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ALL VERB SECOND CLAUSES ARE CPs

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1. Introduction.

The verb second (V2) phenomenon, as it is found in the Germanic languages, has been the focus of much attention within recent syntactic research. Of the several analyses proposed within a generative framework, Travis (1986) has the distinction of offering, in a extremely coherent fashion, the most explicit answers to the multitude of questions raised.

However, as we will argue below, the answers provided by the ECP Account of Travis (1986) are incompatible with some of the facts involved, and therefore this approach must be rejected. The point of this paper, then, will be to show first where the ECP account is empirically inadequate and second how an alternative analysis can account not only for the data captured under the ECP account but also for this set of problematic data.¹

¹ This paper grew out of Sten Vikner's class in Comparative Germanic Syntax, University of Geneva, 1988-89. We would like to thank all the participants in this class, in particular Giuliana Giusti, Ramona Römisch, and Manuela Schönerberger. We are also grateful for help and comments to Liliane Haegeman, Teun Hoekstra, Christer Platzack, Luigi Rizzi, Ian Roberts, Rex A. Sprouse, Alessandra Tomaselli, and Lisa Travis. Of course are all errors our own.

We will try to show that subject-initial main clauses of V2 languages are not IPs (as claimed in the ECP account) but rather CPs. This analysis will also be extended to subject-initial embedded clauses with V2 structure. We will furthermore argue, also contra the ECP account, that I° does not precede but follows the VP in German. Finally, once more in contradistinction to a central claim in the ECP account, we will show that it is possible to adjoin to IP in V2 languages.²

Section 2 below contains a brief introduction to the proposals in Travis (1986). Section 3 discusses what we will refer to as the 'traditional' analysis of the V2 phenomenon. These two analyses are then compared in detail in section 4, with respect to: German *denn* 'because' in 4.1; sentence-initial German *es* 'it' in 4.2; extraction from embedded V2 structures in 4.3; adjoining to IP in 4.4; and finally the 'richness' of inflection in section 4.5.

2. The ECP Account of V2: Travis (1986).

2.1 Constraints, Parameters, and Structures Assumed.

(1) and (2) below are the basic assumptions made by Travis (1986); it should be underlined that the ECP (Empty Category Principle, which says that empty categories must be properly governed) provides the central motivation for deriving V2 in her account:

(1) Proper Government. (Travis (1986:12, her (22))).

α properly governs β iff α governs β and

- (i) β is a complement or the head of a complement of α , or
- (ii) α is an antecedent for β

It should be noted that Travis furthermore extends the domain of application of the ECP to include base-generated empty categories. The question is whether this is to be preferred over the original use of the ECP, cf. e.g. Chomsky (1981:250ff.) and (1986:16), where only traces of moved constituents are covered.

Three parameters are also crucial to Travis' analysis:

² It should be noted that the topics covered in this paper are not intended nor claimed to be a complete discussion of the problems connected with the ECP account. For additional reasons to prefer the traditional account of V2 over the ECP account, see e.g. Holmberg (1986), Giusti (1989), and Tomaselli (1989).

- (2) I. VPs are (i) head-initial in English, Swedish (& Danish & Norwegian), Icelandic (& Faroese), Yiddish.
- (ii) head-final in Dutch, German (& Frisian).

- II. A fronted XP may (i) adjoin to IP in English.
- (ii) not adjoin to IP in any of the others.

- III. Some lexical complementisers may license an empty I° in German and Swedish but not in English and Icelandic.

Probably the most controversial aspects of Travis' analysis involve I° and its projections (where (b) is in fact a consequence of (a)):

- a) all subject-initial main clauses (of V2 languages) are only IPs, not CPs; and
- b) SOV languages like German have the structure [_I I° VP] rather than [_I VP I°].

2.2 How the ECP Account Works.

Consider first a subject-initial main clause:³

- (3) a. Da. [_{IP} Peter [_{I°} drikker] [_{VP} aldrig t kaffe om morgenan]]

Peter drinks never coffee in morning-the

- b. Ge. [_{IP} Die Kinder [_{I°} sahen] [_{VP} den Film t]]

The children saw the film

According to the ECP account, the finite verb in both cases moves from V° to I°: In Da. only around a VP-initial adverbial,⁴ in Ge. around the entire VP. This movement is necessary to save the empty I° from violating (Travis' version of) the ECP (I° is base-generated empty, and as such it violates the ECP, as it is not properly governed). When the verb moves into I°, I° is no longer empty, and therefore the ECP is no longer relevant w.r.t. I°. Now the place that the verb came from (V°) is empty, but this is not a problem w.r.t. the ECP, because

³ The languages are abbreviated to their first two letters.

⁴ Whereas in German it is easy to determine whether or not the finite verb has moved out of the VP (because it precedes the rest of the VP-material only when moved), such is not the case in Danish, Norwegian, or Swedish where the verb always precedes the rest of the VP. There is, however, an indication as to whether the verb has left the VP or not: It is generally assumed that if the verb precedes a VP-initial adverbial, it is not in its base-generated position (as in (3a)); likewise, if the verb follows such an adverbial, it is assumed that no movement has occurred. Cf. Emonds (1978), Holmberg & Platzack (1988), and Pollock (1988) for discussion of the interaction between verb movement and the position of adverbials.

V° is properly governed by I° (either by the antecedent in I° or by being the head of the complement of I°).

As (3b) is also an IP, I° in Ge. must precede the VP, as otherwise there would be no node in the tree compatible with the position of the finite verb. This in turn means that it must be possible for the finite verb in Ge. embedded clauses to remain in V°, to account for data like

- (4) Ge. a. Ich weiß, daß die Kinder den Film gesehen haben
I know that the children the film seen have
 b. *Ich weiß, daß die Kinder haben den Film gesehen
I know that the children have the film seen

If *haben* in (4a) is in V^0 , then I^0 must be empty, and so this is where parameter III comes in: C^0 can license an empty I^0 in German (and Danish, Swedish, and Norwegian), i.e. an empty I^0 may be properly governed by a C^0 filled by a complementiser:

- (5) Ge. Ich weiß, [_{CP} daß [_{IP} die Kinder [_{I^o} e] den Film gesehen haben]]

In fact, if I° is properly governed ('identified' in Travis (1988:18)) by daß, the verb cannot move into I° , even though I° looks empty, because I° is already in some sense filled (it already has features). That identification in this way precludes head-movement will turn out to be important in section 4.3.

Consider now non-subject-initial main clauses. Here the topicalised non-subject must be in the specifier position of CP (CP-spec), as adjunction to IP is excluded (in V2 languages, as opposed to e.g. English, according to parameter II), and therefore these constructions are all CPs:

- (6) a. Da. [_{CP} Kaffe drikker [_{IP} Peter t [_{VP} aldrig t t om morgenen]]]

Coffee drinks Peter never in morning-the

- b. Ge. [_{CP} Diesen Film sahen [_{IP} die Kinder [_{I°} t] [_{VP} t t]]]

This film saw the children

The first verb-movement in (6a,b) goes from V° to I° around either a VP-initial adverbial or the rest of the VP. As above, this movement is necessary to save the empty I° from violating the ECP, since it is not properly governed.

With the second verb-movement in (5a,b), the verb moves from I° to C°. The reason is the same as above: the empty C° violates the ECP but not when it is filled. The now empty I° is properly governed by the verb in C°. This second movement is only needed when the clause is not subject-initial and when the language excludes adjunction to IP. If adjunction to IP had not been excluded, the topicalised NP could have been adjoined to IP, in which case no CP would

have been generated, and therefore there would have been no C° needing to be properly governed. This is in fact what happens in English topicalisations:

- (7) En. [IP This film [IP the children have never seen t]]

3. The 'Traditional' Account.

'Traditional' is to be taken here only in the sense that this is the approach found in most of the literature on V2, from den Besten (1977), Thiersch (1978), up to Holmberg (1986), Koopman (1984), Platzack (1985, 1986a,b), Taraldsen (1986a), and Tomaselli (1987)). It should also be noted that the works just cited mainly agree on the mechanics but not necessarily on the motivations for the V2 phenomenon.

To begin, the most important assumption distinguishing the ECP account from the works cited above is that all main clauses in V2 languages are CPs in the traditional account. For non-subject-initial clauses, the analysis is parallel to the ECP account, with the important exception that I° is assumed to be final in German (cf. the position of I° in (8b) with (6b)):

- (8) a. Da. [_{CP} Kaffe drikker [_{IP} Peter t [_{VP} aldrig t t om morgenen]]]

Coffee drinks Peter never in morning-the

- b. Ge. [_{CP} Diesen Film sahen [_{IP} die Kinder [_{VP} t t] [_I t]]]

This film saw the children

In subject-initial main clauses, the differences from the ECP account are more substantial. For the traditional account, these clauses are completely parallel to the non-subject-initial ones, the only difference being that the sentence-initial XP originated in the subject position, rather than in e.g. the object position. Thus unlike in the ECP account, all main clauses are CPs with the finite verb in C°. Consequently the I°, which is thus empty, may follow the VP in Ge. (cf. (3b)):

- (9) a. Da. [_{CP} Peter drikker [_{IP} t t [_{VP} aldrig t kaffe om morgenen]]]

Peter drinks never coffee in morning-the

- b. Ge. [CP Die Kinder sahen [IP t [VP den Film t] [I₀ t]]]

The children saw the film

Although this is not an argument for IP being head-final, an analysis such as this has as a consequence the advantage of being able to dispense with Travis' (1986) parameter III for Ge.: There need be no special mechanism to force the finite verb to stay in V° and not move up to I° in embedded clauses. Since I° is final, the finite verb may be analysed as having moved to I° even in embedded clauses, as the following example shows (cf. (5)):

- (10) Ge. Ich weiß,
 [CP daß [IP die Kinder [VP den Film gesehen t] [I. haben]]

4. Comparison of the Two Analyses.

4.1 Ge. denn "because".

Travis (1986:18) mentions Ge. denn as an example of a complementiser that allows the finite verb to move from V° to I° (i.e. to occur in front of VP), as distinct from most other complementisers in Ge., e.g. daß or weil, where the verb stays in V°:

- (11) Ge. a. Die Kinder haben das Brot gern,
[C° denn] ihre Mutter [I° bäckt] es [V° t]
The children like the bread, because their mother bakes it
- b. Die Kinder haben das Brot gern,
[C° weil] ihre Mutter [I° e] es [V° bäckt]
The children like the bread, because their mother it bakes

If the only order possible in a *denn*-clause were ...*denn*-S-V-O..., then one would indeed have a good argument for I° preceding VP: *denn* would be in C°, the subject in IP-spec, and the verb would follow the subject but still precede the object (or other VP-material), as it does in (11a). I° thus would have to precede VP, as otherwise there would be no position in the tree for the verb to have moved into.

However, *denn* may also be followed by a non-subject XP, in which case the finite verb precedes the subject.⁵ Assuming the subject to be in IP-spec, then the verb and the topicalised object must be in C° and in CP-spec, respectively:

5 Liliame Haegeman has pointed out to us that the facts in Standard Dutch are completely parallel: want is followed by a VZ clause, whereas omdat is followed by a verb-final clause.

- (12) Ge. Peter hat den Fisch gegessen,
denn [_{CP} das Fleisch hat [_{IP} sein Bruder [_{VP} t verbrannt t] t]]

Peter has the fish eaten, because the meat has his brother burned

Thus *dena* may be followed by a CP, and there therefore seems to be no reason to exclude this analysis for (11a), which is then completely parallel to the analysis of the main clause in (9b):

- (13) Ge. Die Kinder haben das Brot gern,
denn [_{CP} ihre Mutter bäckt] [_{IP} t [_{VP} es t] t]]

The children like the bread, because their mother bakes it

Summing up, although the constructions with denn do not constitute an argument necessarily favouring IP as head-final, neither do they provide a convincing argument in favour of I° preceding VP.

4.2 Ge. es "it" impossible sentence-initially unless it is the subject.

In the previous subsection, Travis' argumentation did not hold because there was no difference between the behaviour of subject-initial clauses and non-subject-initial clauses. In this section we will discuss some facts where such an asymmetry does exist. These facts fall out naturally from Travis' (1986) ECP account, as only in this analysis are different positions in the tree assigned to an initial subject (IP-spec) and to an initial non-subject (CP-spec). According to the alternative analysis, all initial elements are in the same position, viz. CP-spec.

The Ge. unstressed personal pronoun (third person neuter singular) *es* 'it' may only occur sentence-initially if it corresponds to a subject, cf. (15a) with (14), but not if it corresponds to an object, cf. (15b) with (14):

- (14) Ge. Das Kind hat das Brot gegessen
The child has the bread eaten
- (15) Ge. a. Es hat das Brot gegessen
It (the child) has eaten the bread
- b. *Es hat das Kind gegessen
It (the bread) has the child eaten

In Travis' account there is a difference in the position of as in (15a) (=16a)) and in (15b) (=16b)):

(16) Ge. a. [_{IP} Es hat [_{VP} das Brot gegessen t]]

b. * [_{CP} Es hat [_{IP} das Kind t [_{VP} t gegessen t]]]

Travis (1986:20) can thus link the above difference in grammaticality to whether *es* occurs in IP-spec (which is fine, as in (16a)) or in CP-spec, (which is ungrammatical, as in (16b)). Her suggestion is that only XPs carrying focal stress may move to CP-spec, and that *es* cannot bear focal stress.

The traditional approach (cf. section 3), on the other hand, would assume *es* of (15a) (= (17a)) and *es* of (15b) (= (17b)) both to be in CP-spec:

(17) Ge. a. [_{CP} Es hat [_{IP} t [_{VP} das Brot gegessen t] t]]

b. * [_{CP} Es hat [_{IP} das Kind [_{VP} t gegessen t] t]]

Here there is no structural difference in the positions of *es* to which the difference in grammaticality can be linked.

There have nevertheless been at least two attempts to reconcile the traditional approach with these data.

Tomaselli (1987:5, 15) follows Travis' suggestion that only pronouns carrying stress may occur in CP-spec. Her solution to the difference in behaviour between subject and object *es* is that subject *es* in (15a) may cliticise (at the level of phonetic form) to C°, and object *es* in (15b) may not. However, since this cliticisation takes place from CP-spec onto C°, and since both types of sentence-initial *es* move to CP-spec, the difference w.r.t. cliticisation must fall out from another difference between subject and object *es*. Such a difference is not offered in Tomaselli (1987), but Alessandra Tomaselli (p.c.) suggests that a clitic may cliticise only to its case assigner (assuming that C° may assign case to IP-spec).

Holmberg (1986:123-127) suggests a solution of a rather different kind, making an appeal to binding theory. He proposes that sentence-initial pronouns in German cannot be operators, and therefore their traces are not variables, but rather anaphors, following a suggestion in Taraldsen (1986b). Anaphors must be bound in their governing category, and the governing category for subjects is CP, whereas for non-subjects, the governing category is only IP (the latter is essentially the Specified Subject Constraint). Therefore a trace of a pronoun in CP-spec is bound in its governing category only if the trace itself is in subject position; and since anaphors must be bound, a pronoun in CP-spec must therefore have its trace in the subject position. This solution thus requires accepting the claim that a trace may have its antecedent in CP-spec but still not be a variable.

At this point, nothing really allows us to choose among the solutions offered by Travis, Tomaselli, and Holmberg. In the following subsection, however, additional data will be discussed which show that Travis' analysis of the *es*-facts is probably not on the right track.

4.3 Extractions from Embedded V2 Structures.

Below we consider an argument made by Holmberg (1986) that attempts to give support for the traditional approach over the ECP account. We initially review the data he relies on, which come from Swedish, and we show why the ECP account is in fact not susceptible to his criticism. We next show, however, that when the argumentation is carried over to German data, the ECP account finds itself in an insoluble dilemma.

4.3.1 Swedish.

Holmberg (1986:110) argues that the ECP account predicts a difference in extractability from a subject-initial clause and a non-subject-initial one, as the former is supposedly an IP, the latter a CP. Before considering the extraction facts, we will briefly consider the constructions involved.

In all the V2 languages, it is possible to have embedded clauses with main clause word order (i.e. V2) with certain matrix verbs, e.g. "say" and "believe".⁶ Thus (18a) is a normal embedded clause (no V2, the negation precedes the finite verb, cf. footnote 4), whereas (18b-d) are embedded V2 structures; the verb precedes the negation in (18b), and it precedes both the subject and the negation in (18c,d):

(18) Sw. a. Hon sa [_{CP} att [_{IP} vi [_{VP} inte skulle köpa roliga hattar]]]

She said that we not should buy funny hats

b. Hon sa att [_{CP} vi skulle [_{IP} t t [_{VP} inte t köpa roliga hattar]]]

She said that we should not buy funny hats

c. Hon sa att [_{CP} roliga hattar skulle [_{IP} vi t [_{VP} inte t köpa t]]]

She said that funny hats should we not buy

d. Hon sa att

[_{CP} antagligen behövde [_{IP} vi t [_{VP} inte t köpa roliga hattar]]]

She said that probably need we not buy funny hats

The claim made by Holmberg (1986:110) is that the ECP account is not able to

⁶ In Sw. and Da. these embedded V2 clauses are, for reasons unknown to us, best when they are preceded by a "that", Sw. *att*, Da. *at*, cf. below, even if (18b) is also possible and (18c,d) only are somewhat marginal without the *at(t)*. In Ge. on the other hand, these sentences cannot be preceded by *daß*, cf. the following subsection.

explain the fact that there is no difference in grammaticality between an extraction from an embedded subject-initial V2 structure (19b) and from embedded non-subject-initial V2 structures (19c,d): All are ungrammatical, as opposed to extraction from an embedded non-V2 structure (19a) (data from Holmberg (1986:111)):

- (19) Sw. a. Vilken fest sa hon att vi inte skulle köpa roliga hattar till
Which party said she that we not should buy funny hats for
 b. *Vilken fest sa hon att vi skulle inte köpa roliga hattar till
Which party said she that we should not buy funny hats for
 c. *Vilken fest sa hon att roliga hattar skulle vi inte köpa till
Which party said she that funny hats should we not buy for
 d. *Vilken fest sa hon att antagligen behövde vi inte köpa roliga hattar till
Which party said she that probably need we not buy funny hats for

In other words, according to Holmberg, the ECP account would have to assign the following structures to the examples in (19):

- (20) Sw. a. Vilken fest sa hon

$$[_{CP} \text{ }^t \text{ att } [_{IP} \text{ vi } [_{VP} \text{ inte skulle köpa roliga hattar till } t]]]$$

 b. *Vilken fest sa hon

$$[_{CP} \text{ }^t \text{ att } [_{IP} \text{ vi skulle } [_{VP} \text{ inte } t \text{ köpa roliga hattar till } t]]]$$

 c. *Vilken fest sa hon att

$$[_{CP} \text{ roliga hattar skulle } [_{IP} \text{ vi } t [_{VP} \text{ inte } t \text{ köpa } t \text{ till } t]]]$$

The problem for the ECP account is (20b): Since the subject-initial embedded clause is an IP, nothing prevents an intermediate trace in CP-spec, and therefore this sentence is predicted to be grammatical (according to Holmberg). In the traditional analysis, this example (19b) would have the following structure (the two different approaches would have the same analyses of (20a) and (20c)):

- (21) Sw. *Vilken fest sa hon att

$$[_{CP} \text{ vi skulle } [_{IP} \text{ }^t \text{ }^t [_{VP} \text{ inte } t \text{ köpa roliga hattar till } t]]]$$

The point here is that since CP-spec is filled (with vi "we"), it is not possible to have an intermediate trace in CP-spec.⁷ As this is an argument that (19b) has the embedded subject in CP-spec (otherwise, according to Holmberg,

⁷ An intermediate trace in CP-spec is presumably necessary to avoid a

the sentence could not be ruled out), Holmberg claims to have shown that the ECP account is inadequate.⁸

We think, however, that Holmberg's argumentation against the ECP account does not hold. Travis (1986) is not forced to say that (19b) has the structure of (20b); she could on the contrary agree with Holmberg that it has the structure in (21).

In fact (20b) is not at all a possible analysis of (19b) for the ECP account. This is because Travis specifically says (1986:7, 18) that since att in C° properly governs I° in Sw. (cf. parameter III), then when att is in C°, I° must remain empty (cf. the discussion of (5)). So for the ECP account, it appears that the verb has not moved from V°. However, as shown by the fact that the verb precedes the negation, the verb is not in V° either (cf. footnote 4). Thus, since we have just shown that the verb can be neither in I° nor in V°, the ECP account is left in a dilemma: Where is the verb in (19b)?

Two possible analyses, both compatible with the ECP account, will now be considered. Nothing seems to prevent Travis from saying that the verb is in fact in I°; in this case att, which is followed by a full CP (cf. footnote 6),

subadjacency-violation. Subadjacency allows the crossing of at most one barrier, but if CP-spec is filled, one link in the extraction chain will have to cross two barriers: the embedded CP (which inherits barrierhood from IP) and the embedded IP (which is a barrier because it is "the most deeply embedded tensed IP", Chomsky (1986:37)).

The extraction here is of an argument (of the preposition till "to, for"), and as such it is not subject to the requirement that each link in the extraction chain properly govern the next one.

That argument extractions are not subject to the ECP has (at least) two different motivations in the literature: According to Chomsky (1986:17-18), following Lasnik & Saito (1984), a chain ending in an argument position must be licensed w.r.t. the ECP (through what Lasnik and Saito call "gamma-marking") at S-structure, whereas chains ending in non-argument positions must be licensed at LF. At LF, all empty categories must be or have been licensed. This means that the trace properly governing the trace in an argument position may do so at S-structure, and then disappear at LF (Lasnik & Saito (1984:258)). In contrast, the trace (t') properly governing the trace (t) in a non-argument position must do so at LF, hence t' must exist at LF and will itself have to be properly governed. Thus in an argument chain, it is only the foot that must observe the ECP; in non-argument chains, on the other hand, all the links must observe the ECP.

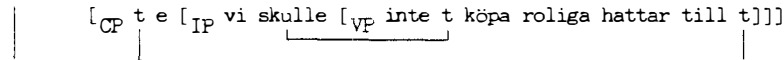
An alternative motivation for claiming that argument chains are not subject to the ECP comes from Rizzi (1988), where argument chains carry referential indices, and the links of such a chain are therefore subject only to the binding conditions (not to the ECP). In contrast, non-argument extraction chains do not have referential indices, and therefore every link of such a chain must properly govern the next one.

Whichever account is preferred, argument extraction is subject only to subadjacency requirements, whereas non-argument extraction is subject both to subadjacency and to the ECP.

⁸ It should be mentioned that Holmberg (1986) is arguing against Travis' (1984) Ph.D. thesis and not against the paper we are discussing here, Travis (1986).

cannot be in the C° immediately to the left of the embedded CP (for the reasons just stated above). This analysis is depicted in (22):

(22) Sw. *Vilken fest sa hon att



(22) is in fact more compatible with the ECP account than (21) is, because Travis claims (cf. parameter III) that Sw. *att* is a proper governor, and as such it prevents movement of any lexical material into the head of its complement. If the CP following *att* in (22) is taken to be the complement of *att*, then in this case the head of the complement is an empty C° (unlike in (21)); and thus *att* would properly govern C°. This analysis, however, would incorrectly predict that the example is grammatical, since

- a) the empty C° would not be in violation of the ECP, and
- b) there is no way to prevent an intermediate trace in CP-spec.

Thus, it seems that the ECP approach would not want to say that, in (22), the CP following *att* is the complement of *att*.

Let us now consider the idea that the CP following *att* is not a complement of *att*, and that the empty C° therefore is not properly governed (this is the second possible alternative). Even in this case, however, the sentence cannot be ruled out on ECP-grounds: Although *att* cannot properly govern C°, the verb may instead move to C° (from I°) with the subject (*vi*) moving to CP-spec. In other words, if one allows the CP following *att* not to be considered the complement of *att*, nothing prevents the analysis given in (21), i.e. the "traditional" analysis of the ungrammaticality of (19b). There is thus no way to simultaneously

- a) claim that the CP following *att* is not a complement of *att*, and
- b) force the empty C° to remain empty.

In sum, with both (20b) and (22) excluded, the analysis of (21) is the only one left open for the ECP account, as it is the only one that correctly rules out (19b). Thus Holmberg's claim that Travis must assign the structure (20b) to (19b) does not hold. In other words, because Travis (1986) explicitly rules out *att* being in C° and the finite verb being in I° in the same Sw. structure, these data from Swedish pose no problems for her approach. In the following subsection, however, we will show that a similar line of argumentation, this time based on German, will turn out to be very problematic for the ECP account.

4.3.2 German

Similar to Sw., in Ge. we also find embedded clauses with V2 under matrix verbs like "say" and "believe", even though they are only possible without *daß* "that". (23) shows that with *daß*, the finite verb must remain at the end of the embedded clause, whereas (24) and (25) show that when there is no complementiser, the finite verb has to move, resulting in a V2 structure:

- (23) Ge. a. Sie glaubte daß das Kind das Brot gegessen *hatte*
She thought that the child the bread eaten had
 b. *Sie glaubte daß das Kind *hatte* das Brot gegessen
She thought that the child had the bread eaten
- (24) Ge. a. Sie glaubte das Kind *hatte* das Brot gegessen
She thought the child had the bread eaten
 b. *Sie glaubte das Kind das Brot gegessen *hatte*
She thought the child the bread eaten had
- (25) Ge. a. Sie glaubte das Brot *hatte* das Kind gegessen
She thought the bread had the child eaten
 (=she thought that the child had eaten the bread)
 b. *Sie glaubte das Brot das Kind gegessen *hatte*
She thought the bread the child eaten had

Now consider what happens when extraction takes place out of the complementiser-less embedded clause. The results are only grammatical if the finite verb precedes all of the rest of the clause:^{9,10}

⁹ The examples in (26) are adjunct-extractions, with the base-generated position of the adjunct being left-adjoined to the embedded VP. Note that the same results are obtained when we extract the subject, (i), or the object, (ii):

- (i) Ge. a. Welches Kind glaubte sie *hatte* das Brot gegessen
Which child thought she had the bread eaten
 b. *Welches Kind glaubte sie das Brot *hatte* gegessen
Which child thought she the bread had eaten
- (ii) Ge. a. Welches Brot glaubte sie *hatte* das Kind gegessen
Which bread thought she had the child eaten
 b. *Welches Brot glaubte sie das Kind *hatte* gegessen
Which bread thought she the child had eaten

¹⁰ Teun Hoekstra has pointed out to us that (26) and (30) might not be interpreted as extractions out of embedded clauses, but have an alternative interpretation under which *glaube sie*, "believed she" is a so-called paranthetical, inserted between the matrix CP-spec and the matrix C°. If so, then the examples would not support our argument, as (26b) and (30b) would now be straightforward violations of the V2 constraint: the finite matrix verb *hatte* would not have moved to C°, though it should have, as nothing else occurs in C°.

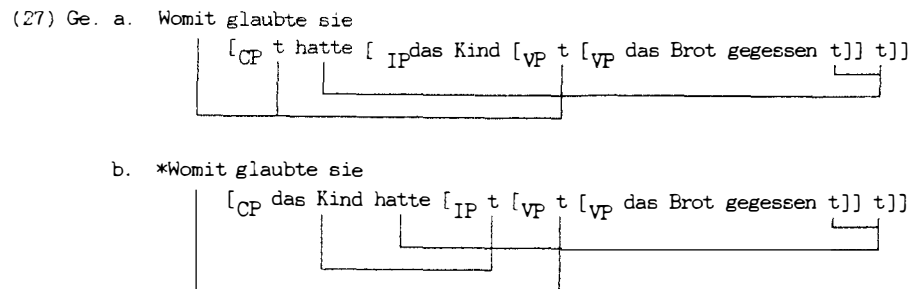
There are, however, at least two reasons to reject the paranthetical analysis of the examples in (26) and (30). One is that the judgments (of both (26) and (30)) are the same with more complicated matrix clauses:

- (i) Ge. a. Womit hast du mir gesagt *hatte* das Kind das Brot gegessen
With what have you told me had the child the bread eaten
 b. *Womit hast du mir gesagt das Kind *hatte* das Brot gegessen
With what have you told me the child had the bread eaten

Here the paranthetical analysis is unlikely, as the paranthetical would consist of *hast du mir gesagt*. Another argument (suggested to us by Alessandra Tomaselli) is that the judgments are also the same when the embedded verb is in the subjunctive (iia, iib). A subjunctive verb is impossible in a main clause (iic), unless this has a modal interpretation, which (iic) does not:

- (26) Ge. a. Womit glaubte sie hatte das Kind das Brot gegessen
 With what thought she had the child the bread eaten
 b. *Womit glaubte sie das Kind hatte das Brot gegessen
 With what thought she the child had the bread eaten

In the traditional approach, there is a straightforward account for these facts, parallel to the analysis of main clauses (cf. section 3), i.e. all V2 structures receive the same analysis: the finite verb is in C°. This entails that das Kind in (26a) is in IP-spec, but in CP-spec in (26b):



In (27a) the extraction does not violate any constraints; the empty CP-spec contains an intermediate trace of the extracted adjunct. In (27b) on the other hand, since the embedded CP-spec is filled, there is no room for an intermediate trace there, and the extraction is ruled out.¹¹

This analysis of (26b) would, on first view, seem not to be open to the ECP account, as Travis claims that the subject of subject-initial V2 structures is in IP-spec (see below). This leaves the ECP account with two possible analyses: either

- a) the subject is in IP-spec, and there is no C°-projection at all, or
 b) the subject is in IP-spec, but CP-spec and C° exist.

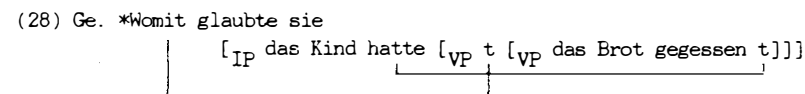
- (ii) Ge. a. Womit hast du mir gesagt hätte das Kind das Brot gegessen
 With what have you told me had(subj.) the child the bread eaten
 b. *Womit hast du mir gesagt das Kind hätte das Brot gegessen
 With what have you told me the child had(subj.) the bread eaten
 c. *Womit hätte das Kind das Brot gegessen
 With what had(subj.) the child the bread eaten

¹¹ An intermediate trace in CP-spec is necessary whether one adopts the conditions on proper government in Chomsky (1986) or those in Rizzi (1987). In Chomsky's "Barriers"-framework, there cannot be proper government across both an IP and a CP, as the CP would then be a barrier, inheriting its barrierhood from IP. In Rizzi's "Relativised Minimality"-framework, the filled CP-spec is a "typical potential antecedent governor" of the relevant type (i.e. A'), and thus in order for the trace adjoined to the embedded VP to be properly governed, this CP-spec position must contain an antecedent for the trace.

As these are adjunct-extractions, subject to the ECP (cf. footnote 7), the conditions are that each link of the extraction chain properly govern the next one. (Note also that we have omitted the intermediate trace adjoined to the matrix VP in all of these examples.)

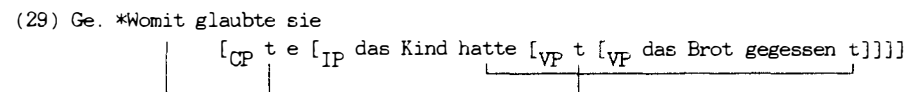
Let us start with the former: In a structure like (24a), one might be tempted to propose that glauben "believe/think" takes only an IP as a complement, on parity with Travis' analysis of subject-initial main clauses (cf. section 2). However, in (25a), glauben must be followed by a CP, since the object das Brot "the bread" precedes the finite verb and the subject. Thus, this analysis runs into the conceptual problem of stating that glauben subcategorises for an IP (only when the clause is subject-initial) and for a CP (in all other cases).

More significant are the empirical problems encountered in such a proposal. If the subject of (26b) is in IP-spec, and there is no C°-projection, the sentence, which is ungrammatical, would be predicted to be good:



Movement of the adjunct does not violate any constraints on extraction here.¹² Hence, the first alternative to the traditional account must be rejected, since the sentence must be ruled out.

Let us now turn to the second alternative, where das Kind in (26b) is in IP-spec, but CP-spec and C° exist:



The question is whether or not the embedded CP is the complement of the matrix verb in (29), glauben.

Let us first discuss an analysis which assumes that the CP is the complement of glauben. This would again incorrectly predict that (26b) is grammatical, because the empty C° would be properly governed (by glauben, hence no ECP violation)¹³ and CP-spec would also be available for an intermediate trace of womit. Thus, within the ECP approach, it cannot be assumed that the embedded CP is the complement of the matrix verb. In fact, the grammaticality of (26a) clearly shows that glauben does not properly govern the embedded C°: the finite verb unquestionably is in the embedded C°, since it precedes the subject, and

¹² In other words, each link in the chain (including the trace adjoined to the matrix VP, which we have omitted) properly governs the next one, as no barriers intervene (only IPs) w.r.t. Chomsky (1986) or as no typical potential antecedent governors intervene (because of the absence of CP-spec) w.r.t. Rizzi (1987).

¹³ In order to see how this works, let us review briefly Travis' version of proper government: A properly governed head must remain empty, i.e. nothing can move into it, because it is filled in some sense, cf. the discussion of (5) above. To put this in Travis' (1986:12, 18) terms: the head is 'identified' by proper government, and in this way it receives features which must remain recoverable, thus preventing anything moving into this position (cf. also footnote 11 in Schwartz & Tomaselli (1988:15-16)).

this would not be possible if the C° was properly governed.

If the embedded CP is not the complement of the matrix verb in (29), then this verb cannot identify the empty C°, and the empty C° thus would violate the ECP. However, although C° is empty at D-structure, there is nothing that would prevent the embedded finite verb (*hatte*) from moving into C°, and the subject (*das Kind*) from moving into CP-spec, given that the subject precedes the finite verb. This would, however, amount to the analysis of the traditional approach, which was given as (27b).

In sum, we find that working within the ECP account, there is no way to rule out (26b), except if it is analysed as (27b): The finite verb (*hatte*) is in C°; the subject (*das Kind*) is in CP-spec; and since CP-spec is filled, there is no room for an intermediate trace of *womit*. Thus it seems that there is no analysis which can simultaneously maintain the subject in IP-spec and rule out (26b).

The general conclusion of the discussion above must be that embedded V2 clauses are CPs, irrespective of whether they are subject-initial or not. This would seem to imply that the ECP approach has to either be given up completely or be maintained in a much weaker form: while conceding that all embedded V2 clauses are CPs, proponents of the ECP approach could still maintain that V2 subject-initial main clauses are IPs, necessitating two different explanations for what seems to be only one phenomenon, viz. V2. Though this is theoretically possible, it is less desirable given the existence of an analysis which provides a unified explanation of this phenomenon.

In the remainder of this section, we will discuss another example of a phenomenon which cannot receive a unified explanation under the ECP account. This will thus be a further argument why even this much weaker version of the ECP approach should be rejected. The relevant data concern the behaviour of *es*, as discussed in section 4.2. There it was shown that the ECP account could provide an elegant analysis of the distribution of sentence-initial *es*, by assuming that sentence-initial subject *es* is in IP-spec (and therefore grammatical), whereas sentence-initial object *es* is in CP-spec (and therefore ruled out).

We start by considering the following contrast:

- (30) Ge. a. *Womit glaubst du hat es das Brot gegessen*
 With what think you has it the bread eaten
 b. **Womit glaubst du es hat das Brot gegessen*
 With what think you it has the bread eaten

At first glance, it might appear that the ECP approach could account for this difference in grammaticality in a parallel fashion to its account of (15), repeated below as (31). In (31a) *es* is in IP-spec (allowed), but in (31b) *es* is in CP-spec (disallowed):

- (31) Ge. a. [_{IP} *Es hat* [_{VP} *das Brot gegessen t*]]
 It (the child) has the bread eaten
 b. *[_{CP} *Es hat* [_{IP} *das Kind t* [_{VP} *t gegessen t*]]]
 It (the bread) has the child eaten

Carrying this over to (30), in (30a) *hat* would be in C° and the intermediate trace of *womit* would be in CP-spec; the ungrammaticality of (30b) could then be due not only to there not being any intermediate trace (there is no room for it in CP-spec) but also to the unstressed *es* occurring in CP-spec, which is explicitly excluded under the ECP approach (cf. (31b) and section 4.2).

As also argued in the discussion of (26)-(29) above, however, this presupposes that the embedded clause is a CP, whether it is subject-initial, as in (32a) (= (24a)), or object-initial, as in (32b) (= (25a)):

- (32) Ge. a. *Sie glaubte* [_{CP} *das Kind hatte* [_{IP} *t t das Brot gegessen*]]
 She thought the child had the bread eaten
 b. *Sie glaubte* [_{CP} *das Brot hatte* [_{IP} *das Kind t t gegessen*]]
 She thought the bread had the child eaten
 (=she thought that the child had eaten the bread)

This in turn leaves the ECP approach without an account for the difference in grammaticality between the *es* versions of (32a) and (32b), viz. (33a) and (33b), as in both cases *es* must be in CP-spec:

- (33) Ge. a. *Sie glaubte es hatte das Brot gegessen*
 She thought it (the child) had the bread eaten
 b. **Sie glaubte es hatte das Kind gegessen*
 She thought it (the bread) had the child eaten

In fact, the ECP approach would incorrectly predict (33a) to be ungrammatical, precisely because *es* must be in CP-spec. Let us briefly run through, once more, why this must be so:

- a) *glauben* must be followed by a CP, cf. the discussion of (28)
- b) CP cannot be the complement of *glauben*, cf. the discussion of (29)
- c) C° is not properly governed, so the verb must be in C°, cf. the discussion of (29)
- d) *es* cannot be in IP-spec, as it precedes the verb in C°
- e) *es* is in CP-spec, where it must not occur, cf. section 4.2
- f) the sentence hence is ruled out

In other words, an account of (33) which refers to a difference in position between sentence-initial subject *es* (in IP-spec) and sentence-initial object *es*

(in CP-spec) is not tenable for embedded clauses (it would incorrectly predict (33a) to be ungrammatical).

So it is precisely the claim that unstressed *es* cannot be in CP-spec (which was the prime motivation for the idea that subject-initial (main) clauses are IPs) that turns out not to be able to account for the completely similar facts in embedded clauses. This is thus another example of a phenomenon for which the ECP account now has to have two different explanations, one for main clauses and another for embedded clauses (whatever the latter might be).

Summing up: we have shown that two important assumptions of the ECP account, a) that subject-initial V2 clauses are IPs, and b) that unstressed *es* cannot occur in CP-spec, cannot possibly hold for embedded clauses, as embedded subject-initial V2 clauses are CPs, cf. (29) and unstressed *es* may occur in an embedded CP-spec, cf. (33a). This leaves only two possibilities:

- a) the assumptions of the ECP approach are maintained, though only for main clauses. The costs for this are that facts which are completely parallel in main and embedded clauses thus do not receive unified explanations.
- b) the assumptions of the ECP approach are rejected, and the relevant phenomena receive parallel analyses: Both main and embedded V2 clauses are CPs¹⁴, and the restrictions for unstressed *es* in CP-spec are the same in main and embedded clauses.

It seems clear to us that b) is surely the more viable option.

4.4 Adjunction to IP

Let us now turn to a completely different set of facts: Adjunction to IP. We will argue that these facts are also difficult to handle in an analysis like Travis (1986) but not in the traditional approach.

¹⁴ Note, moreover, that an important consequence of the conclusion that all V2 clauses are CPs concerns the position of I° in German: If sentence-initial subjects are in CP-spec, then there is no empirical motivation for I° preceding VP in German (cf. section 2).

It may be, in fact, that the position of the finite verb in exclamatives provides evidence for I° following VP. Consider these examples (from Näf (1986)):

- (i) Ge. a. Wie groß *bist* du geworden!
How big are you become!
- b. Wie groß du geworden *bist*!
How big you become are!

(ia) is not a problem for either approach: *bist* is in C°. (ib) is unproblematic for the traditional approach: the finite verb has moved to I°. To the ECP approach, on the other hand, *bist* in (ib) must be in V°, but if this is so, then I° must be empty. As there is nothing that could possibly properly govern I°, (ib) should violate the ECP (twice, in fact, if C° is also empty). For further arguments against I° preceding VP, cf. Giusti (1989) on infinitivals.

We will start out by noting that (as also noted in Eubank (1988) and Tomaselli & Schwartz (1988)) Ge. *seems* to allow adjunction to IP, contrary to Travis' parameter II:¹⁵

- (34) Ge. Warum [_{CP}haben][_{IP}diesen Film [_{IP}gestern [_{IP} die Kinder gesehen]]]
Why have this film yesterday the children seen
- (35) Ge. Ohne Belohnung [_{CP}hat][_{IP}diese Sache [_{IP}gestern [_{IP} Peter erledigt]]]
Without reward has this matter yesterday Peter taken-care-of

Assuming adjunction to IP, it is possible to account for the position of adverbials like Ge. *gestern* "yesterday" or Sw. *aldrig* "never" between C° and the subject in IP-spec. This is illustrated below, in (36a) and (37a) in an embedded clause, in (36b) and (37b) in a main clause (yes/no) question, and in (36c) and (37c) in a main clause topicalisation:

- (36) Ge. a. Ich weiß, [_{CP}daß *gestern* [_{IP}Peter diese Sache erledigt hat]]
I know that yesterday Peter this matter taken-care-of has
- b. [_{CP}Hat *gestern* [_{IP}Peter diese Sache erledigt]]
Has yesterday Peter this matter taken-care-of
- c. [_{CP}Diese Sache hat *gestern* [_{IP}Peter erledigt]]
This matter has yesterday Peter taken-care-of

¹⁵ If adjunction to IP is possible (as shown here for German), we have a reason to prefer the conditions on proper government of Rizzi's (1987) "Relativised Minimality"-framework over those of Chomsky's (1986) "Barriers"-framework (cf. footnote 10).

We saw in section 4.3.2 that extraction of an adjunct out of an embedded clause (also in German) was impossible unless there was an intermediate trace in CP-spec. If adjunction to IP is possible, the "Barriers"-framework should allow adjunct-extractions to use this for an intermediate trace between IP and CP: Then even extractions across a filled CP-spec are predicted to be grammatical (CP would not inherit barrierhood from IP, since IP is not a blocking category), though this is clearly not a desirable prediction, (cf. (26b), (30b)).

In the "Relativised Minimality"-framework, the possibility for adjoining to IP makes no difference, the extraction still has to go across CP-spec, which still is a typical potential antecedent governor of the relevant type (A'). Thus in the chain there will be a trace that is not properly governed (either the one adjoined to the embedded IP, or the one adjoined to the embedded VP) and the relevant examples are predicted to be ungrammatical, which is the correct prediction.

- (37) Sw. a. Jag beklagar [_{CP} att aldrig [_{IP} Johan vill läsa de här böckerna]]
I regret that never Johan will read these here books
- b. [_{CP} Vill aldrig [_{IP} Johan läsa de här böckerna]]
Will never Johan read these here books
- c. [_{CP} De här böckerna vill aldrig [_{IP} Johan läsa]]
These here books will never Johan read

In contrast, as the following two examples show, the adverbials in question cannot adjoin to CP:

- (38) Ge. *Gestern [_{CP} diese Sache hat [_{IP} Peter erledigt]]
Yesterday this matter has Peter taken-care-of
- (39) Sw. *Aldrig [_{CP} de här böckerna vill [_{IP} Johan läsa]]
Never these here books will Johan read

The question now is how to treat the ungrammaticality of the following:

- (40) Ge. *Gestern Peter hat diese Sache erledigt
Yesterday Peter has this matter taken-care-of
- (41) Sw. *Aldrig Johan vill läsa de här böckerna
Never Johan will read these here books

If a subject-initial main clause is an IP (as it is according to Travis (1986)), (40) and (41) ought to be grammatical, as they should be completely parallel to (36) and (37): The adverbial should be able to adjoin to IP, and the examples should be grammatical, but they are not.

If a subject-initial main clause is a CP (the traditional approach), (40) and (41) are predicted to be ungrammatical, as they should now be completely parallel to (38) and (39): The adverbial cannot adjoin to CP, giving the correct prediction.

These facts are thus incompatible with the ECP account, but compatible with the 'traditional' one.

4.5 The Relation between V° to I° Movement and Richness of Inflection.

It is generally assumed (e.g. Travis (1986:19), Holmberg & Platzack (1988:27)) that the finite verb moves to I° in Icelandic even in embedded clauses, whereas in Sw. and Da. it stays in V°. Holmberg & Platzack (1988) motivate this difference by linking it to the richness of inflection in Ic. (5 different forms out of 6 possible ones) and to the poverty of Sw. and Da. inflection (only one form out of 6 possible). The paradigm is the present tense of "take":

- (42) Ic. ég tek, þú tekur, hann tekur, við tökum, þið takið, þeir taka
 (43) Da. jeg tager, du tager, han tager, vi tager, I tager, de tager

In view of this difference, if we now consider Ge., we notice that Ge. also has a rich inflection, in fact equally rich as that found in Ic. (4 or 5 different forms out of 6 possible):

- (44) Ge. ich nehme, du nimmst, er nimmt, wir nehmen, ihr nehmt, sie nehmen

Intuitively, then, Ge. seems to have the same kind of motivation as Ic. has to force movement of the verb from V° to I°, even in embedded clauses.

This is not a problem in the traditional approach, since VP precedes I° in Ge. In contrast, the ECP account has movement from V° to I° in Ge. only in main clauses and in embedded clauses with complementisers like *denn* (cf. section 4.1 however, where we contest this. See also footnote 13). Obviously, an analysis that can offer a uniform account of the realisation of inflection on verbs is to be preferred over one that cannot (cf. Schwartz & Tomaselli (1988:5)).

5. Conclusion.

The overall purpose of this paper was to argue that despite the elegance and coherence of Travis' ECP account of word order in the Germanic V2 languages, it has to be rejected in favour of what we have termed the traditional approach. Data from two areas strongly lead to this conclusion, namely:

- 1) Only the traditional approach allows unified explanations of the facts concerning main V2 clauses and embedded V2 clauses, cf. section 4.3.
- 2) Only the traditional approach is compatible with the facts concerning adjunction to IP, cf. section 4.4.

In addition, a perhaps less compelling but certainly compatible argument, viz. that richness of inflection entails V° to I° movement in all clauses, is also compatible only with the traditional approach, cf. section 4.5.

We have furthermore shown that the data that Travis (1986) claims provide empirical evidence for the superiority of her approach turn out not to favour either analysis over the other. We are here referring to the data concerning Ge. *denn* (section 4.1) and sentence-initial *es* (section 4.2) (cf., however, section 4.3 as well).

Our primary goal was to discuss the structures and mechanisms of the V2 phenomenon as opposed to its motivation; nevertheless, we are now in a position to ascertain whether Travis' ECP motivation is valid. In other words, suppose Travis were to concede that even subjects move to CP-spec (in V2 languages), could the ECP be retained as the essential motivation for V2?

In answering this question, it must be remembered that it is crucial to the ECP account that non-V2 languages like English or French have no CP level in (declarative) main clauses; otherwise the ECP would require that C° be filled (by the verb), which obviously is not the case. Thus, the as yet unanswered

question is: Why are (declarative) main clauses in non-V2 languages base-generated as IPs, when in V2 languages they are base-generated as CPs?

For Travis (1986), the solution lies in her parameter II, allowing adjunction to IP in non-V2 languages but prohibiting such adjunction in V2 languages. Not only has it been shown (section 4.4) that such a parameter does not in fact distinguish non-V2 from V2 languages, but moreover, it presupposes that subject-initial clauses are represented only as IPs; as we have seen, several reasons have been found to reject this latter assumption.

Thus it appears that one must also reject the ECP motivation for V2 since without the prohibition of adjunction to IP, topicalisation of an XP is not forced to end up in CP-spec, which for Travis is what induces the existence of the CP-level and hence of the empty C° that is in potential violation of the ECP.

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