

An Analysis of Danish Free Relatives

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Summary. This paper presents an analysis of Danish free relatives. Following Bresnan and Grimshaw (1978) we will adopt a *wh*-head (in Danish *hv*-head) analysis where the *hv*-phrase is the head of an NP. Also following Bresnan and Grimshaw (1978) we will propose an analysis which do not involve an unbounded dependency between the *hv*-phrase and the gap in its sister clause. Instead we will propose that the gap in the sister clause has already been bound off by a constructional constraint. In this way the analysis will be shown to differ from previous HPSG *wh*-head analyses of free relatives.

Keywords: Danish, free relatives.

1 Introduction

In this paper we present an analysis of Danish free relatives. Bresnan and Grimshaw (1978) put forward an analysis of English free relatives which proposes that English free relative clauses are not clauses, but rather the *wh*-phrase is base-generated as the head sister of a clause in an NP. Importantly they do not assume an unbounded dependency between the *wh*-phrase and the gap in the sister clause. Instead the rule of “Controlled Pro Deletion” accounts for the gap, (Bresnan and Grimshaw, 1978, p. 370).

This *wh*-head analysis has been adopted into various HPSG analyses of free relatives, i.a. (Kim, 2001; Kubota, 2003; Taghvaipour, 2005; Borsley, 2008).¹ In contrast to the analysis in Bresnan and Grimshaw (1978), these analyses account for the gap in free relatives by assuming an unbounded dependency between the *wh*-phrase and the gap in the sister clause.

In this paper we argue for an HPSG analysis of Danish free relatives which sets itself apart from the previous HPSG *wh*-head analyses in that the *wh*-phrase, or *hv*-phrase, does not bind off the gap in the sister clause, and hence there is no unbounded dependency relation between the *hv*-phrase and the gap in the sister clause. In this respect our analysis resembles that of Bresnan and Grimshaw (1978). We base our analysis on the distribution of the expletive *der*, ‘there’, the complementizer *som* and the relative pronoun *hvis*, ‘whose’, in Danish free relatives.

2 The Danish data

In (1) we show examples containing Danish free relatives. As (1c) and (1d) show, the Danish equivalent of the English ‘ever’ in non-specific free relatives is *som helst*.

- (1) a. Ministeren forsømmer ingen lejlighed til at udpege, hvem han taler om.
minister.DEF neglects no opportunity to point out whom he talks about
‘The minister neglects no opportunity to point out whom he is talking about.’

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¹ Müller (1999) proposes an alternative HPSG analysis for German where a relative clause is projected into an NP. A non-HPSG analysis is proposed in Grosu (2003) where an empty sister-head of a relative clause is projected into an NP.

- b. Når min søn laver mad, så spiser jeg, hvad han serverer.
 when my son cooks then eat I what he serves
 ‘When my son cooks I eat what he serves.’
- c. Glad baby der smiler og pludrer med hvem som helst hun kan få kontakt med
 happy baby there smiles and babbles with whomever she can get contact with
 ‘Happy baby who smiles and babbles with whomever whose attention she can catch.’
- d. Der er kreglere der sælger hvad som helst, de har kunnet købe til en
 there are hawkers there sell whatever they have been able to buy at a
 billig penge.
 cheap price
 ‘There are hawkers who sell whatever they have been able to buy at a cheap price.’

3 Free relatives as *wh*-headed NPs

The accounts mentioned in section 1 agree that free relatives behave as NPs externally, e.g. free relatives do not allow extraposition from *it*², (2a), and they occur in complement positions restricted to NPs, (2b), cf. (Bresnan and Grimshaw, 1978; Kim, 2001).

- (2) a. *Det blev taget hvad han havde tilbage.
 it was taken what he had left
- b. Han gav den til hvem den tilhørte.
 he gave it to whom it belonged
 ‘He gave it to whom it belonged.’

Bresnan and Grimshaw (1978) put forward further arguments that not only is a free relative an NP, but the *wh*-phrase is the head of the NP. They argue that a *wh*-head analysis explains the

² Müller (1999) discusses the behaviour of German free relatives versus ordinary relatives wrt. extraposition. He gives the examples in (1) taken from Gross and van Riemsdijk (1981).

- (1) a. Der Hans hat das Geld zurückgegeben, das er gestohlen hat.
 the Hans has the money returned that he stolen has
 ‘Hans has returned the money that he has stolen’
- b. *Der Hans hat zurückgegeben das Geld, das er gestohlen hat.
- c. Der Hans hat zurückgegeben, was er gestohlen hat.

The position immediately after an embedded verb allows extraposed clauses not NPs, and consequently the examples support an analysis where the free relative constitutes a clause. The equivalent Danish free relative behaves similarly to the German as shown in (2).

- (2) Hans har givet tilbage hvad han har stjålet.
 Hans has given back what he has stolen
 ‘Hans has returned what he has stolen.’

However, Danish non-specific free relatives allow extraposition of the clause following the *hv*-phrase in a free relative constructions, as shown in (3).

- (3) a. Klods-Hans samler hvad som helst op, som han tilfældigt finder på vejen.
 Numskull Jack picks whatever up Comp he accidentally finds on road.DEF
 Numskull Jack picks up whatever he accidentally finds on the road
- b. Han er parat til at køre hvem som helst ned, der står i vejen for ham.
 he is ready to drive whomever down there stands in way.DEF for him
 ‘He is prepared to run down whomever stands in his way.’

These latter examples allow for a natural explanation in an *hv*-headed NP analysis.

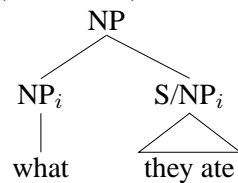
behaviour of English free relatives wrt. e.g. the matching effect, number agreement, the internal NP over S constraint, the independent generation of *wh*-ever phrases, (3a), and PP pied piping³, (3b).

- (3) a. Jeg går ikke ud fra, at du kysser hvem som helst.
 I walk not out from that you kiss whomever
 ‘I do not assume that you kiss whomever.’
 b. *Jeg vil købe på hvilken som helst bog han skriver.
 I will buy on whatever book he writes

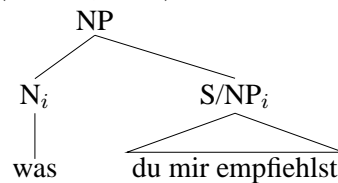
4 Previous HPSG *wh*-head analyses of free relatives

Kim (2001), Kubota (2003), Taghvaipour (2005) and Borsley (2008) all adopt the *wh*-head analysis. (4) through (7) show that these accounts all assume that there is an unbounded dependency relation between the *wh*-phrase and a gap in the sister clause.

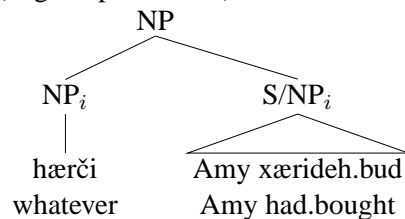
(4) (Kim, 2001)



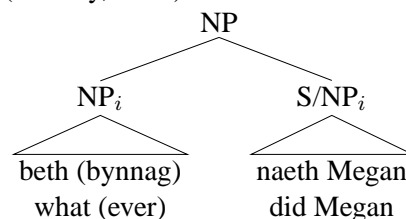
(5) (Kubota, 2003)



(6) (Taghvaipour, 2005)



(7) (Borsley, 2008)



The analyses differ in other respects, assuming e.g. different syntactic functions for the constituents involved. Kim (2001) assumes the clause to be a modifier whereas Kubota (2003) assumes it to be a complement. They also differ wrt. how the gap is bound off. In Kubota (2003) the gap is lexically bound off by the *wh*-phrase, whereas in the other accounts the gap is bound off by a filler-phrase. In section 5 we will show Danish data which cannot be captured by these analyses, justifying yet another structural account of free relatives.

5 The distribution of ‘*der*’, ‘*som*’ and ‘*hvis*’ in Danish relative head-filler constructions

We will now show that the distributional behaviour of *der*, ‘there’, the complementizer *som* and the relative pronoun *hvis*, ‘whose’ in free relatives differ from their behaviour in bound *hv*-relative clauses where the *hv*-phrase binds off the gap.

When the *hv*-phrase refers to the subject in the sister clause, *der* is obligatory in the free relative, whereas the insertion of *der* in the bound relative clause reduces its acceptability, as shown in (8).

- (8) a. De lader det være helt op til hvem *(*der*) får flest stemmer til valget.
 they let it be totally up to whom there gets most votes to election.DEF
 ‘They leave it all up to whom gets the most votes at the election.’

³ The disallowance of PP Pied Piping in free relatives has, however, been shown not to apply to all languages, cf. e.g. Bausewein (1990) and Müller (1999) for German.

- b. Jeg har en veninde hvis barn (?der) hedder Kastanje.
I have a girl-friend whose child there is called Chestnut
'I have a girl-friend whose child is called Chestnut.'
- c. Det er nødvendigt at redegøre for de egenskaber, hvilke (?der) danner baggrund
it is necessary to account for the features which there form background
for den biologiske opbygning
for the biological makeup
'It is necessary to account for the features which are the basis of the biological makeup.'

We can replace *der* with *som*, and again *som* is obligatory in the free relative, whereas the insertion of *som* in the bound relative clause in this case makes it unacceptable, as shown in (9).

- (9) a. En mediekultur hvor vi også er opmærksomme på hvem *(som) er kendte og
a media culture where we also are aware of whom Comp are known and
synlige i medierne.
visible in media.DEF
'A media culture where we are also aware of whom are known and visible in the media.'
- b. Hotellet tilbyder nem adgang til og fra Amsterdam Schiphol lufthavn, hvilken
hotel.DEF offers easy access to and from Amsterdam Schiphol airport which
(*som) ligger omkring 15 km væk.
Comp lies about 15 km. away
'The hotel offers easy access to and from Amsterdam Schipol airport which is situated about 15 km. away.'

Finally, in non-specific free relatives, the sister clause of the *hv*-phrase can itself be a *hv*-relative clause, as shown in (10).

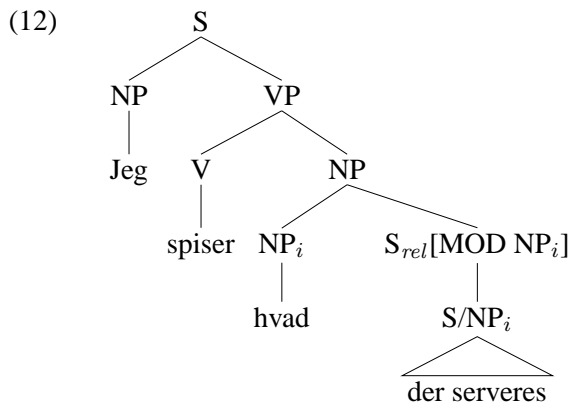
- (10) a. Det kan være hvem som helst hvis attitude, værdisæt og karisma gør et så
it can be whoever whose attitude values and charisma make a such
uudsletteligt indtryk, at man uden forbehold erkender, at den person
indelible impression that one without reservations acknowledges that that person
betyder meget for én.
means a lot to you
'It can be whoever whose attitude values and charisma make such an indelible impression that you acknowledge without reservations that that person means a lot to you.'
- b. Det er svært at forklare sagen til hvilken som helst person, hvis russiske,
it is hard to explain case.DEF to whatever person whose Russian
estiske, finske m.v. kundskaber er knappe.
Estonian Finnish etc. skills are limited
'It is hard to explain the case to whatever person whose Russian Estonian Finnish etc. skills are limited.'

This distribution of *der*, *som* and *hvis* in Danish free relatives corresponds to their distribution in an entire relative construction with a nominal head and a bound (non-)*hv*-relative clause, as shown in (11).

- (11) a. Jeg går videre til den bog, *(der) var grunden til, at jeg satte mig til
 I go on to the book there was reason.DEF to that I sat myself to
 tasterne.
 keys.DEF
 ‘I’ll continue with the book which was the reason I began writing.’
- b. Vælg den bog *(som) falder mest i din smag!
 choose the book Comp falls most in your taste
 ‘Choose the book which you like the best.’
- c. Potentielle købere lavede deres egen auktion over en bog hvis pris allerede var
 potential buyers made their own auction over a book whose price already was
 fastsat.
 set
 ‘Potential buyers had their own auction of a book whose price was already set.’

6 The proposed analysis for Danish free relatives

The data in section 5 suggests that the structure of Danish free relatives does not involve a gapped clause and a free *hv*-phrase binding off the gap, as the structures presented in section 4 propose. Instead we propose that the sister clause in a free relative already has had its gap bound off, and hence the *hv*-phrase does not function as a filler-phrase. The *hv*-phrase is the head of an NP and the sister clause is a relative clause. (12) shows the structure for the free relative *hvad der serveres*, ‘what is served’.

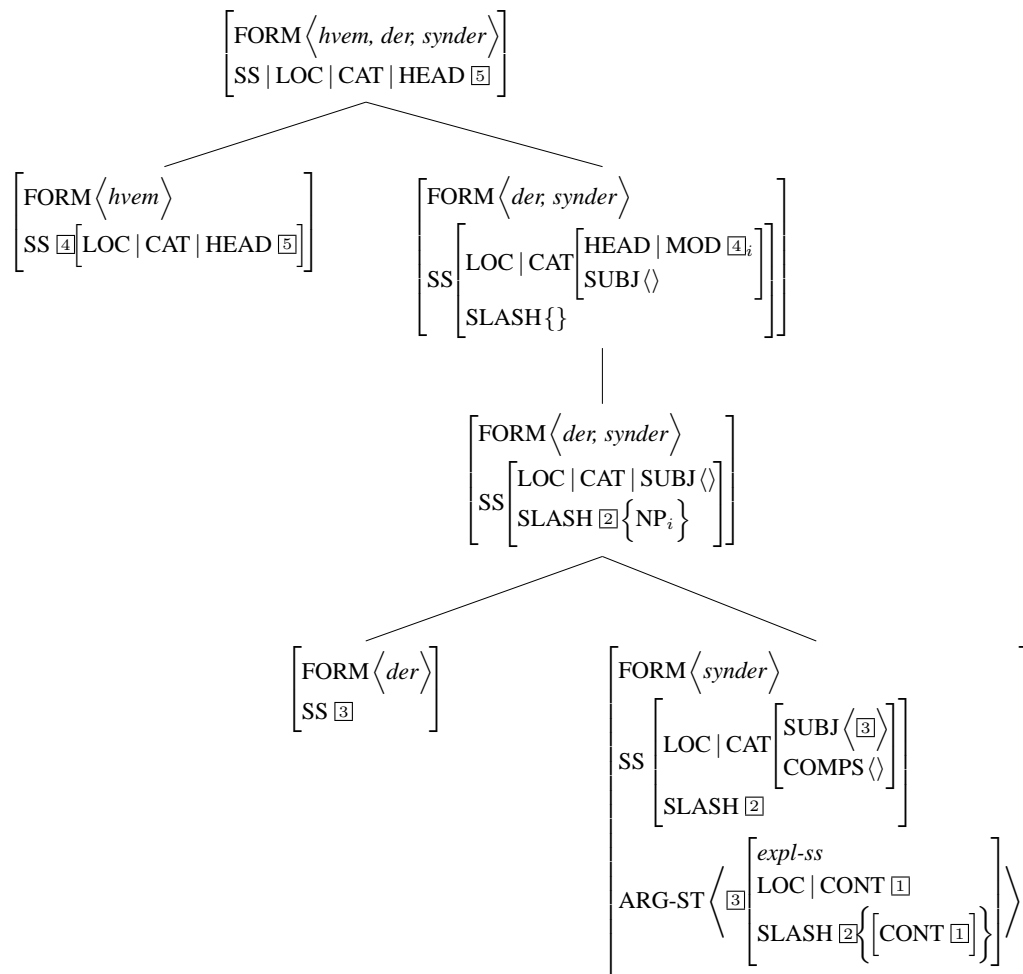


7 Formalization

The formalization is based on Ginzburg and Sag (2000) and Sag (1997), relying on a *gap-ss* type representing the gap in the relative clause, the Argument Realization Principle excluding *gap-ss* argument from the valence lists, the SLASH-Amalgamation Constraint determining the SLASH value of a word, the Generalized Head Feature Principle propagating the SLASH value, and a filler-head phrase or constructional gap-binding finally binding off the gap. To account for the Danish expletive, the formalization further adopts the *expl(itive)-ss* type, the revised Argument Realization Principle for Danish and the Expletive SLASH Constraint proposed in Bjerre (2010), Bjerre (2011a) and Bjerre (2011b).

The representation of the free relative *hvem der synder*, ‘who sins’, is shown in (13).

(13)



Importantly, a constraint on non-*hv*-relative clauses projects the gapped clause into a relative clause which modifies the *hv*-phrase. This constraint binds off the gap in the clause. The gap is formally represented by the expletive *der*, i.e. an *expl-ss*, which gives rise to a non-empty SLASH set on the verb.

8 Conclusion

In this paper we have presented an analysis of Danish free relatives. We have followed Bresnan and Grimshaw (1978) and proposed a *hv*-head analysis assuming the *hv*-phrase to be the head of an NP. Also following Bresnan and Grimshaw (1978) we have not assumed an unbounded dependency between the *hv*-phrase and the gap in its sister clause. Instead of assuming that Danish free relatives involve a gapped clause and a *hv*-filler, we have proposed that the gap in the sister clause has already been bound off by a constructional constraint. The sister clause was analyzed as a relative clause of the *hv*-phrase head. In this way the analysis was shown to differ from previous HPSG *wh*-head analyses of free relatives.

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