first draft

CONNECTEDNESS EFFECTS IN GERMAN

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0. Introduction

The way the Connectedness Condition is formulated in Kayne (1983) precludes its immediate transposition to an OV-language like Dutch or German: In a language like Dutch VP ($=V^{max}$) is a maximal projection in an ungoverned position, due to the fact that in OV-languages governors have to be on a right branch to be in a canonical government position. Therefore CC would predict that extraction out of VP is ungrammatical in Dutch, which is not the case, of course.

In section I. I will discuss evidence internal to English that calls for a reformulation of CC. This reformulation makes V^{max} irrelevant for CC-purposes.

This outcome is the basis for section II., where Dutch-English-German ECP-effects are discussed with the result that a single parameter accounts for an intricate patterning of grammaticality differences between the respective languages: The parameter is V-projection. German turns out to differ both from English and Dutch with respect to its V-projection. In German subject and objects are not separated by a maximal projection, i.e. VP.
To put it in a nutshell: German has no VP

In section III. I try to extend the results of section I. and pursue the question how subjacency relates to ECP and whether it can be subsumed under CC.
Section IV, appendix, provides additional and independent evidence from case-theory,'VP-movement'and NP-movement for the conclusion arrived at in section II.

I.1 Kayne's (1983) Connectedness Condition - henceforth CC - is both an elegant and far-reaching attempt to reduce ECP to a locality constraint based on graph-theoretic notions of locality: "constituting a subtree".
The basic notion to be checked on these trees is g-projection: An antecedent is found by going bottom-up and checking every maximal projection that contains the e.c in need of an antecedent, whether it is in a standard government configuration. Formally, CC (cf. Kayne 1983: 225, 239) reads:

(1) 3. Kayne's Connectedness Condition

a. Y is a g-projection of X (for X a structural governor like V and, in English, P) iff:

Y is an $\bar{X}$ projection of X or of a g-projection of X

or Y immediately dominates W and Z, Z a g-projection of X, and W and Z are in a canonical government configuration.

W and Z are in a canonical government configuration iff:

W precedes Z in VO languages

Z precedes W in OV languages

b. the g-projection set of a category β governed by γ is constituted by β, every g-projection of γ, and every category dominating β and not dominating γ.

c. Let $\beta_1 \ldots \beta_n$ be a set of empty categories each locally bound by α in a tree T; then, the union of α and the union of the g-projection sets of every β must form a subtree of T.

For English CC yields as a consequence that a maximal projection is an island if it constitutes a left-most branch, unless it is 'connected' - this is case (1) c) - with a g-projection that contains the licensing gap. The relevant examples are discussed in Kayne (1983). Longobardi (1983) draws the attention to the fact that the islandhood of adjuncts for extraction necessitates that 'being in a canonical government configuration' of (1) a) has to be constrained to 'proper government', thus revising (1)a) to (2)a):

(2) a. W and Z are in a canonical .... iff

W precedes Z in VO languages

Z precedes W ....

and

W governs Z

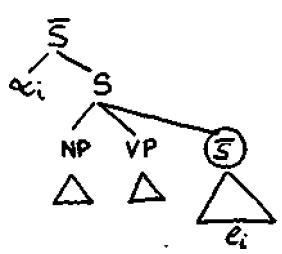
A governs B iff every maximal projection containing A contains B as well and viceversa, and A is a lexical category or a category referentially or morfologically conindexed with B.

This move is based on the insight that although adjuncts are in a canonigal government configuration in Kayne's sense, i.e. there is a left sister, extraction neverthéless is impossible:

(3) a)* To whom did you leave for Vienna in order to talk

b)* Which girl did you feel embarassed while informing about your intentions.

c)



Extraction out of the encircled $\bar{S}$ can be barred by the requirement that it be properly governed, i.e. being in a canonical government configuration with respect to a lexical governor.

I.2 The consequence of replacing (1)a) by (2)a) for islandhood is then, according to Longobardi "that a maximal projection is an island if it is not governed by a left sister (for VO-languages, H.H.), unless a sister node of it contains a licensing gap.

He cites the following examples, adding the prediction "that parasitic gaps inside and adjunct will be unacceptable if the licensing gap is not contained in the adjacent VP":

(4) a) * wh [NP [...e...]]$_S$ [NP VP [...e...]$_{\bar{S}}$]$_{\bar{S}}$]

b) * Which article should I study thoroughly before I call the author without reviewing.

b') ? Which article should I study thoroughly before I persuade the author to publish.

c) * A girl I talked to without knowing that I was a very happy men before he met

c') ? A girl I talked to without knowing that I had decided he would like to meet.

Longobardi's reformulation is too strict: First of all it does not matter whether the licensing gap is contained in the adjacent sister category, as e.g. VP, a subject-gap will do

as well as 5) illustrates. Secondly the licensing gap need not necessarily be contained in a sister category, as 6) shows (on the assumption that manner adverbials are sisters to $\bar{V}$, as in Williams (1974; 1975)).

(5) a) * Which article do you think should impress him deeply before he may persuade the author to publish e.

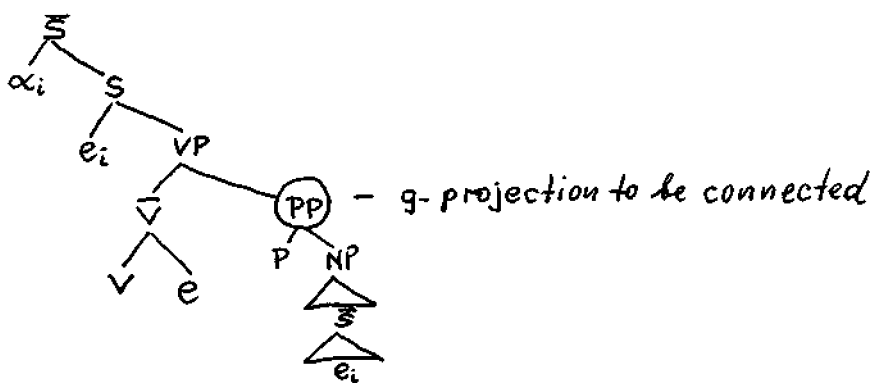
b) ? Which article do you think e should impress him deeply before he persuades the author to publish e.

(6) a) * A man, who J. spread the rumor in such a way that everyone shouted at e from the very beginning of his talk.
(John spread the rumor in such a way that everyone shouted at the man from the very beginning of his talk.)

b) ? A man who was introduced in such a way that everyone shouted at e from the very beginning of his talk.
(A man was introduced in such a way that everyone shouted at him from the very beginning of his talk)

The relevant details of (6)a) are illustrated in (7).

(7)



Since parasitic gaps need a wh-type gap as licensing gap, it is the subject-gap 'e_i' in (7) that functions as licensing gap, hence it is not contained in a sister-node of the g-projection of the parasitic gap.

Examples of the type (6) and (5) indicate that the relevant property for connectedness is that both g-projections share a specific domain, for which I should like to suggest A-category.

(9) A-categories are $\bar{S}$ and NP.

The intuitive background for (9) is that $\bar{S}$ and NP are the unmarked categories for syntactic categories that function as argument. Whereas e.g. PP or AP have to be subcategorized it is easy to see that for English subjects there is no subcategorization restriction and - semantic constraints aside - either $\bar{S}$ or NP may occur:

(8) a) His behaviour proves that he is guilty.

b) That he blushes constantly proves that he is guilty.

Apart frome these plausibility consideration $\bar{S}$ and NP are the crucial categories for ECP-based subject-object i.e. left-right asymmetries (cf. examples in Kayne 1983).[1)]

The intuitive notion - 'share an A-category' - can be made more precise:

(9) A g-projection G_1 is connected with a licensing gap e_i iff G_1 c-commands e_i.

If (9) is substituted for the requirement in (1)c) that "the union of α etc. must form a subtree of T" and g-projection is relaxed to A-categories, i.e. checking only for A-categories, and if government is interpreted in the strict sense, i.e. lexical government, this tentative formulation covers the

relevant examples (Kayne's 1983: 18a,b; 21).

(10) a) ?a book that people that discover the first chapter of usually end up liking

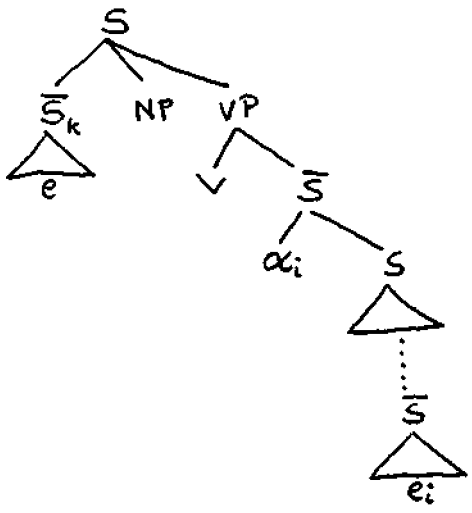
b) * a book that people that discover the first chapter of missing usually end up liking

c) ?a person who you admire because you know close friends of

d) * a person who you admire because close friends of become famous

In (10) b) there is no shared g-projection since the NP "the first chapter of" being on a left branch does not have a g-projection other than that NP.
In (10)a) on the other hand this NP is governed by V (discover). The $\bar{S}$, the next A-category, is governed by N and projects to NPwhich c-commands the licensing gap.
The same difference holds for (10)c) d): In (10)c) the NP 'close friends of', being governed by V, projects to $\bar{S}$, which c-commands the licensing gap.
Analogous considerations hold for examples 4) - 6).
The interesting prediction entailed by 9 is sketched in (11).

(11)



Let 'e_i' be the licensing gap in (11) then the parasitic gap in $\bar{S}$ will connect with e_i if it projects to $\bar{S}_k$.
This is exactly what Longobardi (1983) has found out for Italian and illustrated with examples like (12).

(12) a) ?Non so proprio quale ragazzo Maria sarebbe disposta a sposare - senza aver prima incontrato - di persona.
(I really don't know which boy M. would be willing to marry without meeting in person before)

b) ?Senza aver prima incontrato - di persona non so proprio quale ragazzo Maria sarebbe disposta a sposare -
(Without meeting in person before I really don't know which boy M. would be willing to marry)

The c-command requirement is licit of course only for the A-category of the parasitic gap, otherwise sentences like (10)d) would be ruled in.
Fronting of a constituent that contains the licensing gap is ungrammatical since then the c-command requirement for the antecedent - e.c. relation would not be met, cf.(12)c:

(12c)*A sposare - non so proprio quale ragazzo Maria sarebbe disposta - senza aver prima incontrato - di persona
(To marry I really don't know which boy M. would be willing without meeting in person before) (Longobardi)

Redefining CC in terms of A-categories is the solution also for two problems recognized already in Kayne's original paper:

i) g-projection of non-governed items

ii) extension of CC to OV languages like Dutch

One especially esthetic moment of CC is its coverage of

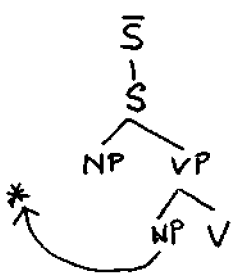
superiority effects in multiple wh-questions. The elegance of this approach, however, had to be infected with an inpurity, a semantic support for the assumption that for sentences like (13) the g-projection at issue is the g-projection of 'whose wife' rather than 'whose' (Kayne 1983: 241).

(13) a) ?We are trying to figure out who said that he loved whose wife.

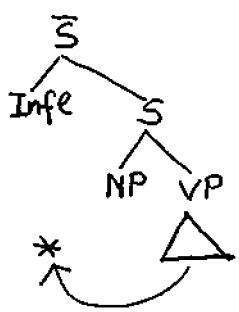
b) *We are trying to figure out who sait that whose wife loved him.

On the assumption that it is necessary for multiple wh-questions that the g-projection of the wh-phrases must connect, the obvious difference between (13) a) and b) is hard to account for along these lines since 'whose' in 'whose wife' is normally considered not to be governed at all, hence there is no g-projection. If, however, it is checked whether the A-categories meet then the result is positive for (13)a) and negative for (13) b), as expected. (More details in Sect. IV)
A more severe problem is the extension of CC to OV-languages since there Kayne's concept of canonical government configuration runs into problems.

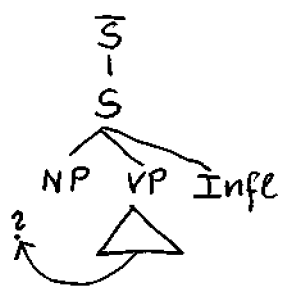
(14) a)



b)



c)



In a language like Dutch the directionality entailed by 'canonical government configuration' is a right-left one, i.e. the governor has to be a right sister.

Kayne's (1983: 225) original formulation yields a lot of wrong predictions at first sight:

Leaving open the question for the moment, whether it is possible to rescue extraction from VP by the assumption that it is governed by Infl, e.g. (14) c), one prediction is that extraction from a properly governed position within a subject clause should be possible in Dutch. But just as English, subjects are islands in Dutch.

Coming back to the question of Infl, in Longobardi's reformulation of CC, Infl is no appropriate governor hence extraction out of VP, being a maximal projection should be completely impossible. But, again, Dutch has roughly the same extraction possibilities as English.

If, however, only A-categories matter for g-projections, VP does not matter, a result which is necessary for a reasonable extension of CC to Dutch.

II. Dutch - English - German ECP - contrasts:

The choice of these languages is not just random but nevertheless convenient for a theoretical purpose: They are in a sense minimal pairs of grammatical systems: Dutch and German are both OV-languages but differ w.r.t. the case paradigm. German has a productive 4-way case system, English and Dutch differ as to basic word-order of the verb but are

very similar in the case paradigm: The only difference is with pronouns: 3.P.pl. is the only 3-way case distinction left.

The following array is a summary of the constructions that will form the core of data for the subsequent analysis: The search for one basic parameter that accounts for this particular patterning.

(15)

	D	E	G
1. Wh-extraction out of subject clauses	*	*	✓
2. Relativization out of subject clauses	*	*	✓
3. S-fronting and relativization	*	*	✓
4. that-e-phenomena with subjects	*✓	*	✓
5. superiority	*	*	✓
6. extraction out of extraposed subject clauses	*	✓	*
7. parasitic gap	*?!	✓	*

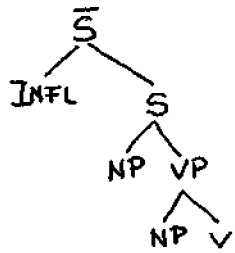
The illustrative examples will be discussed in the order above.

It is worth while noting that English and German seem to be exactly converse, an indication for the presence of a single parameter with values fixed conversely.

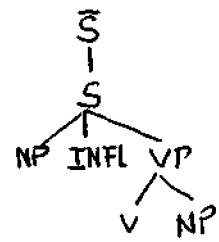
In (15) 6. and 7., where Dutch and German both differ from English that may, and I will argue that it does indeed, reflect the influence of the VO-OV-difference, i.e. the converse directionality of government.

The parallelism between Dutch and English in (15) 1. to 5. finally shows that the parameter that distinguishes English from German holds also for Dutch vs. German. The parameter involved in 15) 1. to 5. obviously relates to the government properties of the subject position: In Dutch and English extraction or superiority effects are controlled by ECP, reformulated in terms of g-projections.
If in German there is no difference between subject and objects w.r.t. ECP it may be concluded that subjects are governed in the same way as objects are. The implementation of this conslusion requires that there is a structural governor for subjects as there is one for objects.
I shall argue that this governor is 'V', i.e. that subjects and objects are <u>not</u> separated by a boundary of a maximal projection, i.e. VP $\neq V^{max}$, in German.
I assume the following sentence structures:

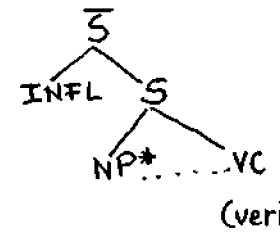
(16) <u>Dutch:</u>



<u>English:</u>



<u>German:</u>



1. Wh-extraction out of subjects

(17) a) Welchen Polizisten glaubst du würde damit zu täuschen selbst diesem Gauner schwerfallen?

b) *Which policeman do you think (that) to cheat with it would be hard even for that rascal?

c) *Welke politieagent geloof je zou daarmee te bedriegen voor deze schurk onmogelijk zijn?

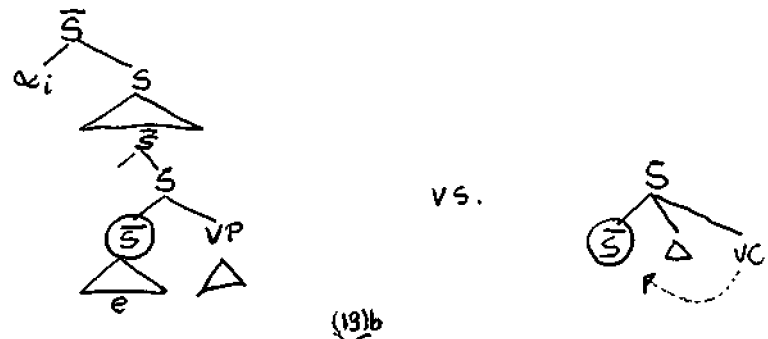
(18) a) Welches Buch meinen sie ist heuer zu prämieren beschlossen worden?

b) * Which book do you (pl.) think (that) is to award a prize has been agreed upon?

c) * Welk boėk vermoedt zij is te bekronen besloten worden?

The difference between German and Dutch/English is a consequence of the ungoverned subject position: Being ungoverned it does not enter into a g-projection linking with the antecedent.

(19) a) b)



(19)b

In German the encircled $\bar{S}$ is governed hence its A-category is a g-projection too, which is governed again and thus projects to the matrix $\bar{S}$.

2. Relativization out of subjects

(20) a) ein Klavier, das zu spielen mir Spaß macht

b) * a piano which to play is fun for me

c) * een piano, die te spelen me bevalt

The account for the difference is the same as for (17) and (18).

3. S-fronting and relativization

(21) a) ein Auto, das ich ihm - zu kaufen empfohlen habe

a') ein Auto, das zu kaufen ich ihm empfohlen habe

b) a car which I recommended him to buy

b')*a car which to buy I recommended him

c) een auto dat ik hem aangeraden te kopen heb

c')*een auto, dat te kopen ik hem aangeraden heb

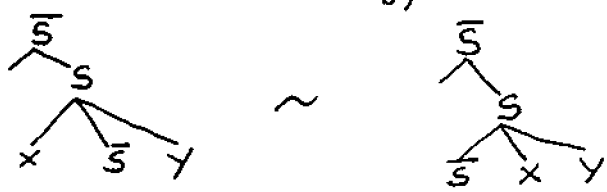
The possibility of fronting the whole $\bar{S}$ that contains the gap of the relative pronoun as exemplified by (21)a') looks less exotic if it is compared with the overall distributional properties of embedded clauses.

(22) a) daß ich ihm [ein Auto zu kaufen] geraten habe
(that I him a car to buy recommended)

b) daß [ein Auto zu kaufen] ich ihm geraten habe
(that a car to buy I him recommended)

(22) a)b) are the declarative counterparts of (21) a)a') respectively. If, as (22) illustrates, it is possible to front an embedded clause, the extraction will work in the same way, provided that $\bar{S}$ is governed:

(23) a) b)



Since (23) a) and (23) b) are free variants, a reflection of the free constituent order of German, they are governed in the same way, hence extraction will work in the same fashion both for (23) a) and (23) b).

In Haider (1981) I erroneously suggested an analysis for sentences like (21)a') in terms of topicalization or

$\bar{S}$-pied piping on the evidence of the parallel ungrammaticality pattern of (20) compared with English.

I was mislead, and so was Riemsdijk (1982), by the term '$\bar{S}$-pied-piping', which suggests that Comp is involved, and assumed pied-piping of the whole $\bar{S}$ into Comp, an unnecessary assumption of course, as is obvious from (22). For an excellent demonstration of the theoretical complications entailed by strict $\bar{S}$-pied-piping I refer to Riemsdijk (1982). The basic problem, however, was, that it remained completely mysterious why Dutch should forbid $\bar{S}$-pied piping, since Dutch and German are very similar regarding their pied-piping-properties.

Viewing (21)a') on a par with (22) b), however, allows an immediate account of the difference:

The Dutch equivalent of (22) b) is ungrammatical like the English.

But now the reason is obvious: It is the VP that precludes random order. Even if it were possible to front a sentential constituent, extraction would be impossible since it would not be properly governed, just like a subject-clause.

4. That-e phenomena:

Before quoting an example of subject extraction across complementizer two remarks are due: Subject extraction of this type is very common in the southern colloquial varieties of German, whereas in the northern varieties - the borderline falls together with a well known phonological border line - tend to omit this construction completely, i.e. there is no subject-object distinction like in English for extraction.

Secondly, as in English, German does not permit doubly filled Comps.

Since the affair is that delicate I use examples from literature or grammars of German only.

(24) a) Wer wohl meint er, daß ihm seine Arbeit hier bezahlen werde? (T. Storm, quoted from H. Paul 1920: 321)

(Who 'particle' thinks he, that him his labour here pay would)

Who does he think that would pay him for his labour here?

b) alles was ich dachte, daß mich aufheitern werde
(H. Paul 1920: 322)
(everything that Ithought, that me cheer up would)
everything that I thought that would cheer me up

Obviously, if subjects are governed there will be no that-e effect in that language.

For Dutch it is hard to get consistent judgements on that-e phenomena even from linguistic literature. What I think is responsible for this deplorable state is the interaction of Comp-properties different from both English and German with ECP:

Dutch allows doubly filled Comps, therefore this may leave open a way to escape ECP in these cases even with a structurally ungoverned subject position:

This is a position Bennis (1980) seems to subscribe to:

(25) a) Ik vroeg me af wie (of) dat hij t gezien heeft.
I wondered who (if) that he seen has

b) *Ik vroeg me af wie (of) dat t hem gezien had
I wondered who (if) that him seen had
(taken from Bennis 1980)

Given that (25) reflects an accurate representation of that-e effects in Dutch, the familiar subject-object asymmetry is confirmed.

5. Superiority-Effects

One of the highlights of CC is how it relates ECP effects to asymmetries that do not involve gaps on S-structure: It is the ungoverned Wh-phrase, i.e. not structurally governed - that has to move into Comp unless it is connected. (cf. Kayne 1983: Sect. 2.2.)

(26) a) Jetzt möchte ich aber wissen, wer nun ein Buch wo versteckt hat.

a') Jetzt möchte ich aber wissen, wo nun wer ein Buch versteckt hat.

b) Now I'd like to know, who hid a book where

b')*Now I'd like to know, where who hid a book

c) Nu wil ik weten, wie nu een boek waar verborgen heeft

c')*Nu wil ik weten, waar nu wie een boek verborgen heeft

(27) a) Ich weiß nicht was wer gekauft hat.

b)* I do not know what who bought.

c)* Ik weet niet wat wie gekocht heeft.

In German any argument position is governed, unlike English/Dutch, hence any Wh-phrase may be fronted to Comp.

6. Extraction & Extraposition

As indicated in (15) German and Dutch behave differently from English:

(29) a)* Welchen Polizisten glaubst du würde es selbst diesem Gauner schwerfallen mit diesem Trick zu täuschen

b) Which policeman do you think it would be difficult even for this crook to cheat with this trick

c)* Welke politieagent geloof je zou het voor deze schurk onmogelijk zijn met deze truk te bedriegen.

(30) a)* Das ist ein Klavier, das es mir Spaß macht, zu spielen

b) This is a piano which it is fun for me to play

c)* Dat is een piano, die het me bevalt, te spelen

(cf. Ex. 20)

(31) Das ist ein Klavier, das mir Spaß machte vierhändig zu spielen.

This is a piano which is fun for me with four hands to play.

The solution to the patterning in (29) - (31) in ECP terms depends on the structure of extraposition-construction. As defended by Baltin (1982: 10-16) extraposition of sentential arguments is an adjunction to VP.

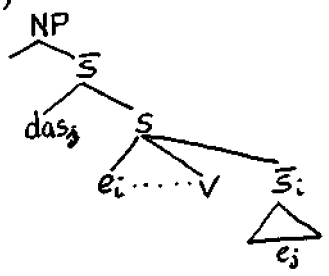
(32) a) b)

In (32) b) but not in (32) a) 'S' is structurally governed, hence allows extraction.

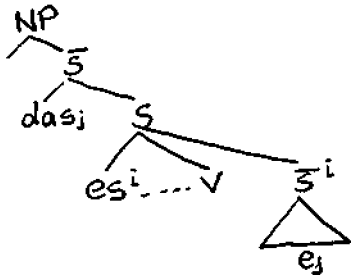
In German and Dutch the 'landing site' of the extraposed clause is postverbal as well but the directionality of government is different: V governs only to its <u>left</u> in Dutch and German, as is obvious from the ungrammaticality

of postverbal NPs. That means that a postverbal clause is ungoverned hence extraction is impossible.
The remarkable distinction however is between (30) a) and (31), sketched in (33) a)b) respectively.

(33) a)



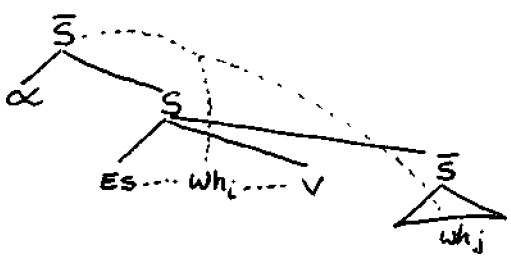
b)



In German extraction out of an extraposed clause is illicit only if the extraction site is filled with a pronominal element (s. Kvam 1983: 32).
Two accounts can be applied.
If extraposition is a stylistic rule it will 'follow' extraction, i.e. will not interact with it, hence extraction is possible, since subjects are governed in German.
On the other hand this phenomenon can be interpreted as an instance of Koster's (1983) chain-transfer-principle:
There is a chain 'e_i.....$\bar{S}_i$' which transfers government.
This chain ceases to exist if the extraction site is filled with a pronoun, since pronouns do not transmit government.
This is exactly the point to search for CC-effects.

6.1. CC-Effects in German:

(34)



(34) is the structure of a multiple-Wh construction which should vary in grammaticality with presence or absence of 'wh_i', to which wh_j can connect. (cf. Kayne 1983: 239)

(35) a) ?Wem wurde geraten morgen wieviele Bücher aus der Bibliothek zu entwenden?
(Who was recommended tomorrow how many books to steal from the library)

b)?? Wem wurde es geraten morgen wieviele Bücher aus der Bibliothek zu entwenden?

c) Wem wurde es von wem geraten morgen wieviele Bücher aus der Bibliothek zu entwenden?
(Who was it recommended by whom tomorrow to steal how many books from the library)

d) Wem wurde von wem geraten morgen wieviele Bücher aus der Bibliothek zu stehlen?

As predicted by CC, (35) b) is odd because the g-projection of the two Wh-items do not connect, hence the required paired-list answers are hard to get. What is really surprising, however, is that (35)c) despite the pronominal is as good as (35) d) and better than (35) a).
In (35) a) it's the familiar processing difficulty for multiple Wh-constructions, where the Wh-items belong to two different clauses. The real confirmation for CC is (35) c):
An unmoved Wh-item connects to the g-projection of another unmoved Wh-item.
As illustrated by (35) b) vs. c) the parallelism-requirement discussed by Kayne (1983: 239) i.e. an unmoved Wh-item can connect only to the g-projection of another unmoved Wh-item is born out in German.

Scope-differences, too, behave as predicted by CC:

Ungoverned constituents do not allow wide scope.

(36) a) Er forderte, nicht ein einziges Buch zu prämieren.
(He required that not a single book should be awarded a prize)

b) Weil ihm zuwiderläuft, nicht ein einziges Buch prämiert zu haben.

c) weil es ihm zuwiderläuft, nicht ein einziges Buch prämiert zu haben
(Because (it) bothers him, not a single book to have awarded a prize)

(36) a) is ambiguous between (37) a) and b).

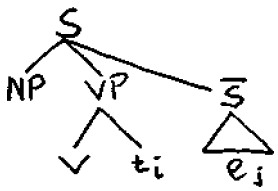
(37) a) not a single book, rather two or more (wide)
b) not a single book, only journals and papers etc. (narrow)

For (36) c) wide scope is unnatural.

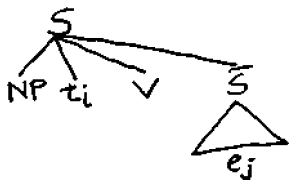
7. Parasitic gaps.

Why are there no parasitic gaps in German is no question for a system without VP: It violates the anti- c-command requirement for parasitic gaps (cf. Chomsky 1982)

(38) a)



b)



As illustrated in (38)b) the gap e_i cannot function as licensing gap for e_j, as in (38) a) since e_i governs e_j, hence e_j is A-bound and not Ā-bound as required for a parasitic gap.

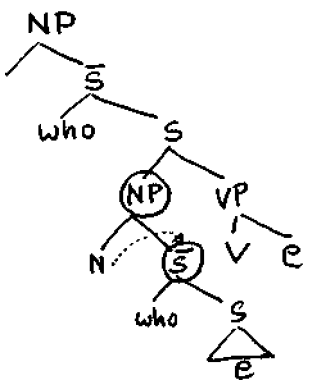
(39) Welche Frau hat er geküßt ohne {zu t erschrecken? / zu erschrecken?}

Which woman did he kiss without {*frightening / being frightened}

I chose the verb 'erschrecken' since its meaning is different for transitive and intransitive usage: Transitive its meaning is 'to frighten', intransitive it means 'to be frightened'. As indicated in the gloss, (39) is understood as intransitive 'erschrecken' only, hence no parasitic gap occurs in (39).. For the other type of parasitic gap, i.e. p. gs. inside NPs, the same reason applies in German. In Dutch, however, the situation is different. The equivalent for (40) is ungrammatical for another reason in Dutch.

(40) he is a man who everyone who knows admires

(41)



In English the encircled S̄ projects to NP but not in Dutch! In Dutch the directionality of government is right-left, hence N does not govern S̄ in (41) and S̄ does not g-project, hence not connected and thus ungrammatical. As Koster notes, there is a difference between p.g.-constructions of type (39) an (40) in Dutch.

While the latter are clearly impossible, the former seem to be acceptable within the familiar acceptability margin for this construction (Koster 1982). I quote the following example of his:

(42)?Welk boek heb je t teruggebracht zonder e te lezen
(Which book did you return without reading)
(Koster 1982:43)

It goes without commenting that this is exactly what is to be expected from the theoretical point of view entertained here. As pronounced above, a single parameter is responsible for the grammaticality pattern illustrated in (15) the structure of V^{max}.

It is a parameter of $\bar{X}$-theory set ultimately by the case system, as I tried to show in Haider (1983).

Since it is not important for the present concern I leave open what is V^{max} in German, either S or the verb cluster. The conclusion I want to draw is that there is no V^{max} in German that separates the subject from the objects, hence the subject is governed in the same fashion as the objects.

A final remark concerning PRO:

Clearly the PRO-theorem cannot be derived any longer in the way it is derived in Chomsky (1982).

But its consequences can be derived from case theory and functional definition of empty categories (cf. Haider 1983). Since PRO is an e.c. without case it cannot appear in position where case is assigned to, hence it is confined to the subject position of infinitives, basically.

III. Locality

Extractability - Connectedness - Subjacency

In the redefinition of CC I want to suggest, two categories are crucial, namely $\bar{S}$ and NP. These categories are crucial as well for Subjacency. Now both ECP, or its reformulation CC, and Subjacency are approaches to cover locality constraints.

Before I try a formal characterization of CC in terms of A-categories a few reflections on the relation between CC and subjacency are due: Are they independent or can they be collapsed?

Starting with connectedness proper, i.e. the possibility to connect two sets of g-projections, this is a weak locality requirement: It breaks up locality into local government relations.

(43) $$\left[_{A_n} \alpha_i \;\; X^0_n \cdots \left[_{A_{n-1}} X^0_{n-1} \cdots \left[_{A_i} X^0_i \cdots e_i \right. \right. \right. \left. \left. \left[_{A_r} X^0_r \left[_{A_{r-1}} X^0_{r-1} \cdots \left[_{A_1} X^0_1 \cdots e_i \right] \right] \right] \right] \right]$$

The gap e_i is bound by α_i iff e_i is structurally governed and every A-category it is contained in is structurally governed as well, A_1 till A_{r-1}.

A_r is not structurally governed but it c- commands a gap that is linked to an antecedent α, hence A_r connects with A_i.

For connectedness the lexical category X^0 is irrelevant, but not for extraction. For extraction X^0 must be structural governor like V, or in English, P.

Why 'weak' locality?

'Weak' since a chain of X^0-Governed A-categories linking

to e_i is only a necessary but not a sufficient condition for extraction. What is the difference between connecting and $\bar{A}$-binding, necessary for extraction?
The difference becomes transparent if we consider subjacency-cases, as e.g. Wh-islands.
Even if in a chain like (43) every X^0 is V or P in English it need not be wellformed, as 44 indicates.

(44) $* \alpha_i \; [_{A} \ldots X^0 \ldots [_{A} (wh_j) \ldots X^0 [_{\bar{A}} X^0 - e_j \ldots e_i \ldots]]]$

Wh-islands are a consequence of single comp-filling and subjacency in English.

(45) $* \; [_{\bar{S}} wh_i \; [_{S} \ldots [_{\bar{S}} wh_j \; [_{S} \ldots e_j \ldots e_i \ldots]]]]$

If subjacency should be reduced to ECP, a distinction has to be drawn between Comp filled with 'that' or with a Wh-item, since extraction across 'that' is possible.
I want to suggest the following distinction drawing on suggestions by Kayne (1983a, 1981a/b):

i) Kayne (1981a) characterizes 'V' as a distinguished structural governor by its ability to govern the head of the phrase it governs, i.e. it crosses the boundary of a maximal projection
ii) In Kayne (1983a) he assumes that the head of a projection shares the index of the projection. (cf. Williams (1980))
iii) Together with Stowell (1981) Kayne (1983a) assumes that a non-null Comp is head of $\bar{S}$.

Combining these three assumptions with the notion g-projection we get the following result:
g-projections are projections, hence can be characterized by

an index, identical for the whole set of g-projections of an e.c.

Now take the case of a Wh-island, as in (45), with the indices fixed as in (46).

(46) $[_{\bar{S}} \alpha [\ldots V [_{\bar{S}} c [\ldots V [_{\bar{S}_j} wh_j [\ldots e_i \ldots e_j \ldots]]]]]]$

Since Wh_j qualifies as head of $\bar{S}$, their index is identical according to ii). In order to find an antecedent for e_i we have to check the g-projections of S_j reaching finally the matrix $\bar{S}$, containing α. The set of g-projections, however, are g-projection of S_j with the head Wh_j, hence α constitutes a possible antecedent for e_j.

If the head is 'that' however, there is no pre-specified index, hence $\bar{S}$ can project freely until an antecedent is reached, provided that there is no Wh-head intervening.

Wh-islands then are consequences of the fact that the relation gap - antecenent is actually a function:

For every gap there is a <u>unique</u> antecedent.

Having adumbrated the difference between 'that' and Wh-items as heads, what about the Complex-NP-constraint as another case of subjacency.

Again I want to invoke Kayne's assumption i):

(47) $[\alpha \ldots [X^{\circ} [_{\bar{S}} e_i [\ldots e \ldots]]]]$

Let's assume that extraction is possible only if the head of the A-category to be extracted from is governed. Then extraction in a structure like (47) will be impossible

if $X^0 = N$, but possible if $X^0 = V$.
Is that a reasonable assumption?
Its reasonableness rests on its suitability for reducing subjacency to ECP:

(48) "Strong locality":
An e.c. is $\bar{A}$-bound by an antecedent α, if α is local,
i.e. within the minimal A-category
or
if α is contained in a g-projection of the minimal A-category
and the head of each g-projection is structurally governed.

From this still informal notion of strong locality the subjacency effects involving NPs can be derived. N, although it is a structural governor, cannot cross maximal projection, hence cannot govern Comp.
But the relation to what I dubbed weak locality becomes transparent too:
Weak locality differs minimally from (48). The requirement that the heads of the g-projection be governed is dropped. But now it is obvious why they cannot appear in isolation but only connected with, or parasitic on, a strongly local g-projection.
The Wh-islands now can be characterized as a clash between the strong locality, i.e. government of Comp, projecting its index to higher projections and the functional antecedent-gap connection (cf. also Koster 1983 a) on functions).
That-t effects turn out, as mentioned already by Kayne (1981 b) as a consequence of the fact that V can cross only

one boundary, i.e. $\bar{S}$, but not both $\bar{S}$ and S on the one hand and condition that an e.c. can enter into g-projections only if it is itself structurally governed.

Note that there is no need for successive cyclic movement now, making deletion of 't', if Comp is filled with 'that', superfluous:

Successive-cyclicity is mimicked by the local property of g-projections. For different arguments to the same end I refer to Koster (1983).

Finally, I want to make precise the different technical notions used in the foregoing discussion:

(49) 1. an e.c. must have a <u>local</u> antecedent

2. an antecedent α <u>is local</u> w.r.t. an e.c. β iff

   i) α is contained in the minimal a-category of β

   or

   ii) α is contained in the minimal a-category for an A-extension of β

   or

   iii) α is connected with β

3. α <u>is connected</u> with β iff

   There is an A-extension of γ such that α is the antecedent for γ and an a-extension of β c-commands γ.

4. ψ is an <u>a-extension</u> of β, iff ψ is the minimal a-category for γ, γ the structural governor of ϕ, where ϕ is either an a-extension of β or the minimal a-category that contains β and the structural governor of β.

5. ψ is an <u>A-extension</u> of β iff it is an a-extension of β whose head is structurally governed and for every

a-extension $\phi_1 \ldots \phi_i$ contained by ψ, the respective heads $\pi_1 \ldots \pi_i$ are structurally governed.

6. ψ is the minimal <u>a-category</u> for β iff ψ dominates β and there is no other a-category ϕ that dominates β without dominating ψ.
7. X^0 is a structural governor.

   V_t and in English P_t are strong governors, i.e. governors across a single maximal projection boundary. Government is directional.
8. Government and c-command pace Aoun/Sportiche (1981)

What is traditionally called extraction is an A-extension dependency between antecedent and gap.
Islands are e.g. a result of weak governors, i.e. a-categories that do not contain V (or P).
The CNPC-phenomena are extraction-islands, because NP is an a-category, but cannot fulfill (49)5.).
Wh-Islands are a result of the entering the Wh-head of a clause into an A-extension, as discussed above.
Subjacency 'violation' in Italian, as discussed in Rizzi (1982), will be taken up in future work.

IV. APPENDIX:

Independent evidence for symmetrically governed arguments in German.

For brevities's sake I choose three areas of grammar where 'VP' is relevant:

1. case
2. VP-movement
3. NP-movement

1. Case

In Haider (1983) I presented a generalized theory of Case that allows to derive the Case-phenomena of English and German as different instantiations of the same principles. Here I just want to present some difficulties to be faced by an advocate of the presence of a VP in German.

VP as V^{max} is a barrier for government.

Hence it is impossible in English to govern nominative inside the VP. In Passive, e.g. the NP has to move out of the VP to receive Case. In German, however, the word order does not change, just accusative turns into nominative.

(1) daß sie ihm morgen einen Band$_{Acc}$ überreicht
that she him tomorrow a book presents

(2) daß Ø ihm morgen ein Band$_{Nom}$ überreicht wird

On the other hand, German is no pro-drop language, hence an analysis analogous to e.g. Italian postverbal subjects is not available.

But on the assumption that there is no VP-boundary between subject and object nothing in fact precludes that nominative is assigned to an NP anywhere in a clause.

Indeed, the nominative can occur in the unmarked order in active clauses at any position.

(3) a) DAT - NOM daß meiner Freundin der Garten gefällt
that my girl fried the garden pleases

b) ACC - NOM daß diesen Kritiker eine Freiluftaufführung beglückt
that this critic an open air performance delights

But also objects occur in any order, a problem for those who found pleasure in 'small VPs':

(4) a) ACC - DAT daß er diesen Job seinem Onkel verdankt
that he this job owes (to) his uncle

b) DAT - ACC daß ich dem Mann Geld borgte
that I lend money (to) that man

The various orders are unmarked with respect to certain classes of verbs but it must be emphasized that under contrastive stress any word order for any verb is possible, a sharp difference between German and English that is too frequently neglected.
If there is no maximal projection between the arguments, their order is random syntactically, hence other modules may induce a preferred serialization (s. Haider 1982 on cognitive effects)

2. VP-movement

In German main clauses any constituent may be fronted to the position immediately preceding the finite verb, moved to sentence-initial position.
It is also possible to front a non-finite part of the verbal cluster plus argument constituents. Some take this as positive evidence for constituenthood of VP.

As I pointed out elsewhere (Haider 1982) the sentence-initial position is no constituency-criterion.
But even if it were, that would not prove the constituency of VP, since 'VP'-fronting had then the peculiar property that it 'leaks':
Element from inside the VP would be left behind, an hitherto unknown property of constituent displacement.
An example are adverbial quantifiers:

(5) a) weil er mir [die Hand nur mehr verbinden] können hat
(because he me the hand only more baddage could)
because he could not do more for my hand than just bandage it

b) [die Hand verbinden] hat er mir nur mehr können

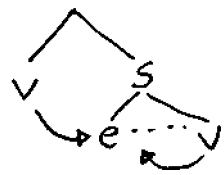
In German, adverbials are in between the object and the verbal cluster. If the object together with V forms a constituent, it contains the adverbial, hence there is no way to leave it behind when the constituent is moved.
For an account of these phenomena and their restrictions in general, i.e. multiply filled preverbal position, I refer to Haider (1982).

3. NP-Movement

If there is no boundary between subject and object there is no need for S-internal NP-movement, since the trigger, the case assignment, is absent, as noted in the discussion of passive above.
It is interesting to note that NP-raising is excluded for principled reasons too:
As assumed by Chomsky (1981) raising-verbs are $\bar{S}$-deleting

and thus govern the extraction site. In a system with symmetric argument-position this would lead into a government inconsistency:

(6)



As indicated in (6) not just the extraction site but any argument position in the embedded clause would be governed <u>twice</u>, by the embedded verb just as well as by the matrix verb.
Since government is a unique relation, raising is impossible for systems like (6).
Its not only government but via governing category also binding that would become inconsistent.
The clear consequence in German is the fact that what appears to be the single candidate of a pure raising verb, namely 'scheinen' - 'seem' cannot be embedded:

(7) John tried to appear to have been elected
* Hans versuchte zu scheinen gewählt worden zu sein
* Hans versuchte gewählt worden zu sein zu scheinen

'scheinen' is bound to root-contexts and seems to be an epistemic modal.
For details cf. Haider (1982).

Footnotes:

1) The ungrammaticality of i) does not warrant to extend the set of A-categories to PP.

i) *Which table does J. think that on e you should not put anything.

The extension would be legitimate only if i) could be saved in a CC-context, e.g. with e as parasitic gap, which is not the case:

a) He said that to her he did not talk about Mary
b) Who did he say that to her he did not talk about
c) *Who did he say that to he did not talk about Mary
d) *Who did he say that to he did not talk about
e) ?Who did he say that he talked about to

Example e) is the familiar p.g.-case. The difference between d) and e) shows that extraction out of a displaced PP cannot be saved by CC, hence it is constrained by a constraint different from ECP.

2) I take it as obvious that the position of INFL in V-second languages i.e. for current purposes Germanic except English, provides the crucial insight in the government capapilities of INFL. Both, in English and Dutch/German, INFL cannot function as proper governor because of the wrong directionality:

English: V - X, X - INFL
Dutch/German: X - V, INFL - X

In Dutch INFL precedes the subject and therefore cannot govern it properly, in English it follows and therefore cannot govern properly. But in Scandinavian languages directionality and position for INFL yield an INFL in canonical government configuration:

Scandinavian: V - X, INFL - X

This may furnish the reason for the lack of certain subject-object assymetries noted by Engdahl (1983).

Norwegian: (E's example 31)

en mann som vi [$_{VP}$ forespeilet t at p ikke skulle bi arrestert]
*a man that we promised t that p should be arrested

Swedish: (E's example 49b)

en uppsats som vi borde förstöra t [$_{S}$ innan [$_{NP}$ formlerna in p]
* a paper that we ought to destroy before the formulas in p

(cont.)

blir stula]
get stolen.

If we assume that INFL is at least a weak governor (like N, or A) then the difference between English and Scandinavian with respect to p.g. in subject position fall out in a straightforward way: In Scandinavian, being V-second, i.e. INFL S-initial, INFL is in a canonical government position for the subject.

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