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The Treatment of Support Verbs and Predicative Nouns in Danish

Abstract

This paper will be a short examination of the notions of support verbs (e.g. 'make') and predicative nouns (e.g. 'estimation'). A support verb and a predicative noun form a support verb construction (e.g. 'Peter made an estimation of the damage').

The governing element in a support verb construction is the predicative noun whereas in a phrase like 'Peter wanted an estimation of the damage', the verb is the governing element. The main criteria for identifying support verb constructions as well as some of their properties will be mentioned.

From a translational point of view problems are likely to arise if support verb constructions are treated compositionally as the choice of support verb for a given predicative noun in the target language is not predictable from the source language support verb.

1 Introduction

One of the secondary goals of the Eurotra project has been to encourage collaboration between academics with different scientific backgrounds, with a consequent need to understand both alternative frameworks and more specific notions in those frameworks. This secondary goal of Eurotra has found a realisation in the work on support verb constructions.

The notion of support verb constructions originates from Harris (1962) and has later been used within the linguistic paradigm defined in Gross (1968, 1975, 1983, 1988). In Eurotra the notion has been presented by Laurence Danlos — Eurotra France who has been working with Maurice Gross. Since early spring this year language groups in France, Germany and Denmark have participated in an examination of the notion in their proper language.

The focus in this paper will be on cases where a support verb construction in the source language corresponds to a support verb construction in the target language.

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In the following the translational relevance of support verb constructions will be treated in section 2, a definition and some criteria for support verb constructions will be given in respectively section 3 and 4. In section 5 a few properties will be mentioned and then finally in section 6 it will be discussed how support verb constructions may be represented in the Eurotra Interface Structure (IS).

The Danish examples given below are followed by literal English translations.

2   Translational Relevance

Apart from being 'full verbs' as e.g. 'Peter has a girl friend', a limited group of verbs can also be support verbs and thus be part of a support verb construction.

Typical support verbs are 'HAVE/HAVE' (indflydelse/influence), 'LAVE/ MAKE' (en undersøgelse/an examination), 'FORETAGE/MAKE' (en undersøgelse/an examination), 'GØRE/MAKE'(brug/use), 'BEGÅ/COMMIT' (en forbrydelse/a crime), 'TAGE/TAKE' (forholdsregler/measures). What is common to these verbs is the fact that they are rather empty of meaning.

This means that these verbs are very likely to cause problems in machine translation. To illustrate this, let us consider a few French sentences and their corresponding translation into Danish:

(1) Jean FAIT UNE ESTIMATION DES DEGATS =>

>   Jean FORETAGER EN VURDERING af ødelæggelserne
>
>   (Jean makes an estimation of the damage)

(2) Jean FAIT UN RESUME du livre =>

>   Jean LAVER ET RESUME af bogen
>
>   (Jean makes a summary of the book)

(3) Jean FAIT UN CRIME contre Marie =>

>   Jean BEGÅR EN FORBRYDELSE mod Marie
>
>   (Jean commits a crime against Marie)

(4) Jean FAIT UNE CONVERSATION avec Marie =>

>   Jean FØRER EN SAMTALE med Marie
>
>   (Jean has a talk with Marie)

What these sentences share is that they all contain the French verb 'faire'. From the sentences it can be seen (not very surprisingly) that they are all translated into different verbs in Danish. This would cause a lot of problems if we

chose to translate compositionally (i.e. verb to verb and noun to noun). It would be extremely difficult — if not impossible — to make rules for how 'faire' in a given sentence should be translated.

The reasons why we do not solve the translational problem simply by making complex lexicon entries saying that e.g. the French 'faire_estimation' has to be translated into the Danish 'foretage_vurdering' are abundant. One reason is that this solution will lead to an enormous number of ad hoc lexicon entries. Another reason is that this treatment will only be a listing of problem cases and not a theoretically well-founded solution.

Thus as we reject the idea of complex lexicon entries and cannot predict the translation of the source language verb on the basis of the verb itself, we have tried to take the noun as our starting point.

3   Definition of a Support Verb Construction

A support verb construction (SVC) as e.g.:

(5) Peter foretager en vurdering af ødelæggelserne

(Peter makes an estimation of the damage)

consists of a support verb (foretage/make) and a predicative noun (vurdering/estimation).

The predicative noun is a noun that has a valency frame and thus can have complements like verbs. A support verb has no frame of its own. Instead a support verb 'inherits' the frame of the predicative noun. Consequently, it is the predicative noun that is the frame-bearing element and NOT the support verb 'foretage/make'.

4   Criteria for Identification of Support Verb Constructions

A) To a given support verb construction:

(5) Peter foretager en vurdering af ødelæggelserne

(Peter makes an estimation of the damage)

there must correspond a predicative noun group, e.g.

(6) Peters vurdering af ødelæggelserne

(Peter's estimation of the damage)

whose head is a predicative noun. In such a predicative noun group the 'agent' (called arg1) is in genitive and the element which corresponds to the object for the action 'vurdering/estimation' (called arg2) is normally realized as a 'pp' with the preposition 'af' (of).

The content of a sentence with a full verb as e.g. 'omtale' (mention):

(7) Peter omtaler en vurdering af ødelæggelserne

(Peter mentions an estimation of the damage)

cannot be fully rendered by a predicative noun group as (6):

(6) ≠ Peters vurdering af ødelæggelserne

(Peter's estimation of the damage)

An ordinary verb has more 'meaning' than can possibly be rendered by a predicative noun group.

So the first criteria is that there must be a reference identity between a predicative noun group and a SVC-construction in contrast to a construction with a 'full' verb.

B) In some sense B) follows from A) in that a support verb construction does NOT accept an insertion of a logical subject for the predicative noun that is different from the grammatical subject of the sentence:

(8) *Peter foretager Johns vurdering af ødelæggelsen

(Peter makes John's estimation of the damage)

Thus a support verb construction such as:

(9) Peter foretager en vurdering af ødelæggelserne

(Peter makes an estimation of the damage)

differs from a construction with an 'ordinary' full verb as in:

(10) Peter omtaler en vurdering af ødelæggelserne

(Peter mentions an estimation of the damage)

where a subject for the predicative noun can be added without changing the acceptability of the sentence:

(11) Peter omtaler Johns vurdering af ødelæggelserne

(Peter mentions John's estimation of the damage)

So the second criteria is that it must not be possible to insert a logical subject for the predicative noun which is different from the subject of the verb.

5 Properties

Apart from the criteria just mentioned, support verb constructions in Danish are characterized by a number of properties. The following properties are NOT criteria used for identification of support verb constructions — however they reveal a clear tendency with respect to behavior of support verb constructions. But as we can only speak of tendencies they cannot be used as criteria.

5.1   Clefting

5.1.1   Constructions with the Preposition 'af' (of)

Let's once again go back to sentence (1) and (3) to see what happens if the sentences are cleft:

(12) Det er en vurdering af ødelæggelserne, Peter foretager

         [Npred   prep   N   ]

    (It is an estimation of the damage, Peter makes)

(13) Det er en vurdering af ødelæggelserne, Peter omtaler.

         [Npred   prep   N   ]

    (It is an estimation of the damage, Peter mentions).

This shows that the sequence Npred prep N is one constituent (one complex nominal group). However, it is also possible to place 'vurdering' (estimation) and 'ødelæggelse' (damage) separately in focus:

(14) Det er en vurdering, Peter foretager af ødelæggelserne.

    (It is an estimation Peter makes of the damage).

(15) Det er en vurdering, Peter omtaler af ødelæggelserne.

    (It is an estimation Peter mentions of the damage).

(16) Det er af ødelæggelserne, Peter foretager en vurdering.

    (It is of the damage Peter makes an estimation).

(17) Det er af ødelæggelserne, Peter omtaler en vurdering.

    (It is of the damage Peter mentions an estimation).

The examples in (12)–(17) are perhaps not interesting observations in themselves as they are all considered to be correct sentences in Danish. But they ought to be compared with the examples given below.

5.1.2   Constructions where the Preposition is Different from 'af' (of)

In cleft sentences where the preposition is different from 'af' (of) a different result can be observed:

(18) Det er et overfald på Marie, Luc har begået.

    (It is an attack on Marie, Luc has committed)

(19) Det er et overfald på Marie, Luc har omtalt.

    (It is an attack on Marie, Luc has mentioned).

The difference can be observed when 'overfald' (attack) and 'på Marie' (on Marie) are placed separately in focus:

(20) Det er et overfald, Luc har begået på Marie.

(It is an attack, Luc has committed on Marie).

(21) *Det er et overfald, Luc har omtalt på Marie.

(It is an attack, Luc has mentioned on Marie).

(22) Det er Marie, Luc har begået et overfald på.

(It is Marie, Luc has committed an attack on)

(23) *Det er Marie, Luc har omtalt et overfald på.

(It is Marie, Luc has mentioned an attack on)

In contrast to ordinary full verbs, support verb constructions accept a splitting when the preposition is different from 'af' (of). However it should be examined more carefully before we conclude that all prepositions different from 'af' (of) behave in this way.

5.2   WH-questions

It is not possible to ask wh-questions to a support verb construction:

(24) *Hvad har Peter taget i dag? Et initiativ.

(What has Peter taken today? An initiative).

(Unless the question is asked in a conversation by the person listening where he/she did not grasp the content at first.)
This is however fully acceptable in connection with an ordinary full verb:

(25) Hvad spiser du i dag? Kager fra kantinen.

(What do you eat today? Cakes from the cantine).

5.3   Modification of SVCs by Adjective/Adverb

Often in connection with adverbs of manner the following possibility for making a paraphrase can be observed:

(26) Peter foretog en hurtig/omhyggelig vurdering af ødelæggelserne.

(Peter made a quick/careful estimation of the damage)

=>

(27) Peter foretog hurtigt/omhyggeligt vurdering af ødelæggelserne.

(Peter made quickly/carefully an estimation of the damage)

In rare cases modification by means of adjectives and adverbs is also found in connection with ordinary full verbs as e.g.:

(28)a. Peter drak en hurtig kop kaffe.

       (Peter drank a quick cup of coffee)

    b. Peter drak hurtigt en kop kaffe.

       (Peter drank quickly a cup of coffee)

but is not possible without changing the meaning when the full verb is followed by a predicative noun:

(29)a. Peter omtalte et hurtigt overfald på Marie.

       (Peter mentioned a quick attack on Marie)

       $\neq$

    b. Peter omtalte hurtigt et overfald på Marie.

       (Peter mentioned quickly an attack on Marie)

6   Aspectual Variants

A given predicative noun often has the possibility of being 'supported' by different verbs as e.g.:

(30) Peter har ansvaret for rapporten

      (Peter has the responsibility for the report)

(31) Peter tager ansvaret for rapporten

      (Peter takes the responsibility for the report)

(32) Peter beholder ansvaret for rapporten

      (Peter keeps the responsibility for the report)

The different sentences above express differences with respect to aspectual values. Aspectual variants are called Vasp. In (30) the Vasp is 'neutral', in (31) 'inchoative', in (32) 'durative'. Typically a predicative noun does not have all aspectual combinations. Thus a predicative noun such as 'angreb' (attack) is not likely to have an aspectual variant expressing an 'iterative' aspect or a 'terminative' aspect.

If the sentences (30) to (32) are transformed into relative clauses where the predicative noun is the antecedent of the relative pronoun as in:

(33) Ansvaret, som Peter har for rapporten

      (The responsibility that Peter has for the report)

(34) Ansvaret, som Peter får for rapporten

      (The responsibility that Peter gets for the report)

(35) Ansvaret, som Peter beholder for rapporten

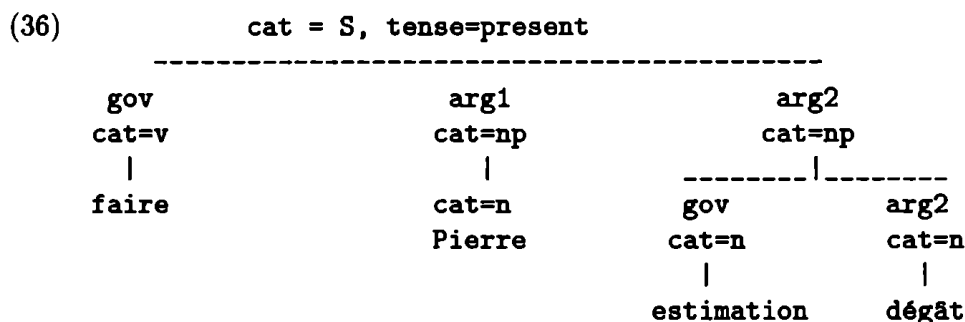   (The responsibility that Peter keeps for the report)

a difference appears. Only (33) renders fully the meaning expressed by the active nominal group, 'Peters ansvar for rapporten' (Peter's responsibility for the report). And this is what distinguishes a Vsup with Vasp=neutral from a Vsup with Vasp different from 'neutral'.

6.1 Which Factors Decide the Choice of Vasp?

On the one hand it is the predicative noun that selects its support verb. On the other hand the support verb with Vasp = neutral decides which aspectual variants a given support verb construction can have.
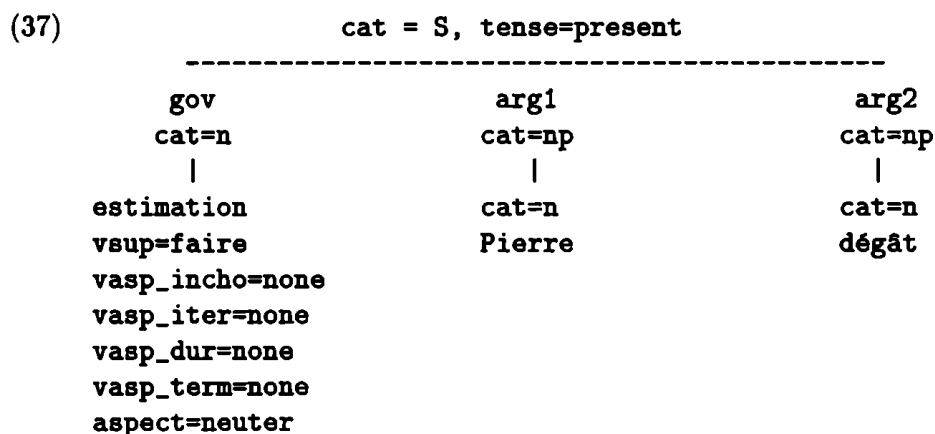
7 How to Represent Support Verb Constructions?

As pointed out in section 2, the following IS (interface structure) representation of e.g. 'Jean fait une estimation des dégâts' is likely to cause severe problems:

(36)　　　　　　cat = S, tense=present

```
      ------------------------------------------------
      gov               arg1              arg2
      cat=v             cat=np            cat=np
       |                 |           --------|--------
      faire             cat=n        gov          arg2
                        Pierre       cat=n        cat=n
                                      |            |
                                    estimation   dégât
```

as there is not only one possible translation into Danish of the French verb 'faire'. Let us assume that we have four different translation possibilities (see the examples (1)–(4)) of 'faire' in the transfer lexicon between French and Danish. The consequence will be that we get four results in Danish that are not all correct translations of the input sentence.

If instead as in (37) the predicative noun (the frame bearing element) becomes governor of the sentence:

(37)　　　　　　cat = S, tense=present

```
      ------------------------------------------------
      gov               arg1              arg2
      cat=n             cat=np            cat=np
       |                 |                 |
    estimation          cat=n             cat=n
    vsup=faire          Pierre            dégât
    vasp_incho=none
    vasp_iter=none
    vasp_dur=none
    vasp_term=none
    aspect=neuter
```

a simple translation — from FR:estimation to DA:vurdering, from FR:Pierre to DA:Peter, etc. — can take place in the transfer module between the two languages.

Next, on IS synthesis the noun 'vurdering' is looked up in the Danish monolingual lexicon where the dictionary entry for 'vurdering' contains information about which support verb(s) the predicative noun can be constructed with. The Danish IS representation will be the following:

(38)   cat = S, tense=present
      ----

        gov   arg1   arg2
      cat=n   cat=np   cat=np
        | | |
      vurdering   cat=n   cat=n
      vsup=foretage   Peter   ødelæggelse
      vasp_incho=none
      vasp_iter=none
      vasp_dur=none
      vasp_term=none
      aspect=neuter

Finally between IS synthesis and ERS (i.e. Eurotra Relational Structure) an insertion of the Danish support verb as governor of the sentence takes place with the result that on ERS and ECS (i.e. Eurotra Constituent Structure) the structure of the support verb construction is the same as the structure of a sentence with any other verb.

8   Final Remarks

We have now demonstrated that the notion of support verb constructions is also applicable to Danish. Moreover we have shown that the notion is also useful in machine translation because it can be left to the target language to generate and insert the correct support verb in a sentence.

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