text{promote}([2], [3]) &:= \text{delete}([4] \text{NP}[\text{str}], [2], [5]) \wedge \\ &\quad \text{append}([4], [5], [3]), !. \\ \text{promote}([2], [3]) &:= [2] = [3]. \end{aligned}$$

Here, the ‘!’ stands for the cut. If the first clause of the definition succeeds, the second one is not looked at. If it fails (that is, if there is no NP[*str*] in [2]), [2] is equated with [3].

2.4 Impersonal Passives

As was shown in (19), German has passive participles that have an empty ARG-ST list and participles with an ARG-ST that just contains an NP with lexical dative. Since German does not require a subject, these lexical items can be used in impersonal passive constructions. English does not allow impersonals due to the subject requirement. Danish has a different strategy: It solves the subject problem by inserting an expletive.

We assume that Danish differs from German and English in introducing an expletive into the SPR list in the mapping from ARG-ST to SPR and COMPS. German maps all arguments (of finite verbs) to the COMPS list, English and Danish map the first NP/VP/CP to SPR and the remaining arguments to COMPS, and Danish inserts an expletive, if there aren’t any elements that could function as subjects. See also Bjerre and Bjerre, 2007 on expletive insertion in Danish.

So (24) shows the ARG-ST lists for the morphological passives and the participle forms. For *danse* we get an empty ARG-ST list, but due to the mapping constraints we get an NP_{expl} in the SPR list of *danset/-s*.

- (24) ARG-ST
- danset/-s* (unerg): $\langle \rangle$
 - læst/-s* (trans): $\langle \text{NP}[\text{str}] \rangle$
 - givet/-s* (ditrans): $\langle \text{NP}[\text{str}], \text{NP}[\text{str}] \rangle$
 - hjulpet/-s* (trans): $\langle \text{NP}[\text{str}] \rangle$

3 The Auxiliary

The lexical item for the passive auxiliary is similar for all three languages: The passive auxiliary is a raising verb:

(25) Passive auxiliary for Danish, German and English:

$$\left[\begin{array}{l} \text{SYNSEM|LOC|CAT|ARG-ST} \\ \text{DA} \\ \text{SUBJ} \\ \text{COMPS} \end{array} \left[\begin{array}{l} \text{1} \oplus \text{2} \oplus \left\langle \begin{array}{l} \text{VFORM } \textit{ppp} \\ \langle \text{XP}_{ref} \rangle \end{array} \right\rangle \\ \text{1} \\ \text{2} \end{array} \right] \right]$$

German forms a predicate complex, that is, a complex consisting of the participle and the passive auxiliary. The arguments of the participle ([1] and [2]) are attracted by the passive auxiliary (see Hinrichs and Nakazawa, 1989 on argument attraction). The formation of such predicate complexes is licensed by a special schema, the Head-Cluster Schema that allows non-head daughters to be unsaturated. Danish and English do not allow for complex formation. The respective grammars do not have a Head-Cluster Schema and hence the only way the passive auxiliary can be combined with the participle is via the Head-Complement Schema. Therefore the verbal argument has to have an empty COMPS list, that is, for Danish and English [2] in (25) is the empty list. Hence, we have explained how Danish and English embed a VP and German forms a verbal complex although the lexical item of the auxiliary does not require a VP complement.³

The specification of the DA value of the participle excludes the embedding of unaccusatives, which have an empty DA value and of weather verbs, which have a non-referential element in the DA list.

4 The Morphological Passive

We assume that the same lexical rule that accounts for the participle forms can be used for the morphological passives in Danish, modulo differences in the realizations of affixes of course. For the morphological passive it is assumed that the DA of the input to the lexical rule has to contain a referential XP. As was discussed in the previous section, this excludes morphological passives of unaccusatives and weather verbs.

³ To rule out VP complements in German, the lexical item for German has to be constrained further: The verbal complement is required to be LEX +.

5 Agent Expressions

We follow Höhle (1978, Chapter 7) and Müller (2003, Section 5) and treat the *by* phrases as adjuncts.

6 Perfect

The highlight of the analyses for German is that only one participle is needed for both the analysis of the passive and the analysis of the perfect (Haider, 1986). The trick is that the designated argument is blocked but represented in the lexical item of the participle. The passive auxiliary leaves the designated argument blocked, while the perfect auxiliary unblocks it. So, in addition to the passive in (3b) we have the perfect in (26) and both sentences involve the same lexical item for *gelesen* ('read'):

- (26) Er hat den Aufsatz gelesen.
he has the paper read
'He read the paper.'

Unless one wants to assume a complex predicate analysis like the one depicted in (27a) for Danish and English perfect constructions, one is forced to assume a separate lexical item for the perfect, since the argument realization in a passive VP is different from the one in the active VP (27b,c).

- (27) a. He [has given] the book to Mary.
b. He has [given the book to Mary].
c. The book was [given to Mary].

However, as was discussed above, the analysis of the German passive and perfect can be maintained and is compatible with a more general analysis that also captures the passive in Danish and English.

7 Conclusion

We have provided an account for the Danish, English and German passive that assumes that both morphological and analytical passives are analyzed with a lexical rule that suppresses the first argument on the ARG-ST list of the input lexical item. Danish differs from German and English by inserting an expletive into the SPR list in case that there would not be any other element that could fill the subject position. German differs from both Danish and English in having a lexical dative as object of verbs like *helfen* ('to help'), which results in an impersonal passive in comparison to the personal passive in Danish and English. The possibility to promote both the direct and the indirect object in Danish is accounted for by an analysis that allows all objects with structural case to be promoted to subject. The respective passives in German and English are ruled out by the assumption that the case of the indirect objects in these languages is lexical.

The analyses have been implemented in the TRALE system (Meurers, Penn and Richter, 2002; Penn, 2004; Müller, 2007) as part of grammar fragments of German, Danish, and English. These grammars are developed in

the CoreGram project⁴ (Müller, 2013) and share a core grammar with grammars for Persian, Mandarin Chinese, Maltese, and Yiddish.

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⁴ <http://hpsg.fu-berlin.de/Projects/CoreGram.html>

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