

Verb Movement Variation in Germanic and Optimality Theory

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The value of any scientific hypothesis lies in co-ordinating known facts and in suggesting new inquiries likely to advance our knowledge of the subject under investigation.

Florian Cajori: *A History of Mathematical Notations* (1928:67)

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Part I

Establishing the typology:

Verb Movement in the Germanic VO- and OV-languages

Chapter 1. V°-to-I° movement and strength of inflection

This book falls into two parts. In the first part, *Establishing the typology: Verb Movement in the Germanic VO- and OV-languages*, I continue the work in Vikner (1995a, 1997) on the movement of finite verbs across the Germanic languages. Chapter 1 argues that rich finite inflection triggers V°-to-I° movement in the Germanic (and Romance) VO-languages, chapter 2 supports the claim that Yiddish is an OV-language, and chapter 3 defends the view that all Germanic OV-languages except Yiddish do not have V°-to-I° movement.

Where Part I tries to establish facts and arguments which are independent of (but not incompatible with) Optimality Theory, the objective in Part II, *Accounting for the typology: Optimality Theory and Germanic Verb Movement*, is not only to show how these facts may be accounted for within Optimality Theory but also to show why it is more promising to do this within Optimality Theory than within a theory with non-violable constraints. Chapter 4 provides an introduction to Optimality Theory syntax, and chapter 5 introduces the constraints and discusses the basic data, namely the word order in embedded clauses and in clauses with V2. In chapter 6, the more complicated data are treated: constructions with auxiliaries, negation and/or *do*-insertion, and chapter 7 accounts for the differences in distribution between the V2 word order and the non-V2 word order between the languages.

The following tables list the language abbreviations used in the examples:

Scandinavian languages and dialects

- (1)
- | | |
|-----|--|
| Äl. | Älvdalsmålet (Swedish dialect) |
| Da. | Danish |
| Fa. | Faroese |
| Fi. | Finland Swedish (Swedish dialect) |
| Hd. | Hallingdalen (Norwegian dialect) |
| Ic. | Icelandic |
| Kb. | Kronoby (Swedish dialect, spoken in Finland) |
| No. | Norwegian |
| Sw. | Swedish |
| Tr. | Tromsø (Norwegian dialect) |

Other Germanic languages and dialects

- (2)
- | | |
|-----|--|
| Af. | Afrikaans |
| Be. | Bern (Swiss German dialect) |
| Du. | Dutch |
| En. | English |
| Fs. | Frisian |
| Ge. | German (High German) |
| SG. | Sankt Gallen (Swiss German dialect) |
| St. | Swabian (German dialect, as spoken in Stuttgart) |
| Wa. | Wallis (Swiss German dialect) |
| WF. | West Flemish (Dutch/Flemish dialect) |
| WY. | West Yiddish |
| Yi. | Yiddish (East Yiddish) |
| Zü. | Zürich (Swiss German dialect) |

Non-Germanic languages

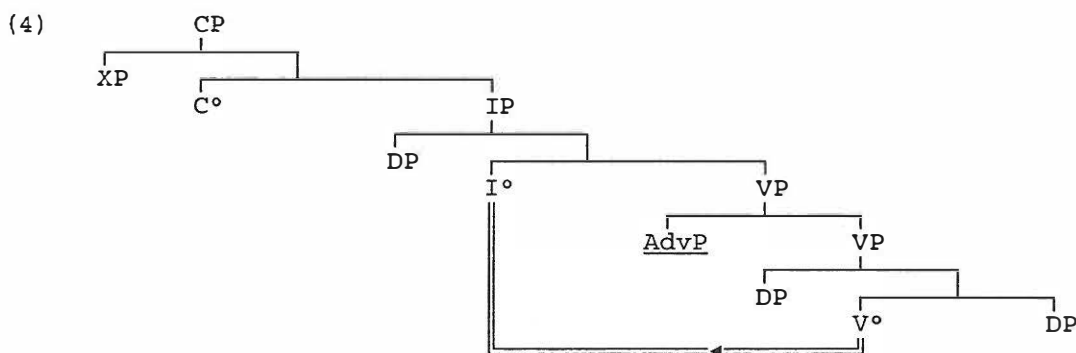
- (3)
- | | |
|-----|-----------|
| Bu. | Bulgarian |
| Ch. | Chinese |
| Fr. | French |
| It. | Italian |
| Po. | Polish |
| Ru. | Russian |

1.1 VO-languages

Section 1.1 is based on Vikner (1997). This paper was originally published as Vikner (1995b), and an updated version translated into Danish was published as Vikner (1999).

1.1.1 V°-to-I° movement

Germanic and Romance VO-languages can be divided into two different groups depending on whether they have V°-to-I° movement or not, i.e. whether the finite verb (which is base-generated in V°) stays in V° or moves to a higher functional head, which I shall refer to as I°. Whether a finite verb is in V° or in I° can be seen from its position in relation to a medial adverbial: If the finite verb precedes the adverbial, it is in I°, whereas if the finite verb follows the adverbial, it is in V°. Medial adverbials are adverbials that occur in a particular position, neither clause-initially nor clause-finally but somewhere to the right of the subject and to the left of the non-finite verb forms and the object.



In **Icelandic**, **Yiddish**, and **French**, the finite verb has to precede the medial adverb in all clauses (including all embedded clauses). This shows that these languages all have V°-to-I° movement:

(5)

	C°	IPsp	I°	AdvP	V°	DP	
a. En.	*That	John	eats	often		tomatoes	(surprises most people)
b. Da.	*At	Johan	spiser	ofte		tomater	(overrasker de fleste)
c. Fa.	*At	Jón	etur	ofta		tomatir	(kemur óvart á tey flestu)
d. Ic.	Að	Jón	borðar	oft		tómata	(kemur flestum á óvart)
e. Yi.	Az	Jonas	est	oft		pomidorn	(iz a khidesh far alemen)
f. Fr.	Que	Jean	mange	souvent		des tomates	(surprend tout le monde)

In **English**, **Danish**, and **Faroese**, and also in **Norwegian**, and **Swedish**, the finite verb has to follow the medial adverb in those embedded clauses where main clause word order is not possible. This shows that these languages all lack V°-to-I° movement:

(6)

	C°	IPsp	I°	AdvP	V°	DP	
a. En.	That	John		often	eats	tomatoes	(surprises most people)
b. Da.	At	Johan		ofte	spiser	tomater	(overrasker de fleste)
c. Fa.	At	Jón		ofta	etur	tomatir	(kemur óvart á tey flestu)
d. Ic.	*Að	Jón		oft	borðar	tómata	(kemur flestum á óvart)
e. Yi.	*Az	Jonas		oft	est	pomidorn	(iz a khidesh far alemen)
f. Fr.	*Que	Jean		souvent	mange	des tomates	(surprend tout le monde)

The following examples from two conservative Mainland Scandinavian dialects display the same difference. The finite verb always precedes the negation in the Swedish dialect **Älvdalsmälet** (Levander 1909:123, Anm. 1), including in all embedded clauses:

- (7) Äd. Ba fo dye at ig uild int fy om
Just because that I would not follow him
(Just because I wouldn't follow him)
 (from Levander 1909:123, see also Platzack & Holmberg 1989:70)

In embedded clauses, the finite verb follows the negation in the Norwegian dialect from **Hallingdalen**:

- (8) Hd. ... fisk, jammvært om støræls'n på o ikki va myky skrytæ tå
... fish, although size-the of them not was much brag about
(... fish, although their size wasn't much to brag about)
 (from Venås 1977:243, see also Trosterud 1989:91 and Platzack & Holmberg 1989:70)

In all the Scandinavian languages and dialects, the sentential negation behaves exactly like medial adverbials as far as the positioning relative to the finite verb is concerned, and therefore the examples cited in works on Scandinavian syntax tend to contain a negation rather than a medial adverbial. I will simply assume this difference between (5) and (6), which contain *often*, and (7) and (8), which contain *not* instead, to be irrelevant to the discussion here.

The relevant difference is one between languages where the finite verb always precedes a medial adverbial and/or a sentential negation, cf. (5) and (7), and languages where the finite verb follows a medial adverbial and/or a sentential negation in most (if not all) embedded clauses, cf. (6) and (8).

Since Emonds (1978) and Pollock (1989), this difference has frequently been discussed in the literature, see e.g. Holmberg & Platzack (1988, 1990, 1995), Platzack & Holmberg (1989), Chomsky (1991), Roberts (1993), Rohrbacher (1994, 1999), various contributions to Hornstein & Lightfoot (1994), Vikner (1990, 1995a, 1997), Thráinsson (1996), Bobaljik & Thráinsson (1998), Koenenman (2000), Bobaljik (2000). All of these analyse the difference between (5) and (6) and between (7) and (8), as a question of whether the verb has undergone movement.

Consider furthermore the following examples from Icelandic, Yiddish, and French:

		C°	IPsp	I°	AdvP	V°	V°	DP	
(9)	Ic.	a. *Að	Jón		oft	hafi	borðað	tómata	...
		b. Að	Jón	hafi	oft	_____	borðað	tómata	...
		c. *Að	Jón	hafi	oft	_____	_____	tómata	...
		d. *Að	Jón	_____	oft	hafi	_____	tómata	...
(10)	Yi.	a. *Az	Jonas		oft	hot	gegesn	pomidorn	...
		b. Az	Jonas	hot	oft	_____	gegesn	pomidorn	...
		c. ??Az	Jonas	hot	oft	_____	_____	pomidorn	...
		d. *Az	Jonas	_____	oft	hot	_____	pomidorn	...
(11)	Fr.	a. *Que	Jean		souvent	ait	mangé	des tomates	...
		b. Que	Jean	ait	souvent	_____	mangé	des tomates	...
		c. *Que	Jean	ait	souvent	_____	_____	des tomates	...
		d. *Que	Jean	_____	souvent	ait	_____	des tomates	...
		That	John	(has)	(eaten)	often	(has)	(eaten)	tomatoes

(9a,b), (10a,b), and (11a,b) show (again) that Icelandic, Yiddish, and French have V° -to- I° movement and cannot leave the finite verb in V° . (9c), (10c), and (11c) show that only **one** verb may take part in a V° -to- I° movement. Finally, (9d), (10d), and (11d) show that only a **finite** verb may take part in a V° -to- I° movement.

V° -to- I° movement thus moves the finite verb into the position immediately after the subject, preceding all other material in the clause. It is important that this not be confused with verb second (V2) (cf. e.g. Vikner 1995a:39-130 and references there).

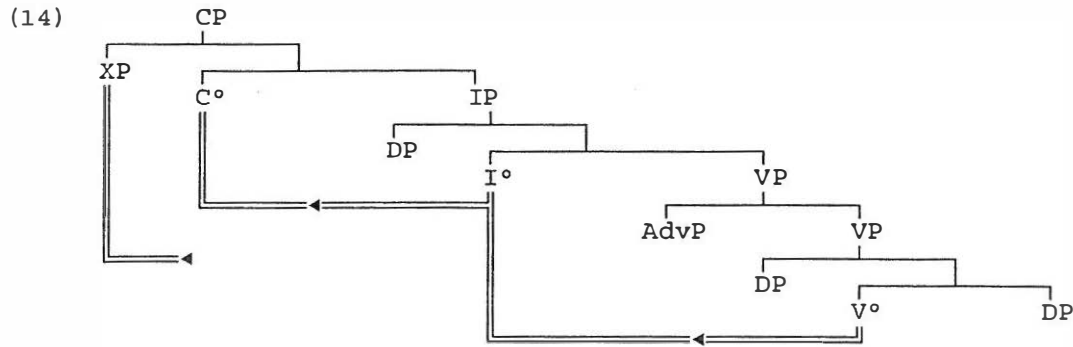
There are two main differences:

V° -to- I° movement applies in all finite clauses, whereas V2 only applies in main clauses and some embedded clauses.

In a clause where V° -to- I° movement has applied and where V2 has not applied, the first element is the subject and the second element is the finite verb. In a clause where V2 has applied, the second element is also the finite verb, but the first element can be any constituent (as long as it is a maximal projection). It is thus only possible to tell languages with V2 (e.g. Danish, Icelandic, German) apart from languages with V° -to- I° movement but without V2 (e.g. French) by considering clauses where the first element is not the subject:

- (12)
- | | | | | | | | | |
|----|-----|--------|-----|------------|-------|------------|--|------|
| a. | Da. | *Denne | bog | | Peter | <u>har</u> | | læst |
| b. | Da. | Denne | bog | <u>har</u> | Peter | | | læst |
- └──────────────────┘
-
- | | | | | | | | | |
|----|-----|--------|-----|--------------|-------|--------------|--|-------|
| c. | Ic. | *Þessa | bók | | Pétur | <u>hefur</u> | | lesið |
| d. | Ic. | Þessa | bók | <u>hefur</u> | Pétur | | | lesið |
-
- | | | | | | | | | |
|----|-----|---------|------|------------|-------|--|---------|------------|
| e. | Ge. | *Dieses | Buch | | Peter | | gelesen | <u>hat</u> |
| f. | Ge. | Dieses | Buch | <u>hat</u> | Peter | | gelesen | |
-
- | | | | | | | | | |
|----|-----|-------|------|------------|-------|------------|--|------|
| g. | En. | This | book | | Peter | <u>has</u> | | read |
| h. | En. | *This | book | <u>has</u> | Peter | | | read |
-
- | | | | | | | | | |
|----|-----|-----|-------|-------------|----|----------|--|----|
| i. | Fr. | Ce | livre | | il | <u>a</u> | | lu |
| j. | Fr. | *Ce | livre | <u>a-t-</u> | il | | | lu |
-
- (13)
- | | | | | | | | | | | |
|----|-----|-----|--|------------|-------|------------|--|------|-------|-----|
| a. | Da. | *Nu | | | Peter | <u>har</u> | | læst | denne | bog |
| b. | Da. | Nu | | <u>har</u> | Peter | | | læst | denne | bog |
- └──────────────────┘
-
- | | | | | | | | | | | |
|----|-----|-----|--|--------------|-------|--------------|--|-------|-------|-----|
| c. | Ic. | *Nú | | | Pétur | <u>hefur</u> | | lesið | þessa | bók |
| d. | Ic. | Nú | | <u>hefur</u> | Pétur | | | lesið | þessa | bók |
-
- | | | | | | | | | | | |
|----|-----|--------|--|------------|-------|--|--------|------|---------|------------|
| e. | Ge. | *Jetzt | | | Peter | | dieses | Buch | gelesen | <u>hat</u> |
| f. | Ge. | Jetzt | | <u>hat</u> | Peter | | dieses | Buch | gelesen | |
-
- | | | | | | | | | | | |
|----|-----|------|--|------------|-------|------------|--|------|------|------|
| g. | En. | Now | | | Peter | <u>has</u> | | read | this | book |
| h. | En. | *Now | | <u>has</u> | Peter | | | read | this | book |
-
- | | | | | | | | | | | |
|----|-----|-------------|--|-------------|----|----------|--|----|----|-------|
| i. | Fr. | Maintenant | | | il | <u>a</u> | | lu | ce | livre |
| j. | Fr. | *Maintenant | | <u>a-t-</u> | il | | | lu | ce | livre |

V2 is assumed to apply only if the finite verb has to precede the subject whenever the subject is not the first element of a clause, i.e. in (12b,d,f) and (13b,d,f). V2 is analysed as the result of two movements, a maximal projection (XP) moves into CP-spec, and the finite verb moves into C° (via I°):



As stated above, V°-to-I° movement applies in all finite clauses, whereas at least in those languages which do not have V°-to-I° movement, V2 only applies in main clauses and some embedded clauses. In other words, in such languages, it is always possible to find embedded clauses where V2 has not applied. Such languages are Danish and Faroese (and Norwegian and Swedish). In embedded clauses, the finite verbs follows the medial adverbial, see (5b,c) and (6b,c) above, but in main clauses, V2 forces the finite verb to precede the medial adverb:

- (15) a. Da. *Johan ofte spiser tomater
 b. Fa. *Jón ofta etur tomatir
 John often eats tomatoes
- (16) a. Da. Johan spiser ofte tomater
 b. Fa. Jón etur ofta tomatir
 John eats often tomatoes
- (17) a. Da. Tomater spiser Johan ofte
 b. Fa. Tomatir etur Jón ofta
 Tomatoes eats John often

(In English there is no such difference between main and embedded clauses.)

The reason why the embedded clauses in (6) are subject clauses, i.e. clauses that are the subject of another clause, is that this is a context where main clause word order (V2) is **NOT** allowed in these languages (see also (5b,c)):

- (18) a. Da. *(At) tomater spiser Johan ofte (overrasker de fleste)
 b. Fa. *(At) tomatir etur Jón ofta (kemur óvart á tey flestu)
 That tomatoes eats John often (surprises most people)

This is relevant because there are also many embedded contexts where both main, (19) and (20), and embedded clause word orders, (21), are possible:

- (19) a. Da. (Hun siger) at tomater spiser Johan ofte
 b. Fa. (Hon sigur) at tomatir etur Jón ofta
 (She says) that tomatoes eats John often
- (20) a. Da. (Hun siger) at Johan spiser ofte tomater
 b. Fa. (Hon sigur) at Jón etur ofta tomatir
 (She says) that John eats often tomatoes
- (21) a. Da. (Hun siger) at Johan ofte spiser tomater
 b. Fa. (Hon sigur) at Jón ofta etur tomatir
 (She says) that John often eats tomatoes

1.1.2 Richness of inflection

Roberts (1985:43, 47) and Kosmeijer (1986:4, 8) were the first to suggest a link between the richness of verbal inflectional morphology and the obligatory movement of the finite verb to I° (for a detailed discussion of the various steps of the subsequent discussion in the literature, see Vikner 1997:192-196, Rohrbacher 1999:93-154, Bobaljik 2000, and others).

Before discussing exactly how to define "strong" or "rich" inflection, here are first the verbal paradigms of the relevant languages:

(22) *hear*, infinitive, imperatives, participles, present and past indicative:

	English	Yiddish	French
Infinitive	hear	hern	entendre
Imperative			
Singular	hear	her	entends
Plural	hear	hert	entendez
Participles			
Present	hearing	herndik	entendant
Past	heard	gehert	entendu
Present			
1 st singular	I hear	ikh her	j' entends
2 nd singular	you hear	du herst	tu entends
3 rd singular	he hears	er hert	il entend
1 st plural	we hear	mir hern	nous entendons
2 nd plural	you hear	ir hert	vous entendez
3 rd plural	they hear	zey hern	ils entendent
Different forms	2	4	4 (1s=2s=3s)
Past			
1 st singular	hear-d	---	entend-ais
2 nd singular	hear-d	---	entend-ais
3 rd singular	hear-d	---	entend-ait
1 st plural	hear-d	---	entend-i-ons
2 nd plural	hear-d	---	entend-i-ez
3 rd plural	hear-d	---	entend-aient
Different forms	1	0	3 (1/2s=3s=3p)

	Danish ≈Norwegian ≈Swedish	Halling- dalen (Norway)	Faroese	Älvdals- målet (Sweden)	Icelandic
Inf.	høre	høyræ	hoyra	höra	heyra
Imp.					
Sg.	hør	høyr	hoyr	höre	heyri
Pl.	hør	høyr	hoyr (ið)	hörir	heyrið
Part.					
Prs.	hørende	høyræn	hoyrandi	hörend	heyrandi
Pst.	hørt	høyrtr	hoyrt	hört	heyrt
Pres.					
1sg.	jeg hører	e høyre	eg hoyri	ig hörer	ég heyri
2sg.	du hører	du høyre	tú hoyrir	du hörer	pú heyrir
3sg.	han hører	hann høyre	hann hoyrir	an hörer	hann heyrir
1pl.	vi hører	me høyræ	vit hoyra	uir hörum	við heyrum
2pl.	I hører	de høyræ	tit hoyra	ir hörir	þið heyrið
3pl.	de hører	dæi høyræ	tey hoyra	dier höra	þeir heyra
Forms	1	2	3	4	5
Past					
1sg.	hør-te	høyr-dæ	hoyr-d-i	hör-d-e	heyri-ð-i
2sg.	hør-te	høyr-dæ	hoyr-d-i	hör-d-e	heyri-ð-ir
3sg.	hør-te	høyr-dæ	hoyr-d-i	hör-d-e	heyri-ð-i
1pl.	hør-te	høyr-dæ	hoyr-d-u	hör-d-um	heyri-ð-um
2pl.	hør-te	høyr-dæ	hoyr-d-u	hör-d-ir	heyri-ð-uð
3pl.	hør-te	høyr-dæ	hoyr-d-u	hör-d-e	heyri-ð-u
Forms	1	1	2	3	5

Based on the above data and paradigms, the following generalisation was formulated in Vikner (1995b, 1997):

- (23) **An SVO-language has V°-to-I° movement if and only if person morphology is found in all tenses** (Vikner 1997:200, (12b), 207, (23))

Rohrbacher (1994, 1999) proposed the alternative formulation in (24):

- (24) **"The paradigm-verb raising correlate"**
A language has V to I raising if and only if in at least one number of one tense of the regular verb paradigm(s), the person features [1ST] and [2ND] are both distinctively marked. (Rohrbacher 1994:108, (35), 1999:116, (39))

In Vikner (1997:195-196, 205, 208), it was argued against this formulation that it makes the wrong predictions (even if only for northern late Middle English, as admitted by Rohrbacher himself, 1999:169-170) and that it is problematic that the definition of what counts as "distinctive" requires distinctness between 1st/2nd and the infinitive, but not e.g. between 1st/2nd and the imperative.

Bobaljik (1995, 1997:1039) proposed the alternative formulation in (25):

- (25) **"Evidence for fusion"**
If the appearance of Tense morphology blocks the appearance of Agreement morphology, then Tense and Agreement Vocabulary Items are in complementary distribution, and T and Agr must be fused. (Bobaljik 1995:43, 48, (21))

Before the appearance of Bobaljik (1995), Vikner (1995b) formulated and rejected a generalisation, which is roughly equivalent to (25):

- (26) **An SVO-language has V°-to-I° movement if and only if tense morphology never occurs without person morphology** (Vikner 1995b:14, (11a), 1997:200, (12a))

The argumentation in Vikner (1995b, 1997) was that Yiddish would be expected to have V°-to-I° movement according to (26), regardless of whether or not Yiddish had person inflection in its only tense, whereas according to (23), Yiddish would only be expected to have V°-to-I° movement if it had person inflection in its only tense. In other words, under (23) Yiddish is expected to have person inflection, whereas under (26) it is an accident whether Yiddish has person inflection or not. This is intentional in Bobaljik (1995:43-45, 1997:1045), as he wants Yiddish and Afrikaans to be in the same group, because both allow transitive expletives, and Afrikaans has no person inflection at all. In the present analysis, I very much want Yiddish and Afrikaans to be in different groups, as I take Yiddish to have V°-to-I° movement, (5e), and Afrikaans not to have it, (35a).

1.1.3 *If and only if* rather than just *if*

In Vikner (1997) and also here, I depart from my own earlier view: In Vikner (1995a:135), I followed Platzack & Holmberg (1989:73-74) and Roberts (1993:268) in taking the

relationship between strong verbal inflection and V°-to-I° movement, cf. (23) above, to be an implication ("if") rather than a biconditional ("if and only if"). Stated in terms of the approach advocated here, the analysis in Vikner (1995a:135) said that while it is true that if all tenses of an SVO-language are inflected for person, then this language also has V°-to-I° movement, it does not necessarily hold that if a language has V°-to-I° movement, then all its tenses are inflected for person.

The only relevant piece of evidence that is cited by Platzack & Holmberg (1989), Roberts (1993), and Vikner (1995a) comes from the dialect of Swedish spoken in Kronoby in western central Finland. This dialect has no person or number distinctions at all (like standard Swedish, and like Danish and Norwegian), but nevertheless seems to have V°-to-I° movement, as the verb may precede the adverbial in an embedded clause of the type that clearly is not V2 in standard Swedish (or in Danish or Norwegian):

- (27) a. Kb. He va bra et an I° tsöfft Neg int V° bootsen
 b. Sw. *Det var bra att han köpte inte boken
 c. Sw. Det var bra att han inte köpte boken
It was good that he (bought) not (bought) book-the
(Good thing that he didn't buy the book) ((27a) from Platzack & Holmberg (1989:74, (43))

An example parallel to Kronoby, brought to my attention by Christer Platzack, is the dialect of Norwegian spoken in Tromsø in northern Norway. This dialect also has no person or number distinctions at all (like standard Norwegian, and like Danish, Swedish, and Kronoby Swedish), but nevertheless data may be found with V°-to-I° movement in contexts where embedded V2 is impossible:

- (28) a. Tr. Vi va' bare tre støkka, før det at han Nilsen I° kom Neg ikkje V°
 b. No. *Vi var kun tre stykker fordi (at) han Nilsen kom ikke
 c. No. Vi var kun tre stykker fordi (at) han Nilsen ikke kom
We were only three because that he Nilsen (came) not (came)
(There were only three of us because that guy Nilsen didn't turn up) (Iversen 1918:83)
- (29) a. Tr. Han kom så seint at dørvakta I° vilde Neg ikkje V° sløppe han inn
 b. No. *Han kom så sent at dørvakten ville ikke slippe ham inn
 c. No. Han kom så sent at dørvakten ikke ville slippe ham inn
He came so late that guard-the (would) not (would) let him in
(He turned up so late that the guard would not let him in) (Iversen 1918:84)

However, as stated in Vikner (1995b:25, 1999:127), I very much doubt that the data from Kronoby and Tromsø make it necessary to replace "if and only if" in (23) above by "if", which would result in the weaker formulation "An SVO-language has V°-to-I° movement if person morphology is found in all tenses". The reason is that these data from Kronoby and Tromsø are of a rather different nature from the data from the (other) languages with V°-to-I° movement: Finite verbs always occur before the sentence adverbial or the negation, never after it, in French, Icelandic¹, and Yiddish and also in Älvdalsmälet (Levander 1909:123, Anm. 1). In Kronoby and Tromsø, however, this order is merely

¹With the possible exception of Sigurðsson's (1989:44) Icelandic examples of the finite verb following an adverbial or a negation in certain adverbial clauses.

possible in some cases, and far from generally obligatory.

In Tromsø, the order verb-adverbial is not even the most common one, and there are contexts, e.g. embedded questions, where it is impossible. This is explicitly stated in Iversen (1918:83, 84), which also includes many examples of the other order, i.e. of the finite verb following the sentence adverbial or the negation:

- (30) Tr. a. Når at kjøttet Adv før V° kosta fæmten øre marka, ...
While that meat-the earlier cost fifteen øre per half-pound, ...
(Given that the meat used to cost fifteen øre per half-pound...) (Iversen 1918:79)
- b. ... at dæm ikkje måtte klive op på det taket
... that they not might climb up onto that roof
(... that they were not allowed to climb onto that roof) (Iversen 1918:98)

Such contexts, however, have obligatory V°-to-I° movement in Älvdalsmålet, French, Icelandic, and Yiddish.

In Kronoby, although V°-to-I° movement may be obligatory in (27a), contexts also exist where V°-to-I° movement is impossible, namely relative clauses and embedded questions (data collected by Anders Holmberg, p.c.):

- (31) Kr. a. Ja sku vila veta hoki bökrer han i Adv V° verklihetn har læst
I should want know which books he in reality has read
(I would like to know which books he has actually read)
- b. *Ja sku vila veta hoki bökrer han har i V° Adv verklihetn læst
I should want know which books he has in reality read
- (32) Kr. a. Neg V° Bökren ja int har læst ...
Books-the I not have read ... (The books I have not read ...)
- b. *Bökren V° Neg ja har int læst ...
Books-the I have not read ...

Embedded questions and relative clauses, however, have obligatory V°-to-I° movement in Älvdalsmålet, French, Icelandic, and Yiddish.

Hence I conclude that neither Tromsø nor Kronoby are examples of languages with weak verbal inflection and with obligatory V°-to-I° movement. I therefore prefer to retain the *if and only if* in (23), as long as it is explicitly restricted to VO-languages.

When OV-languages are included, cf. section 1.2 below, the formulation has to be changed, due to the existence of OV-languages with strong inflection but without V°-to-I° movement. However, the change is not from *if and only if* to *if*, but from *if and only if* to *only if*, resulting in the weaker formulation "A language has V°-to-I° movement only if person morphology is found in all tenses".

1.1.4 Conclusion

The following compares the present analysis with the one defended in Vikner (1995a):

(33)	Vikner (1995a) and earlier	The present analysis
a. strong inflection and V°-to-I° movement	Älvdalsmålet, (French), Icelandic, Yiddish	VO: Älvdalsmålet, (French), Icelandic OV: Yiddish
b. strong inflection and no V°-to-I° movement	---	VO: --- OV: Frisian, German, Swabian, Swiss German, West Flemish
c. weak inflection and V°-to-I° movement	Kronoby	---
d. weak inflection and no V°-to-I° movement	Danish, English, Faroese, Hallingdalen, Norwegian, Swedish	VO: Danish, English, Faroese, Hallingdalen, Kronoby, Norwegian, Swedish, Tromsø OV: Afrikaans, Dutch
e. Germanic languages not covered	Afrikaans, Dutch Frisian, German, Swabian, Swiss German, West Flemish	---

The column called "the present analysis" also covers the analysis of Vikner (1995b, 1997, 1999), at least as far as the VO-languages are concerned. As for the OV-analysis presented in the following chapters, it represents a departure also from these works.

The column called "Vikner (1995a)" also characterises the analyses in e.g. Schwartz & Vikner (1996:47), Thráinsson (1996), Bobaljik & Thráinsson (1998), and Bobaljik (2000).

One difference between the two columns concerns the existence of languages with V°-to-I° movement and weak inflection, (33c), as discussed in detail in section 1.1.3 above.

The other difference between the two columns concerns the existence of languages with strong inflection and without V°-to-I° movement, (33b), as discussed in detail in section 1.2 below.

Analyses that argue that there can be no connection whatsoever between verbal inflection and V°-to-I° movement, e.g. Sprouse (1998), Alexiadou & Fanselow (2000), have no expectations at all as to which of the types (33a,b,c,d), if any, are impossible nor as to which languages belong to which categories.

Alexiadou & Fanselow (2000) suggest the "historical development" as a reason for why V°-to-I° movement is lost when it is, but as this is not tied to anything related to inflection, the question why this historical development only occurs in the languages with weak inflection remains unanswered.

I agree with Alexiadou & Fanselow (2000, section 5.3) that in a language with V°-to-I° movement, stylistic fronting makes sentences possible that can be interpreted as not having V°-to-I° movement (Vikner 1995a:161). However, the question remains why Danish children took this to imply that their language had no V°-to-I° movement whereas Icelandic children didn't (and still don't)? Why could it not have been the opposite, i.e. why wasn't V°-to-I° movement lost in Icelandic but retained in Danish? All the analyses

mentioned above have an answer to this question, but to Alexiadou & Fanselow (2000) and also to Sprouse (1998), it has to remain a coincidence.

1.2 OV-languages

1.2.1 Strong inflection and yet no V^o -to- I^o movement

Consider now the verbal paradigms in those Germanic languages which have not been discussed so far:^{2 3}

²The *-n* in the plural of West Flemish, which makes up the difference between 1st and 3rd plural vs. 2nd plural is not elided as is the case in many (other) variants of Dutch. The difference is thus a robust one (Liliane Haegeman, p.c.)

³The imperatives of *hear* in Swabian, Sankt Gallen, Zürich, and Bern are very rare, and most often replaced by the imperative of *listen*, Swabian *horch/horched*, Sankt Gallen *los/loset*, Zürich *los/losed*, Bern *los/loset*.

(34) *hear*, infinitive, imperatives, participles, present and past indicative:

	Dutch	Afrikaans	West Flemish	Frisian
Infinitive	horen	hoor	uoren	hearre (n)
Imperative				
Singular	hoor	hoor	eur	hear
Plural	horen	hoor	eur	hear
Participles				
Present	horend	horend	---	hearrend
Past	gehoord	gehoor	ghuort	heard
Present				
1 st singular	ik hoor	ek hoor	ik uoren	ik hear
2 nd singular	je hoort	jy hoort	gie uort	dû hearst
3 rd singular	hij hoort	hy hoort	ie uort	hy heart
1 st plural	we horen	ons hoor	wunder uoren	wy hearre
2 nd plural	jullie horen	julle hoor	gunder uort	jimme hearre
3 rd plural	ze horen	hulle hoor	zunder uoren	hja hearre
Different forms	3	1	2	4
Past				
1 st singular	hoor-d-e	---	uor-d-e(ge)	hear-d-e
2 nd singular	hoor-d-e	---	uor-d-e(ge)	hear-d-est
3 rd singular	hoor-d-e	---	uor-d-e(ge)	hear-d-e
1 st plural	hoor-d-en	---	uor-d-e(ge)n	hear-d-en
2 nd plural	hoor-d-en	---	uor-d-e(ge)	hear-d-en
3 rd plural	hoor-d-en	---	uor-d-e(ge)n	hear-d-en
Different forms	2	0	2	3

	German	Swabian	Sankt Gallen	Zürich	Bern
Inf.	hören	hera	ghöre	ghööre	ghööre
Imp.					
Sg.	hör	(her)	(hör)	(ghöör)	(ghöör)
Pl.	hört	(hered)	(höret)	(ghööred)	(ghööret)
Part.					
Prs.	hörend	---	---	ghöörend	---
Pst.	gehört	gherd	ghört	ghöört	ghöört
Pres.					
1sg.	ich höre	i her	ich ghöre	ich ghööre	i ghööre
2sg.	du hörst	du hersch	du ghörsch	du ghöörsch	du ghöörsch
3sg.	er hört	r herd	er ghört	er ghöört	er ghöört
1pl.	wir hören	mr hered	mer ghöret	mir ghööred	mir ghööre
2pl.	ihr hört	r hered	eer ghöret	ir ghööred	dir ghööret
3pl.	sie hören	se hered	si ghöret	si ghööred	si ghööre
Forms	4	4	4	4	4
Past					
1sg.	hör-t-e	---	---	---	---
2sg.	hör-t-est	---	---	---	---
3sg.	hör-t-e	---	---	---	---
1pl.	hör-t-en	---	---	---	---
2pl.	hör-t-et	---	---	---	---
3pl.	hör-t-en	---	---	---	---
Forms	4	0	0	0	0

If (23) were to be applied to the languages in (34), Dutch and Afrikaans would not be expected to have V°-to-I° movement (they both have at least one tense with no person morphology), whereas West Flemish, Frisian, German, Swabian and the three Swiss German variants from Sankt Gallen, Zürich, and Bern would be expected to have V°-to-I° movement (they have person morphology in all tenses).

The result is almost but not quite the same if (24) is applied: In Frisian, German, and Swabian, the person features [1ST] and [2ND] are distinctively marked in the singular of the present tense. There is no tense where either singular or plural has distinctive marking of the person features [1ST] and [2ND] in Afrikaans and Dutch, and also not in West Flemish and the three Swiss German variants from Sankt Gallen, Zürich, and Bern.

However, in all of the languages in (34), including the ones predicted to have V°-to-I° movement, the finite verb does not precede the medial adverb in those embedded clauses where main clause word order is not possible. In fact, the finite verb does not even precede its own object:

(35)				<u>Adv</u>	<u>Object</u>	<u>Verb</u>	
a.	Du.	Dat	Johan	vaak	tomaten	eet	(verrast de meeste mensen)
b.	Af.	Dat	Johan	gereeld	tamaties	eet	(verras die meeste mense)
c.	WF.	Da	Johan	dikkerst	tematen	eet	(verwondert de meeste mensen)
d.	Fs.	Dat	Johan	faak	tomaten	yt	(die de measte minsken ni)
e.	Ge.	Dass	Johann	oft	Tomaten	isst	(überrascht die meisten Leute)
f.	St.	Dass	dr Johann	oft	Tomada	isst	(ieberrascht der maschde Leid)
g.	SG.	Dass	de Johann	öpedie	Tomaate	äst	(überascht di meischte Lüt)
h.	Zü.	Dass	de Johann	hüüfig	Tomaten	isst	(überrascht di mäischte Lüüt)
i.	Be.	Dass	dr Johann	hüüfig	Tomaten	isst	(überrascht di meischte Lüt)
			<i>That John</i>	<i>often</i>	<i>tomatoes</i>	<i>eats</i>	<i>(surprises most people)</i>

There are at least three arguments in favour of the finite verbs in (35) being in V° and not in a clause-final I°-position, cf. chapter 3 below: Verbs that fail to undergo V2, medial adverbial expressions that have to c-command the finite verb, and cross-dialectal distribution of verb sequences, which vary depending on the language and on the verb class, but not depending on finite vs. non-finite.

Vikner (1997) was not concerned with the languages in (34). The generalisation in (23) was explicitly said only to cover VO-languages, and the languages in (34) were taken to be OV-languages, cf. that non-finite verbs must occur after their objects in these languages:

(36)				<u>Verb</u>	<u>Object</u>	
a.	En.	John	has	eaten	an apple	
b.	Da.	Johan	har	spist	et æble	
c.	Fa.	Jón	hefur	etið	eitt súrepli	
d.	Íc.	Jón	hefur	borðað	epli	
e.	Fr.	Jean	a	mangé	une pomme	
f.	Yi.	Jonas	hot	gegesn	an epl	

(37)				<u>Object</u>	<u>Verb</u>	
a.	Du.	Johan	heeft	een appel	gegeten	
b.	Af.	Johan	het	'n appel	geëet	
c.	WF.	Johan	ee	nen appel	gheten	
d.	Fs.	Johan	hat	in apel	iten	
e.	Ge.	Johann	hat	einen Apfel	gegessen	
f.	St.	Dr Johann	hod	an Abfl	gessa	
g.	SG.	De Johann	hât	ân Öpfel	gässe	
h.	Zü.	De Johann	hât	en Öpfel	ggässe	
i.	Be.	Dr Johann	het	en Öpfu	ggässe	
		<i>John</i>	<i>has</i>	<i>an apple</i>	<i>eaten</i>	

1.2.2 Language classification

In the following chapters, I will diverge from the classification in (36) and (37) (i.e. from Vikner 1997) in one point only: Chapter 2 will argue that Yiddish⁴ is an OV-language, not a VO-language. At a first glance, this might seem to contradict the data, cf. e.g. (36f) above, but the situation in Yiddish is more complicated than that, cf. that both VO and OV word order seem to be possible:

(38) Yi. a. Ikh hob gezen Moyshn
I have seen *Moyshn*

b. Ikh hob Moyshn gezen
I have *Moyshn* seen

(den Besten et al. 1986:125, (43))

I will thus argue that Yiddish is like Dutch, Afrikaans, West Flemish, Frisian, German, Swabian and the three Swiss German variants from Sankt Gallen, Zürich, and Bern in that the base order is OV. Yiddish is still different from these in that it is taken to have V°-to-I° movement, whereas the other nine OV-languages and dialects are taken not to have V°-to-I° movement. The difference between Yiddish and the other OV-languages is thus parallel to the one between Älvdalsmålet, French, and Icelandic, which are VO-languages with V°-to-I° movement, and Danish, English, Faroese, Hallingdalen, Norwegian, and Swedish, which are VO-languages without V°-to-I° movement:

⁴References to "Yiddish" are always references to modern East Yiddish, as spoken in Eastern Europe until World War II, in areas where the surrounding language was not German but one of the Slavic languages. West Yiddish, spoken in areas where the surrounding language was German, is now all but extinct, but it would seem to be (or have been) much closer to German and the other languages in (37) above, in that the finite verb was allowed to appear separated from the subject by medial adverbial, object and participle:

		<u>Adv</u>	<u>Object</u>	<u>Participle</u>	<u>Finite verb</u>	
(i)	WY.	... wen me	shou eppes	gemakht	hot	for der sigge
		... if one	already something	made	has	for the sukkah
		(... if one already had something ready for the sukkah (a booth for the festival of Sukkot))				
		(Guggenheim-Grünberg 1966:31, line 94-95)				

This word order would be ungrammatical in standard (East) Yiddish. In other words, when I say that Yiddish has V°-to-I° movement, I mean only standard East Yiddish, not West Yiddish, at least not the Surbtal dialect of West Yiddish that Guggenheim-Grünberg (1966) discusses.

(39)		V°-to-I°	no V°-to-I°
	VO	Älvdalsmålet, French, Icelandic	Danish, English, Faroese, Hallingdalen, Norwegian, Swedish
	OV	Yiddish	Afrikaans, Dutch, Frisian, German, Swabian, Swiss German, West Flemish

The choice of which languages and dialects to examine and which to leave out is always a difficult one. From a purely scientific point of view, the more languages and dialects that can be shown to be covered by the generalisations suggested, the better, but real life also intervenes, there are limits to the attention span of the reader, to the number of pages tolerated by the publisher, and to the time available to the author. Like all other linguists, I have tried to examine as many languages and dialects as possible as thoroughly as possible. I have tried to include all the Germanic languages generally recognised by the literature as languages, and then I have added a number of dialects where they turned out to be relevant and where data and native speakers was available to me.

In the next two chapters, I shall concentrate on possible variation within the OV-languages (cf. that Vikner 1995a concentrated on VO-languages).

Chapter 2. Yiddish as an OV-language

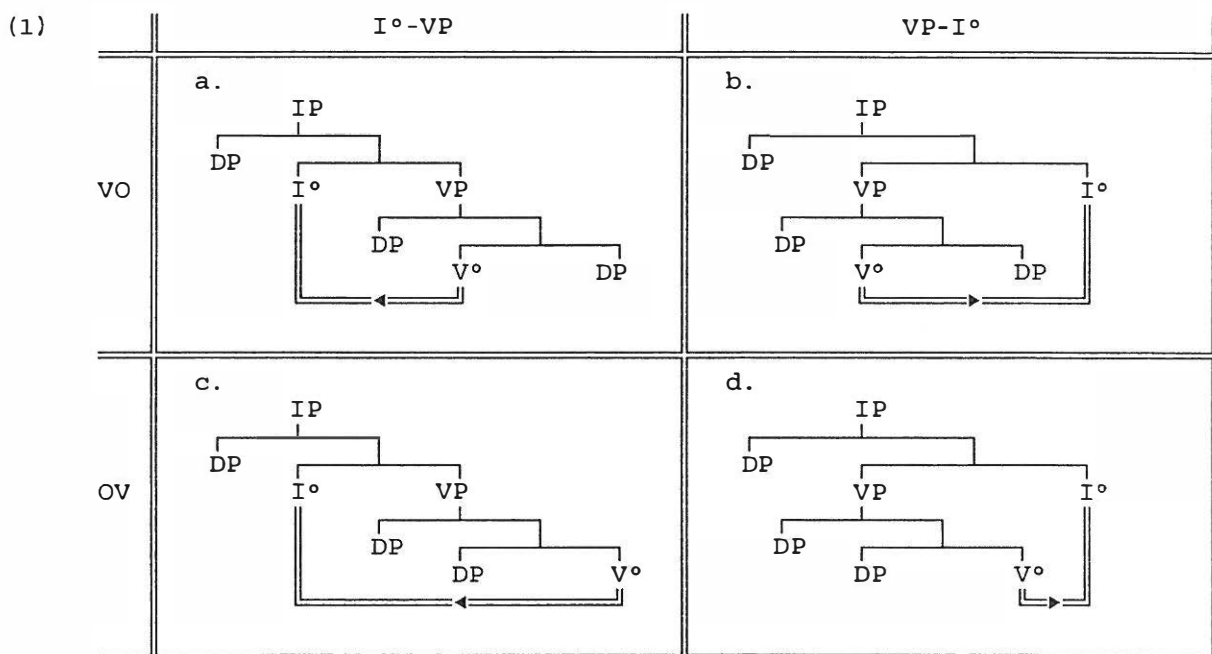
2.1 Introduction

Below, I shall argue that all ten continental West Germanic languages or dialects (Yiddish, Dutch, Afrikaans, West Flemish, Frisian, German, Swabian, and the three Swiss German variants from Sankt Gallen, Zürich and Bern) are OV-languages. I take Yiddish to be the only one to have V° -to- I° movement (to an I° which precedes the VP), whereas I will assume that the others do not have V° -to- I° movement.

From the data, it would seem to be certain that Yiddish has V° -to- I° movement to an I° which precedes the VP, whereas it is not determined unambiguously whether Yiddish is VO or OV. This chapter will argue that Yiddish is OV.

From the data, it would seem to be certain that Dutch, Afrikaans, West Flemish, Frisian, German, Swabian, and the three Swiss German variants are all OV, whereas it is not determined unambiguously whether they have V° -to- I° movement or not. Chapter 3 below will argue that they all lack V° -to- I° movement.

Theoretically, four different phrase structures are possible, depending on two binary choices, the sequence within IP: I° -VP or VP- I° and the sequence within VP: OV or VO. A language which is I° -VP and VO and has V° -to- I° movement will have the basic structure given in (1a). A language which is I° -VP and VO but does not have V° -to- I° movement will have the same structure, but without the movement represented by the arrow:



One possible analysis of the Germanic languages is one that takes Yiddish to be VO and West Flemish, Frisian, German, Swabian and the three Swiss German variants from Sankt Gallen, Zürich, and Bern to have V° -to- I° movement. This is what is referred to in Travis (1984:110) as "the accepted view" and it is represented by e.g. Koster (1975), Thiersch (1978), den Besten (1986:247), Tomaselli (1990:147), Webelhuth (1992:73-74), and also by Vikner (1995a:152-157) and Schwartz & Vikner (1996:46-50). This results in the following distribution (although not all of the works cited discuss all of the languages

mentioned):

(2)	I°-VP		VP-I°	
	+V°-to-I°	-V°-to-I°	+V°-to-I°	-V°-to-I°
VO	Älvdalsmålet, French, Icelandic, Yiddish	Danish, English, Faroese, Hallingmålet, Norwegian, Swedish	---	---
OV	---	---	Frisian, German, Swabian, Swiss German, West Flemish	Afrikaans, Dutch

Another analysis is the one of Travis (1984, 1991), where all Germanic languages are I°-VP, although VP-I° is not actually in principle excluded (Travis 1984:149):

(3)	I°-VP		VP-I°	
	+V°-to-I°	-V°-to-I°	+V°-to-I°	-V°-to-I°
VO	Älvdalsmålet, French, Icelandic, Yiddish	Danish, English, Faroese, Hallingmålet, Norwegian, Swedish	--- (but not impossible?)	--- (but not impossible?)
OV	--- (but not impossible?)	Afrikaans, Dutch, Frisian, German, Swabian, Swiss German, West Flemish	--- (but not impossible?)	--- (but not impossible?)

As I argue below that Yiddish is an OV-language, this leaves two options open for West Flemish, Frisian, German, Swabian and the three Swiss German variants (which have person distinctions in all tenses): One is that they also have V°-to-I° movement, but then it must be V°-to-I° movement to an I° which follows the VP, as in (1d). Then there would exist both OV-languages with an I° preceding VP ((1c): Yiddish) and OV-languages with an I° following VP ((1d): West Flemish, Frisian, German, Swabian and the three Swiss German variants), even though the empirical evidence for the latter would be very weak. This would give the following distribution:

(4)

	I°-VP		VP-I°	
	+V°-to-I°	-V°-to-I°	+V°-to-I°	-V°-to-I°
VO	Älvdalsmälet, French, Icelandic	Danish, English, Faroese, Hallingmälet, Norwegian, Swedish	---	---
OV	Yiddish	---	Frisian, German, Swabian, Swiss German, West Flemish	Afrikaans, Dutch

The other option, which is the one I shall advocate, is that West Flemish, Frisian, German, Swabian and the three Swiss German variants violate the generalisation that languages with person distinctions in all tenses have V°-to-I° movement. This means that we can now assume I°-VP for all the languages (cf. Travis 1984, 1991 and (3) above) and take VP-I° to be impossible:

(5)

	I°-VP		VP-I°	
	+V°-to-I°	-V°-to-I°	+V°-to-I°	-V°-to-I°
VO	Älvdalsmälet, French, Icelandic	Danish, English, Faroese, Hallingmälet, Norwegian, Swedish	---	---
OV	Yiddish	Afrikaans, Dutch, Frisian, German, Swabian, Swiss German, West Flemish	---	--- ☉

In the rest of this chapter I will give a number of arguments that all support the view that Yiddish is OV. In chapter 3 below, I will argue that Dutch, Afrikaans, West Flemish, Frisian, German, Swabian, and the three Swiss German variants all lack V°-to-I° movement.

In the above discussion, I have assumed that it is possible for languages to differ with respect to whether their basic word order is VO or OV, and also that such variation is not possible within one language. Although I shall not be arguing directly against alternative views in the following chapters, my analysis, in so far as it is successful, may be taken as an indirect argumentation against the possible alternative views, both the one that there is no OV-VO variation in the basic word order at all (e.g. Kayne 1994:35, Zwart 1997:81, Hinterhölzl 1998) and the one that there is OV-VO variation in the basic word order even within one and the same language (e.g. Kroch & Taylor 1997:300, 2000, Pintzuk 1993:11, Santorini 1992:616, 1993).

2.2 The sources of the ambiguity of Yiddish

As opposed to what was implicitly assumed in Vikner (1997), I shall here follow e.g. Hall (1979), Geilfuß (1991), and Haider & Rosengren (1998:78-81) in assuming the basic order in modern Yiddish to be OV, rather than to be VO with remnants of OV (e.g. den Besten & Moed-van Walraven 1986:113, Diesing 1997:388, Sadock 1998) or mixed OV/VO (e.g. Santorini 1993). This analysis is supported by a number of parallels between Yiddish and the (other) Germanic OV languages, to be discussed in the following sections.

In modern Yiddish texts, the word order would seem to be VO rather than OV in the vast majority of cases: In the first 411 sentences with mono-transitive verbs in the anecdote collection *Royte pomerantsen* (by Immanuel Olsvanger, published in 1947 by Schocken, New York), Santorini (1993:238) found VO order in 94% of the cases and OV order only in 6% of them.

The direct evidence for VO order as the underlying order is nevertheless much less convincing for Yiddish than it is for English or the Scandinavian languages, because the OV order is not ungrammatical. In Yiddish all of the following sentences (where the objects are underlined) are grammatical whereas in English or in the Scandinavian languages, only the strict VO versions would be possible, i.e. (6a), (7a), (8a), and (9a):

- (6) Yi. a. Ikh hob gezen Moyshn
I have seen Moyshe
b. Ikh hob Moyshn gezen (den Besten et al. 1986:125, (43))
- (7) Yi. a. Di Roymer hobn nit gekent aynnemen di festung
The Romans have not could capture the fortress
(The Romans were not able to capture the fortress)
b. Di Roymer hobn di festung nit gekent aynnemen (Lockwood 1995:133)
- (8) Yi. a. Avrom iz geven in Kasrilovke (Hall 1979:255, (5))
Avrom is been to Kasrilovke
b. Avrom iz in Kasrilovke geven (Hall 1979:255, (5a))
- (9) Yi. a. Maks hot nit gegeben Rifken dos bukh
Max has not given Rebecca the book
b. Maks hot Rifken nit gegeben dos bukh
c. Maks hot Rifken dos bukh nit gegeben
d. Maks hot dos bukh nit gegeben Rifken
e. Maks hot dos bukh Rifken nit gegeben (Diesing 1997:402, (57))

(In den Besten and Moed-van Walraven 1986:126, (45), (47), an example parallel to (9c) is found to be "???" and one parallel to (9d) to be "?".)

If the basic order in Yiddish was VO, then (6b), (7b), (8b), and (9b-e) would have to involve leftwards movement of an object, i.e. **scrambling**.

If the basic order in Yiddish was OV, then the (6a), (7a), (8a), and (9a,b,d) would have to involve rightwards movement of an object, i.e. **extraposition**.

The two can be illustrated as follows. If the basic order in Yiddish is VO, then the VO-order in e.g. (6a) does not require any object movement at all, and the OV-order in e.g. (6b) can be derived by means of **scrambling**:

- (10) Yi. a. Ikh hob gezen Moyshn (no movement) (6a)
 b. Ikh hob Moyshn gezen (scrambling) (6b)
-

If, on the other hand, the basic order in Yiddish is OV, then the OV-order in e.g. (6b) does not require any object movement at all, and the VO-order in e.g. (6a) can be derived by means of **extraposition**:

- (11) Yi. a. Ikh hob Moyshn gezen (no movement) (6b)
 b. Ikh hob gezen Moyshn (extraposition) (6a)
-

The problem is that it can be independently shown that Yiddish has both of these movements, cf. that (9b,d) could neither have been found in languages uncontroversially taken to be OV, like German, nor in languages uncontroversially taken to be VO, like English. That Yiddish has extraposition will be shown in 2.2.1 below, and that it has scrambling will be shown in 2.2.2.

2.2.1 Extraposition

Santorini (1993:231, 243, n3) argues that irrespectively of whether Yiddish is OV or VO, examples like the following three all show that Yiddish has extraposition:

- (12) Yi. a. Geveyntlekh hot ongehoyn esn der balebos
Normally has begun eat the host
(Normally, the host would be the one who took the first bite)
- b. Durkh a kleyn shtetl hot gedarft durkhforn der keyser
Through a small town has must through-drive the emperor
(The emperor had to drive through a small town)
- c. Hot men derlangt oyfn tish fish
Has one served on-the table fish
(Fish was put on the table) (Santorini 1993:231, (1a), (2a,b))

The point is that the subject would normally have occurred immediately after *hot* 'has' in both (12a,b). As it is here in the sentence final position, it must have undergone extraposition, irrespectively of whether Yiddish was OV or VO. As for (12c), the object *fish* would normally have occurred immediately before *derlangt* 'put' if Yiddish was OV and immediately after *derlangt* if Yiddish was VO, and in either case it would have to have undergone extraposition, to get to its actual position, the sentence final position.

Furthermore, as shown in Vikner (1995a), Yiddish does not require extraposed constituents to be particularly heavy, (16b), as opposed to English and Scandinavian, exemplified by Icelandic in (16a):

- (13) a. Ic. ... að það hefur einhver borðað epli
 b. Yi. ... as es hot emetser gegesn an epl
 ... that there has someone eaten an apple
 (Vikner 1995a:189, (43b,c))
- (14) Ic. ... að það hefur borðað þetta epli einhver strákur frá Danmörku
 ... that there has eaten this apple some boy from Denmark

(15) Yi. ... az es hot gegesn an epl a yingl fun Danmark
 ... that there has eaten an apple a boy from Denmark
 ((14), (15) from Vikner 1995a:200, (76), (77))

(16) a. Ic. *... að það hefur borðað epli einhver
 b. Yi. ... az es hot gegesn an epl emetser
 ... that there has eaten an apple someone
 (Vikner 1995a:200, (75b,c))

(13) shows that both Icelandic and Yiddish allow transitive expletives, (14) and (15) show that both allow extraposition of a heavy subject in such a construction, and finally (16) shows that only Yiddish allows extraposition of a subject which is not heavy. Like Icelandic, also German only allow extraposition to a much more limited extent:

(17) Ge. a. ?Dann ist da noch angekommen ein gewisser Herr Meier,
Vertreter einer namhaften Firma aus München
 Then is there also arrived a certain Mr Meier,
 representative of a well-known firm in Munich
 (based on Wöllstein-Leisten et al. 1997:64, (24b))
 b. ??Dann ist da noch angekommen Peter
 Then is there also arrived Peter
 c. *Dann ist da noch angekommen jemand
 Then is there also arrived someone

Finally, according to Weiß (1998:57), extraposition is far less exceptional in Bavarian than in standard German, which means that Yiddish is not the only OV-language to allow extraposition.

2.2.2 Scrambling

In the Scandinavian languages, there is a process called object shift (Holmberg 1986, 1991, 1997, 1999, Vikner 1989, 1994, 2001, Josefsson 1992, 1993, Holmberg & Platzack 1995, and references in all of these). Object shift moves the object out of its base position inside the VP to a position to the left of an element (e.g. negation or adverbial) which is not part of the VP, (18a):

(18) Ic. a. Af hverju las Magnús þessa bók aldrei t ?
 b. Af hverju las Magnús aldrei þessa bók ?
 why read Magnús (this book) never (this book) ?

Object shift is only possible if the verb leaves VP, which a finite main verb does in main clauses (due to V2), (18), but which a non-finite main verb never does, (19):

(19) Ic. a. *Af hverju hefur Magnús þessa bók aldrei lesið t ?
 b. *Af hverju hefur Magnús aldrei þessa bók lesið t ?
 c. Af hverju hefur Magnús aldrei lesið þessa bók ?
 why has Magnús (this book) never (this bk) read (this bk) ?

In German, it is also possible to move the object out of its base position inside the VP to a position to the left of an element (e.g. negation or adverbial) which is not part of the VP, (20a). However, this movement in German is not dependent on the verb having left the VP, it is also possible with the main verb inside the VP:

- (20) Ge. a. Max hat dieses Buch gestern gelesen
 b. Max hat gestern dieses Buch gelesen
 c. ??Max hat gestern gelesen dieses Buch
Max has (this book) yesterday (this book) read (this book)

This is different from object shift in e.g. (19a), but it is just like Yiddish, (21a):

- (21) Yi. a. Maks hot dos bukh nekhtn geleyent
 b. Maks hot nekhtn dos bukh geleyent
 c. Maks hot nekhtn geleyent dos bukh
Max has (the book) yesterday (the book) read (the book)
 (based on Diesing 1997:390, (36b), 391, (38b), 395, (46))

The fact that the object movement in German and Yiddish does not depend on movement of the main verb is the main reason why German and Yiddish (and the other Germanic OV-languages) are taken not to have object shift, but scrambling.

If Yiddish is an OV-language, then (21c) must be a result of extraposition, and (21a) a result of scrambling. If Yiddish is a VO-language, then (21a,b) must both be a result of scrambling.

Diesing (1997:391) argues against an OV analysis of Yiddish that the example with the object in the position that should be the base-generated position, (21b), is the one with the most marked interpretation, i.e. that (21b) "does not correspond to a neutral positioning of the object, and therefore is unlikely to be the base order". This does not have to follow, however, base-generated orders do not necessarily have to be the ones with the most neutral or least marked interpretation.

It might also in fact be used as an argument against Diesing: If the interpretation of (21b) is so peculiar, what should motivate scrambling to this position? This is the essence of one of Geilfuß's (1991:176) arguments against a VO-analysis of Yiddish: Given that the object in (21b) is focussed, and given that focussed phrases have been argued not to be able to undergo scrambling in German (Stechow & Sternefeld 1988:466, Webelhuth 1992:194-199), then we should assume that the object in (21b) has not undergone scrambling. It therefore follows that the object in (21b) is in its base position.

I shall follow Haider & Rosengren (1998:79) in taking Yiddish to be OV, which means that it is only one of several OV-languages to have scrambling. If Yiddish were VO, it would be the only VO-language to have scrambling, thereby making an account of scrambling almost impossible, as it would be very difficult to explain why Yiddish but not Icelandic (if both were VO) had scrambling.

As discussed in 2.2.1, Yiddish is already unique among the Germanic languages (both OV- and VO-languages) in having very general extraposition. If Yiddish is VO, it would also be unique in being the only VO-language with scrambling¹, whereas if Yiddish

¹Had Yiddish been a Slavic language, the combination of being a VO-language and having scrambling would not have been so exceptional, at least according to Müller (1995:107). Furthermore, in Yiddish but in no other Germanic language, scrambling may move a constituent out of an embedded question, (i). This is however also found e.g. in Russian, (ii).

(i) Yi. Ikh volt ir shoytn visn [vos tsu entfarn]
 I would her already know what to answer
 (I would have known what to answer her) (Santorini 1993:234, (13a))

is OV, it would actually be expected to have scrambling.

One more parallelism between the (other) Germanic OV-languages and Yiddish is that they may have parasitic gaps without *wh*-movement:

- (22) a. Yi. Er hot dos bukh aroysgevorfn on ibertsuleyenen
 b. Ge. Er hat das Buch herausgeworfen ohne nochmal zu lesen
 c. Af. Hy het die boek weggegooi sonder om nog 'n keer te lees
He has the book out-thrown without again to read
 ((22a) based on Diesing 1997:408, (65))

as opposed to the Germanic VO-languages, where parasitic gaps are not possible, (23), unless e.g. *wh*-movement takes place, (24):

- (23) a. En. *He has thrown the book out without reading ___ first
 b. Da. *Han har smidt bogen ud uden at læse ___ først
 c. Ic. *Hann hefur hentað bókinni út án þess að lesa ___ áður
- (24) a. En. Which book has he thrown out without reading ___ first?
 b. Da. Hvad for en bog har han smidt ud uden at læse ___ først?
 c. Ic. Hvaða bók hefur hann hentað út án þess að lesa ___ áður

According to most standard analyses, e.g. Vikner (1994:490-491) or Diesing (1997:408), the well-formedness of (22a) is due to scrambling. This again fits with the picture that Yiddish is like the (other) Germanic OV-languages in having scrambling. According to Fanselow (1993:35) and Haider & Rosengren (1998:42-43), the well-formedness of (22a) has nothing to do with scrambling, but is nevertheless still crucially related to Yiddish being OV.

In sum, Yiddish has scrambling, like the (other) Germanic OV-languages.

2.2.3 Conclusion

In this section, I have shown that Yiddish has both scrambling and extraposition and that both these processes can be assumed to take place relatively unrestrictedly. When trying to determine whether Yiddish is a VO- or an OV-language (or maybe both), we therefore need to look somewhere else than the direct ordering of the verbs and their objects.

Santorini (1993:234-235): "As Yiddish allow both extraposition and scrambling, a final decision of the underlying word order of Yiddish cannot be made based only on grammatical considerations". I agree that Yiddish has both extraposition and scrambling, and that this in principle allows for both analyses, but I still think that various grammatical considerations support the OV analysis, as I shall argue in the following sections.

-
- (ii) Ru. Vy posylku videli [kak zapakovali]
You parcel saw how (they) wrapped
(You saw how they wrapped the parcel) (Müller 1995:128, (69b))

Nevertheless, there are clear differences here as well: Yiddish does not have scrambling out of finite clauses (the embedded question in (i) is infinitival), as opposed to Russian. Cf. also that Haider & Rosengren (1998:61, 81) take Yiddish but not Russian to have "real" scrambling, even though they do not give an analysis of what it is that is found in Russian, if it is not scrambling.

2.3 Null objects under coordination

In this section, I will try to show that the view that Yiddish is an OV-language like German and Dutch, not a VO-language like English or Danish, is supported by facts concerning missing objects in certain coordination structures.

Sadock (1998) interprets such data as support for Yiddish being an OV-language, even if his own formulation is somewhat cautious: "Yiddish must be taken as still having verb-final syntax, at least to some extent and for some purposes" (Sadock 1998:225).

Below I will first reproduce Sadock's argument in 2.3.1, and then in 2.3.2 show how evidence from Scandinavian might at first sight seem to undermine his conclusion, and then finally show how the two phenomena can be kept apart, and how Yiddish patterns like German and not like Scandinavian.

2.3.1 Yiddish

In Yiddish, the object in the second conjunct in a coordination construction like the following may either be overt or covert:

- (25) Yi. Di yidene hot aroysgenumen eyn gantz ...
 The woman has out-taken one goose ...
- a. ... un zi avekgeleygt af'n tish
b. ... un avekgeleygt af'n tish
 ... and (it) down-put on-the table
 (The woman took out one goose and put it down on the table)
- ((25b) from Isaac Bashevis Singer, cited in Sadock 1998:222, (3))

A parallel example comes from Olsvanger (1947), a collection of anecdotes, which was very kindly made available to me in electronic form by Beatrice Santorini:

- (26) Yi. Hot men gekhapt dem kit und aroyfgeshlept ____ oyfn shif
 Has one caught the whale and on-dragged onto-the ship
 (They then caught the whale and dragged it on board the ship)
- (Olsvanger 1947:66-67, Anecdote no. 101, standardised transcription)

The situation is exactly the same in German, the object in the second conjunct may optionally be left out:

- (27) Ge. Die Frau hat eine Gans herausgenommen ...
 The woman has one goose out-taken ...
- a. ... und sie auf den Tisch gestellt
b. ... und ____ auf den Tisch gestellt
 ... and (it) on the table put
 (The woman took out a goose and put it on the table)
- ((27b) from Sadock 1998:225, (16))

Sadock (1998:223) gives two reasons why the pronouns missing in (25b) and (27b) should not be taken to be the same as the zero pronoun found in Chinese (which is discussed in a.o. Huang 1984:537ff). The first reason is that in Chinese, the object can be left out even when its antecedent occurs in a different sentence:

(28) Ch. Speaker A: wǒ mǎi-le zhi biǎo
I buy-ASP CL watch

Speaker B: biǎo ne ?
watch where?

Speaker A: wǒ gěi-le mǎli
I give-ASP Mary

(Sadock 1998:223, (7))

This is not the case in any of the Germanic languages:

(29) Speaker A: Yi. Ikh hob gekoyft a zeyger
Ge. Ich habe eine Uhr gekauft
Ic. Ég hef keypt úr
Da. Jeg har købt et ur
En. I have bought a watch

Speaker B: Yi. Vu-zhe iz der zeyger?
Ge. Wo ist die Uhr?
En. Where is the watch?
Da. Hvor er uret?
Ic. Hvar er úrið?

Speaker A: Yi. Ikh hob *(im) gegeben tsu Mirelen
I have it given to Mirelen (Sadock 1998:223, (8))

Ge. Ich habe *(sie) der Maria gegeben
I have it the.DAT Maria given

Ic. Ég gaf Maríu *(það)
I gave María.DAT it

Da. Jeg gav *(det) til Marie
En. I gave *(it) to Mary

The second reason why the missing Yiddish and German pronouns in (25b) and (27b) should not be taken to be the same as the zero pronoun found in Chinese is that in Chinese, the object can also be left out if the main verb is finite:

(30) Ch. wǒ mǎi-le zhi biǎo ěrqiě gěi-le mǎli
I buy-ASP CL watch and give-ASP Mary (Sadock 1998:223, (9))

In Yiddish and German, however, the second object cannot be left out if the main verb is finite:

(31) Yi. a. Di yidene nemt aroys eyn gandz un leygt zi avek af'n tish
b.??Di yidene nemt aroys eyn gandz un leygt ____ avek af'n tish
The woman takes out one goose and puts (it) down on-the table
(The woman takes out one goose and puts it down on the table)
((31a) from Sadock 1998:224, (10))

(32) Ge. a. Die Frau nimmt eine Gans heraus und stellt sie auf den Tisch
b. *Die Frau nimmt eine Gans heraus und stellt ____ auf den Tisch
The woman takes one goose out and puts (it) on the table
(The woman takes out one goose and puts it on the table) (Sadock 1998:225, (17))

Once again, Yiddish and German are parallel. Sadock (1998:225) suggests that this parallel shows that both German and Yiddish are OV, at least with respect to this particular

construction. He essentially suggests the following analysis of the German (27b):

- (33) Ge.
-
- Die Frau hat eine Gans herausgenommen und auf den Tisch gestellt
 The woman has one goose out-taken and on the table put
 (adapted from Sadock 1998:225, (20))

This kind of analysis is clearly not available for (31b) and (32b): Because they are in C° , *nemt/nimmt* 'takes' and *leygt/stellt* 'puts' can not be taken to be coordinated in (31b) and (32b) in the way that *herausgenommen* 'taken' and *gestellt* 'put' are in (33). In other words, (31b) and (32b) cannot be analysed in such a way that the two finite verbs are both coordinated and have completely parallel relationships with the object *goose*. Such a situation is not impossible as such, it just does not look like (31b) and (32b), cf. (37) and (38) below.

The Yiddish version of (33), i.e. the analysis of (25b) would then have to be something like the following, i.e. basically like (33) except that there is one additional step, the movement of the object from the left to the right of the first verb, *aroysgenumen*:

- (34) Yi.
-
- ... aroysgenumen eyn gantz un avekgeleygt af'n tish
 ... out-taken one goose and down-put on-the table

This would of course mean that Yiddish, like German, is an OV-language.

It would also mean that extraposition is movement to a prosodically defined position, i.e. the position immediately before an intonational break, i.e. it is a movement where c-command etc. does not have to hold (*one goose* does not c-command its trace in (34)). Another option might be to have the verb move left, but then in examples like (7b) and (12) above much more than a verb has to move leftwards.

Notice incidentally that it is not impossible to have a coordination of finite verbs in C° , the result will just be very different from (31b) and (32b), in fact (31b) and (32b) are not amenable to an analysis as a coordination of the type $[V^\circ V^\circ \& V^\circ]$ because their verbs are particle verbs (cf. section 2.4 below). If we consider the same construction with verbs that do not require any particles, we find both coordination of the type $[V^\circ V^\circ \& V^\circ]$:

- (35) Ge. Der Hund hat Johann $[V^\circ [V^\circ erschreckt] \text{ und } [V^\circ gebissen]]$
 The dog has Johann frightened and bitten
- (36) Yi. Hot men im $[V^\circ [V^\circ genumen] \text{ un } [V^\circ gefirt]]$ tsum ofitser
 Has one him taken and lead to-the officer
 (They took him and lead him to the officer)
 (Olsvanger 1947:62, Anecdote no. 93, standardised transcription)

and coordination of the type $[C^\circ V^\circ \& V^\circ]$:

- (37) Ge. Der Hund $[C^\circ [V^\circ erschreckte] \text{ und } [V^\circ biss]]$ Johann
 The dog frightened and bit Johann

- (38) Yi. Der YIVO, farshteyt zikh, [C° [V° drukt] un [V° shraybt]]
 The YIVO, understands REFL, prints and writes
 zeyere arbetn in a literarishn yidish
 their works in a literary Yiddish
 (YIVO, of course, prints and writes their papers in a literary Yiddish)
 (Kiefer 1995: Interview 32, part 15)

2.3.2 Scandinavian

Sadock's (1998) conclusion given above is seemingly undermined when Scandinavian versions of the crucial data above are considered. The Scandinavian languages also allow structures like (25b) and (27b) above, but English does not:

- (39) a. Ic. Konan hefur tekið út gæs og lagt hana á borðið
 b. Ic. Konan hefur tekið út gæs og lagt ____ á borðið
 c. En. The woman has taken out a goose and put it on the table
 d. En. *The woman has taken out a goose and put ____ on the table
- (40) a. Da. Kvinden har taget en gås frem og lagt den på bordet
 b. Da. Kvinden har taget en gås frem og lagt ____ på bordet
 c. En. The woman has taken a goose out and put it on the table
 d. En. *The woman has taken a goose out and put ____ on the table

(the difference between (39) and (40) merely concerns the position of the particle *out*).

If Icelandic and Danish also allow this construction, the fact that Yiddish is like German in (25b) and (27b) becomes much less of an argument for OV, as Icelandic and Danish are very unlikely to be OV-languages.

However, there are various indications that the Scandinavian and the Yiddish/German constructions are completely different:

In (39) and (40), the verbs *taken* and *put* were non-finite and therefore in V°, parallel to the well-formed Yiddish (25b) and German (27b), analysed as in (34) and (33). Consider now parallel sentences in the present tense, i.e. where Danish and Icelandic have the verbs *took* and *put* in C°, parallel to the ill-formed Yiddish (31b) and German (32b):

- (41) a. Ic. Konan tók út gæs og lagði hana á borðið
 b. Ic. Konan tók út gæs og lagði ____ á borðið
 c. En. The woman took out a goose and put it on the table
 d. En. *The woman took out a goose and put ____ on the table
- (42) a. Da. Kvinden tog en gås frem og lagde den på bordet
 b. Da. Kvinden tog en gås frem og lagde ____ på bordet
 c. En. The woman took a goose out and put it on the table
 d. En. *The woman took a goose out and put ____ on the table

(31b) and (32b) were impossible in Yiddish and German, but (41b) and (42b) are perfectly possible in Scandinavian.²

²For some unknown reason, it would seem that Icelandic and Old Norse are more tolerant than the modern Mainland Scandinavian languages as to the pragmatic licensing of the missing object in the second conjunct:

Although this construction has been discussed extensively in the literature, including for Old Norse: Nygaard (1906:16), for Danish: Mikkelsen (1911:699), for Norwegian: Western (1921), Creider (1986), Áfarli & Creider (1987), and for Icelandic: Rögnvaldsson (1990), little more has been said about this than was said already in the earliest treatment that I have found, Falk & Torp (1900). Here the construction is taken to underlie pragmatic conditions: A coreferent object may be left out from the second conjunct "where the two actions are very closely connected such that the first forms the basis for or the introduction to the second"³ (Falk & Torp 1900:268). Using this, it is possible to construct examples that disallows the leaving out of the object in the second conjunct, because the first verb, *frighten*, does not describe a basis for or preparation of the second verb, *bite*:

- (43) a. Ic. Hundurinn hræddi Magnús og Jón og beit þá
 b. Da. Hunden forskrækkede Magnus og Johan og bed dem
 c. En. The dog frightened Max and John and bit them
- (44) a. Ic. *Hundurinn hræddi Magnús og Jón og beit _____
 b. Da. *Hunden forskrækkede Magnus og Johan og bed _____
 c. En. *The dog frightened Max and John and bit _____

If the two finite verbs had been locally coordinated, they could have shared an object:

- (45) a. Ic. Hundurinn [hræddi og beit] Magnús og Jón
 b. Da. Hunden [forskrækkede og bed] Magnus og Johan
 c. En. The dog [frightened and bit] Max and John

Also here the judgments do not change in a different tense. If the object is left out, they are ungrammatical not only in the simple past tense, (44) above, but also in the perfect tense, (47):

- (46) a. Ic. Hundurinn hefur hrætt Magnús og Jón og bitið þá
 b. Da. Hunden har forskrækket Magnus og Johan og bidt dem
 c. En. The dog has frightened Max and John and bitten them
- (47) a. Ic. *Hundurinn hefur hrætt Magnús og Jón og bitið _____
 b. Da. *Hunden har forskrækket Magnus og Johan og bidt _____
 c. En. *The dog has frightened Max and John and bitten _____

-
- (i) a. Ic. Ég elskaði hana áður, en hata _____ núna
 b. Da. *Jeg elskede hende før, men hader _____ nu
 I loved her earlier, but hate _____ now
 (ia) from Rögnvaldsson 1990:375, (35))

³All the well-formed omissions are made impossible when *og* 'and' is changed to *báde ... og* 'both ... and' (Creider 1986:9), presumably because it makes the interpretation impossible where the first verb is the preparation for the second:

- (i) Da. a. Kvinden tog en gås frem og lagde _____ på bordet
 Woman-the took a goose out and put (it) on table-the
- b. *Kvinden tog både en gås frem og lagde _____ på bordet
 Woman-the took both a goose out and put (it) on table-the

- (48) a. Ic. Hundurinn hefur hrætt og bitið Magnús og Jón
b. Da. Hunden har forskrækket og bidt Magnus og Johan
c. En. The dog has frightened and bitten Max and John

In Yiddish and German, (44) would be ungrammatical, whereas (47) would be grammatical.

2.3.3 Conclusion

Firstly, it was established (following Sadock 1998) that all the Germanic languages are different from e.g. Chinese as far as empty objects are concerned. Secondly, it was argued that Yiddish and German are different from Scandinavian. In Yiddish and German, the construction is syntactically conditioned. Only the position or form of the verb counts for whether the second object can be left out: non-finite verbs always allow this. In Scandinavian, on the other hand, the construction is not syntactically conditioned. The position of the verb never plays any role, only the pragmatic circumstances do.

Therefore the most promising approach would seem to be to follow Sadock (1998) and analyse Yiddish as syntactically parallel to German. The fact that the verb whose object is missing may not occur in C° allows an analysis where this verb is locally coordinated with the first verb, so that the two main verbs may share an object, whose base position precedes both verbs, cf. (33) and (34). All this is only possible if the base position of the object in Yiddish is the same as in German, i.e. preceding the verb. In other words, Yiddish is an OV-language like German and Dutch, not a VO-language like English or Danish.

It is therefore to be expected that Yiddish examples may be found where extraposition has not applied, and which are therefore OV not only in their base-generated structure, but also on the surface, completely parallel to German, cf. (33):

- (49) Yi. ... az me hot di yidishe zaytlekh [oysgezetst af a heyim-kompyuter]
un [farmert mit a kseroks]
*... that one has the Yiddish pages composed on a home computer
and duplicated with a photocopier*
(... that they composed the Yiddish pages on a home computer and duplicated (them) with a photocopier)
(The example comes from a Yiddish text which is an article by Andrei Bredstein on
the bilingual Russian-Yiddish newspaper *Birobidzhaner Shtern*, and which can be
found at http://www.glasnet.ru/~anbredstein/text/shtern/biro_y.htm)

2.4 Verb particles

In this section, I will try to show that the view that Yiddish is an OV-language like German and Dutch, not a VO-language like English or Danish, is supported by facts concerning verb particles.

All the Germanic languages, including English, have both separable and non-separable verbal particles:

- (50) En. a. The patient underwent an operation
b. The ship went under after colliding with an iceberg
c. The lawyer offset his travel expenses against tax
d. The students set off in search of the secretary's office

Notice that the terminology used in the literature may be somewhat confusing: Sometimes the distinction is made between separable and non-separable particles, sometimes between separable and non-separable prefixes, and sometimes between particles (which are taken to be separable) and prefixes (which are taken to be non-separable). I shall refer to separable and non-separable particles, and I shall also refer to particle verbs, by which I mean the complex verb which is formed by a verb and a particle, e.g. *undergo* in (50a) and *go under* in (50b).

For expository purposes, I shall limit the discussion below to German, Yiddish, and Danish. Of those Germanic languages which are uncontroversially OV, German is the one that is most closely related to Yiddish, and of those Germanic languages which are uncontroversially VO, presumably Danish is the one that has most in common with Yiddish, at least as far as the vocabulary is concerned.

2.4.1 Lexical differences between German, Yiddish, and Danish

Before discussing exactly what the difference is between preverbal (non-separable) particles, (50a,c), and postverbal (separable) particles, (50b,d), I will give a brief overview of which particle verbs belong to which class.

Across the three languages almost all possible combinatorial possibilities exist, i.e. not only are there particle verbs which are separable in all three languages, (51), and others which are non-separable in all three languages, (58), but there are also particle verbs which are separable in one language and non-separable in the other two or vice versa, (52), (55)-(57). Only two combinations are not found, (53) and (54): There would seem to be no particle verbs which are separable in German and non-separable in Yiddish. The particle verbs which are non-separable in German and separable in Yiddish, (55) and (56), involve only five prepositions/particles (*durch/durkh* 'through', *hinter* 'behind', *über/iber* 'above', *um* 'around', and *unter* 'below', see e.g. Olsen 1997:11 ff., Zifonun et al. 1997:2088 on their special properties).

The following table only includes one example of each particle in each of the groups, and it only contains particle verbs which are clearly semantically parallel across the three languages. "+" means separable particle/prefix, "-" means non-separable particle/prefix:

(51)	<u>German: +</u>	<u>Yiddish: +</u>	<u>Danish⁴: +</u>	
a.	<u>abbrennen</u>	<u>opbrenen</u>	brænde <u>af</u>	<i>burn down</i>
b.	<u>abschicken</u>	<u>avekshikn</u>	sende <u>afsted</u>	<i>send off</i>
c.	<u>aufwachsen</u>	<u>oyfvaksn</u>	vokse <u>op</u>	<i>grow up</i>
d.	<u>aushalten</u>	<u>oyshalt'n</u>	holde <u>ud</u>	<i>endure, stand</i>
e.	<u>einkaufen</u>	<u>aynkoyfn</u>	købe <u>ind</u>	<i>buy, shop</i>
f.	<u>hereinkommen</u>	<u>araynkumen</u>	komme <u>ind</u>	<i>come in, enter</i>
g.	<u>(hin)ausgehen</u>	<u>aroyvsgeyn</u>	gå <u>ud</u>	<i>go out</i>
h.	<u>nachgeben</u>	<u>nokhgebn</u>	give <u>efter</u>	<i>give in, indulge</i>
i.	sich <u>umsehen</u>	<u>umkukn zikh</u>	se sig <u>om</u>	<i>look around</i>
j.	<u>zunageln</u>	<u>tsunoglen</u>	sømme <u>til</u>	<i>nail shut</i>
k.	<u>zurückziehen</u>	<u>tsuriktsien</u>	trække <u>tilbage</u>	<i>retract</i>
l.	<u>zusammenstoßen</u>	<u>tsunoyfshtoysn</u>	støde <u>sammen</u>	<i>clash, collide</i>
(52)	<u>German: +</u>	<u>Yiddish: +</u>	<u>Danish: -</u>	
a.	<u>abweichen</u>	<u>opvaikh'n</u>	<u>afvige</u>	<i>deviate</i>
b.	<u>ankommen</u>	<u>onkumen</u>	<u>ankomme</u>	<i>arrive</i>
c.	<u>aufsuchen</u>	<u>oyfzikh'n</u>	<u>opsøge</u>	<i>look up (a person)</i>
d.	<u>beilegen</u>	<u>bayleygn</u>	<u>vedlægge</u>	<i>append (e.g. to a letter)</i>
e.	<u>durchführen</u>	<u>durkhfir'n</u>	<u>gennemføre</u>	<i>carry out</i>
f.	<u>einwenden</u>	<u>aynvend'n</u>	<u>indvende</u>	<i>object</i>
g.	<u>umstoßen</u>	<u>umshtoysn</u>	<u>omstøde</u>	<i>reverse (e.g. a decision)</i>
h.	<u>zulassen</u>	<u>tsulozn</u>	<u>tillade</u>	<i>allow</i>
(53)	<u>German: +</u>	<u>Yiddish: -</u>	<u>Danish: +</u>	
	*			
(54)	<u>German: +</u>	<u>Yiddish: -</u>	<u>Danish: -</u>	
	*			
(55)	<u>German: -</u>	<u>Yiddish: +</u>	<u>Danish: +</u>	
	<u>überspringen</u>	<u>iberhip'n</u>	springe <u>over</u>	<i>skip, pass over</i>
(56)	<u>German: -</u>	<u>Yiddish: +</u>	<u>Danish: -</u>	
a.	<u>durchlöchern</u>	<u>durkhlekher'n</u>	<u>gennemhulle</u>	<i>make holes in</i>
b.	<u>umringen</u>	<u>arumringen</u>	<u>omringe</u>	<i>surround, encircle</i>
c.	<u>überreden</u>	<u>iberred'n</u>	<u>overtale</u>	<i>persuade</i>
d.	<u>unterdrücken</u>	<u>underdrikn</u>	<u>undertrykke</u>	<i>suppress</i>
(57)	<u>German: -</u>	<u>Yiddish: -</u>	<u>Danish: +</u>	
	<u>zerschlagen</u>	<u>tseshlog'n</u>	slå <u>itu</u>	<i>smash to pieces</i>

⁴Some, but not all, of the Danish particle verbs that I have classified here as separable also occur as non-separable particle verbs in very formal or technical usage but not in colloquial Danish (see e.g. Allan et al. 327-329).

This tendency can also be observed in different examples where both the separable and non-separable variants are well-established forms. Consider German *auslaufen*, Yiddish *oysloyn* 'run out, leak, expire'. In Danish this is separable in a more concrete sense, but non-separable in a more figurative or technical sense:

- (i) Da. a. Vandet løb ud på gulvet
b. *Vandet udløb på gulvet
Water-the (out)ran (out) on floor-the
- (ii) Da. a. *Kontrakten løb ud i 1999
b. Kontrakten udløb i 1999
Contract-the (out)run (out) in 1999

(58)	German: -	Yiddish: -	Danish: -	
a.	<u>b</u> emerken	<u>b</u> amerkn	<u>b</u> emærke	<i>notice</i>
b.	<u>e</u> ntschuldigen	<u>a</u> ntshuldikn	<u>u</u> ndskyldte	<i>apologise</i>
c.	<u>e</u> rkennen	<u>d</u> erkenen	<u>e</u> rkende	<i>recognise</i>
d.	<u>v</u> erstehen	<u>f</u> arshteyn	<u>f</u> orstå	<i>understand</i>

2.4.2 Syntactic differences between German, Yiddish, and Danish

Although there is a fair amount of lexical variation across the three languages, as seen above, there are clear syntactic generalisations to be made about how separable and non-separable particles behave. The examples below use the particle verbs *send off*, (51b), which is separable in all three languages, *understand*, (58d), which is non-separable in all three languages, and *arrive*, (52b), which is separable in German and Yiddish but not in Danish. Furthermore, what is said below about either type in any of the three languages, e.g. Danish separable particle verbs, holds for all verbs of that type in that language, irrespective of whether their lexical counterparts in the other two languages are separable or not.

In all three languages, it holds that if a verb particle is preverbal (non-separate) in V2 contexts, (59), then it is also preverbal (non-separate) in non-V2 ones, (60), (61):

- (59) a. Ge. *Den Brief steht er nicht ver
b. Yi. *Dem briv shteyt er nisht far
c. Da. *Brevet står han ikke for
d. Ge. Den Brief versteht er nicht
e. Yi. Dem briv farshteyt er nisht
f. Da. Brevet forstår han ikke
The letter (under)stands he not (under)
- (60) a. Ge. *Den Brief wird er nicht stehen ver
b. Yi. *Dem briv vet er nisht shteyn far
c. Da. *Brevet vil han ikke stå for
d. Ge. Den Brief wird er nicht verstehen
e. Yi. Dem briv vet er nisht farshteyn
f. Da. Brevet vil han ikke forstå
The letter will he not (under)stand (under)
- (61) a. Ge. *Den Brief hat er nicht (ge)standen ver
b. Yi. *Dem briv hot er nisht (ge)shtanen far
c. Da. *Brevet har han ikke stået for
d. Ge. Den Brief hat er nicht verstanden
e. Yi. Dem briv hot er nisht farshtanen
f. Da. Brevet har han ikke forstået
The letter has he not (under)stood (under)

Consider now a particle verb, *send off*, where the particle is postverbal (separate) in V2 contexts, as in (62):

- (62) a. Ge. Den Brief schickt er ab
b. Yi. Dem briv shikt er avek (from den Besten et al. 1986:119, (20b))
c. Da. Brevet sender han afsted
d. Ge. *Den Brief abschickt er
e. Yi. *Dem briv avekshikt er
f. Da. *Brevet afstedsender han
The letter (off)sends he (off)

If a particle in Danish is postverbal (separate) in V2 contexts, then it is also postverbal (separate) in non-V2 contexts, (63c) and (64c). However, if a German or Yiddish particle is postverbal (separate) in V2 contexts, then it is still preverbal (non-separate) in non-V2 contexts, (63d,e) and (64d,e):⁵

- (63) a. Ge. *Den Brief wird er schicken ab
 b. Yi.??Dem briv vet er shikn avek
 c. Da. Brevet vil han sende afsted
 d. Ge. Den Brief wird er abschicken
 e. Yi. Dem briv vet er avekshikn
 f. Da. *Brevet vil han afstedsende
 The letter will he (off)send (off)
- (64) a. Ge. *Den Brief hat er geschickt ab
 b. Yi.??Dem briv hot er geshikt avek
 c. Da. Brevet har han sendt afsted
 d. Ge. Den Brief hat er abgeschickt
 e. Yi. Dem briv hot er avekgeschikt
 f. Da. *Brevet har han afstedsendt
 The letter has he (off)sent (off)

In other words, Yiddish and German particles that have to be postverbal (separate) under V2 are nevertheless always possible in preverbal position in non-V2 contexts, whereas Danish particles that have to be stranded under V2 are never possible in preverbal position in non-V2 contexts.

A different way of illustrating this is to take the non-V2 possibilities as a starting point:

In (62)–(64), we saw a particle verb, *send off*, where the particle is postverbal under V2 in all three languages. It turned out that in Danish, such a particle also had to be postverbal in non-V2 contexts, whereas in German and Yiddish, it could not be postverbal in non-V2 contexts.

Let us now consider particle verbs where the particle is preverbal in non-V2 contexts in all three languages. This leaves two options for what happens under V2: Either the particle is also preverbal in V2 contexts in all three languages, cf. *understand* in (59)–(61) above, or the particle is preverbal only in Danish but postverbal in German and Yiddish. The latter is the case with the particle verb *arrive*:

- (65) a. Ge. Wann kommt der Zug an ?
 b. Yi. Ven kumt der tsug on ?
 c. Da. *Hvornår kommer toget an ?
 d. Ge. *Wann ankommt der Zug ?
 e. Yi. *Ven onkumt der tsug ?
 f. Da. Hvornår ankommer toget ?
 When (PRT) comes the train (PRT) ?
 (When does the train arrive?)

⁵In all of (63) and (64), the particles are normally stressed. If the particle receives contrastive stress in (63b) and (64b), the sentences may improve. Such a contrastive stress is not necessary in (62b). Furthermore, if a different constituent is contrastively stressed, e.g. the subject, (62b) is acceptable, whereas (63b) and (64b) become very marginal.

- (66) a. Ge. *Wann soll der Zug kommen an ?
 b. Yi. *Ven zol der tsug kumen on ?
 c. Da. *Hvornår skal toget komme an ?
 d. Ge. Wann soll der Zug ankommen ?
 e. Yi. Ven zol der tsug onkumen ?
 f. Da. Hvornår skal toget ankomme ?
When shall the train (PRT) come (PRT) ?
(When is the train supposed to arrive?)
- (67) a. Ge. *Wann ist der Zug gekommen an ?
 b. Yi. *Ven iz der tsug gekumen on ?
 c. Da. *Hvornår er toget kommet an ?
 d. Ge. Wann ist der Zug angekommen ?
 e. Yi. Ven iz der tsug ongekumen ?
 f. Da. Hvornår er toget ankomet ?
When is the train (PRT) come (PRT) ?
(When has the train arrived?)

This confirms the generalisations made above: In Yiddish and the (other) Germanic OV-languages, particle verbs whose particles are postverbal under V2 (separate) nevertheless always have preverbal particles in non-V2 contexts, whereas in the Germanic VO-languages, particle verbs whose particles have to be stranded under V2 never have preverbal particles in non-V2 contexts.

In principle, V2 is only one way of stranding a separable particle through movement of the finite verb. Another option is verb raising as found in Dutch (*opeten* and *eten* move to the right, see also section 2.6.1 below, van Riemsdijk & Williams 1986:53 and many others) which strands the particle *op* in (70a):⁶

⁶Also non-separable particle verbs may undergo verb raising, the only difference is that only one option is open, movement of the whole particle verb, (69a)/(iia), whereas movement only of the verb, leaving the particle behind, is excluded, (70a)/(iiaa):

- (i) a. Du. *Een tijger heeft hem verorberen willen
 b. Ge. Ein Tiger hat ihn verspeisen wollen
A tiger has him PRT-consume would
- (ii) a. Du. Een tijger heeft hem willen verorberen
 b. Ge. *Ein Tiger hat ihn wollen verspeisen
A tiger has him would PRT-consume
- (iii) a. Du. *Een tijger heeft hem ver willen orberen
 b. Ge. *Ein Tiger hat ihn ver wollen speisen
A tiger has him PRT would consume

The following examples show that *opeten* and *verorberen* differ in V2 contexts, (ci) and (vii), exactly in the way we would expect: The particle in *opeten* is postverbal (separate) and the one in *verorberen* is preverbal (non-separate).

- (iv) Du. a. Een tijger heeft het vlees opgegeten
 b. *Een tijger heeft het vlees gegeten op
A tiger has the meat (up-) eaten (up)
- (v) Du. a. Een tijger heeft het vlees verorbeerd
 b. *Een tijger heeft het vlees orbeerd ver
A tiger has the meat (PRT-) consumed (PRT)

- (68) a. Du. *Een tijger heeft hem opeten willen
 b. Ge. Ein Tiger hat ihn aufessen wollen
 A tiger has him up-eat would
- (69) a. Du. Een tijger heeft hem willen opeten
 b. Ge. *Ein Tiger hat ihn wollen aufessen
 A tiger has him would up-eat (Abraham 1995:354, (9a,b))
- (70) a. Du. Een tijger heeft hem op willen eten
 b. Ge. *Ein Tiger hat ihn auf wollen essen
 A tiger has him up would eat (Abraham 1995:354, (9c,d))

A similar effect can be seen in the German dialect spoken in Cologne, where the particle may optionally be left behind in the *am* plus infinitive construction which conveys a progressive aspect much like the English *be* plus *-ing*:

- (71) Ge. a. Ich ben dat jrad am opschrieve
 b. Ich ben dat jrad op am schrieve
 I am this just (up) by (up)write
 (I am just writing this down) (Bhatt & Schmidt 1993:78, (44a,b))

The fact that there are other processes than V2 under which particles may be separated from their verbs, does not change the overall picture that in Yiddish and the (other) Germanic OV-languages, all particles, even those that can be postverbal under verb movement (i.e. particles that are left behind when the verb undergoes V2 or verb raising), are nevertheless always possible in preverbal position in non-V2 contexts, as opposed to the Germanic VO-languages, where verb particles that may be postverbal (left behind under verb movement) must always be postverbal (separated from their verbs).

2.4.3 Different types of incorporation: V° and V*

I would like to suggest that separable particles are not incorporated into the verb **to the same extent** that non-separable particles are. If we assume that a non-separable particle and its verb (*bamerkn*, *farshiteyn*) constitute a V°, then a separable particle and its verb (*araynkumen*, *avekshikn*) do not form a V°.

This does not mean that verb and separable particle do not somehow form a constituent, it only means that they do not together constitute a V°. It might be that they do form a particular syntactic constituent, smaller than e.g. a V', cf. that they are taken to form almost a head but not quite by e.g. Booij (1990) where they constitute a V* (which is more than V° but less than V').

I will use the notation V*, but I will take it only to indicate a constituent which is larger than a V°, i.e. I have nothing to say about whether V* is as big as V' or not. The

-
- (vi) Du. a. *Een tijger opat het vlees
 b. Een tijger at het vlees op
 A tiger (up-)ate the meat (up)
- (vii) Du. a. Een tijger verorberde het vlees
 b. *Een tijger orberde het vlees ver
 A tiger (PRT-)consumed the meat (PRT)

following illustrates the analyses of the verbs used in examples (59)-(67) above:

(72)	$\begin{array}{c} V^{\circ} \\ \swarrow \quad \searrow \\ \text{Prt} \quad V^{\circ} \end{array}$	$\begin{array}{c} V^{\star} \\ \swarrow \quad \searrow \\ \text{Prt} \quad V^{\circ} \end{array}$	$\begin{array}{c} V^{\star} \\ \swarrow \quad \searrow \\ V^{\circ} \quad \text{Prt} \end{array}$
a.	Yi. <i>far shteyn</i> Ge. <i>ver stehen</i> Da. <i>for stå</i>		
b.		Yi. <i>avek shikn</i> Ge. <i>ab schicken</i>	Da. <i>sende afsted</i>
c.	Da. <i>an komme</i>	Yi. <i>on kumen</i> Ge. <i>an kommen</i>	

This follows a suggestion for German made by Haiden (1997:105), Wurmbrand (1998:271), and many others, namely that verb and separable particle form a lexical unit but not necessarily also a syntactic X° -constituent (also in Yiddish and Danish).

Verb and separable particle would have this (lexical unity without syntactic unity) in common with many other combinations of a verb plus (part of) its complement, e.g. idiomatic expressions like English *to spill the beans* (i.e. 'to reveal a secret'), Danish *stille træskoene* (literally 'to put down the wooden shoes', i.e. 'to die'), German *jemandem einen Korb geben* (literally 'to give somebody a basket', i.e. 'to say no to an offer'), and Yiddish *hakn a tshaynik* (literally 'to beat a teapot', i.e. 'to talk nonsense'). Because such expressions have a non-compositional semantics, i.e. their meaning cannot be inferred from the meaning of their parts, the entire expression, e.g. *spill the beans*, has to be listed as a separate lexical entry. However, although they thus form one lexical unit, they do not form a syntactic one, as shown e.g. by Müller (2000): Syntactic operations, e.g. passivisation or V2, can affect part of such expressions while leaving other parts unaffected, so that the different parts of the lexical unit can end up rather far apart in the syntax:

(73) En. The beans were finally spilled by John

(74) Da. I 1980 stillede han desværre træskoene
In 1980 put-down he unfortunately wooden-shoes-the
(In 1980, he unfortunately died)

(75) Ge. Warum gab sie ihm gestern einen Korb ?
Why gave she him yesterday a basket?
(Why did she turn him down yesterday?)

(76) Yi. Far vos hakt er shtendik a tshaynik?
Why beats he constantly a teapot ?
(Why does he always talk nonsense?)

This is clearly parallel to those verbs with separable particles that do not have a compositional semantics, e.g. German *aufhören*, Yiddish *oyfhern*, and Danish *høre op*, literally 'to up-hear' i.e. 'to stop'. The meaning of the particle verb cannot be computed from the meaning of its constituent parts, i.e. *hear* and *up*. Although *hear* and *up* have to be listed independently in the lexicon, the lexicon therefore also has to contain separate entries for *aufhören*, *oyfhern*, and *høre op*.

Gold (1998:192-194) in fact argues that it follows from *oyfhern* forming a lexical unit that it must form a syntactic X° -constituent. I disagree with this conclusion, because of the data from idiomatic expressions cited above.

In this subsection I set out what I take to be the basic difference between separable and non-separable particle verbs, namely that only the non-separable ones form a X° -constituent (i.e. a V°) in the syntax. Separable particle verbs do not form a V° , but a constituent of a higher projection level, which I will label V^* .

2.4.4 Diesing (1997): Separable particles are incorporated into V°

According to Diesing (1997:385-386), neither the fact that Yiddish separable particles are preverbal in (63e) and (64e) nor the fact that Yiddish separable particles may be topicalised (to be discussed in 2.4.6 below) necessarily show that Yiddish is an OV-language. The preverbal position of the particle *avek* in (63e) and (64e) is not the base-generated position, says Diesing, the particle (*avek*) has been incorporated into the V° (*avekshikn/avekgeshikt*). According to Diesing, this is supported by three facts, which will be discussed in turn.

I shall argue that none of these three facts necessarily show that separable preverbal particles have to be incorporated, i.e. I do not think that the data show that all cases of preverbal particles plus their verb form a V° . If this is correct, then the fact that outside V2-contexts all separable particles occur preverbally, not postverbally, still need an explanation. Not surprisingly, I would like to suggest that the reason is that Yiddish is an OV-language.

The first of Diesing's facts is that separable particles can be modified in postverbal position, but not in preverbal position (*araynkumen* 'come in' behaves syntactically exactly like *avekshikn* 'send off' in (62)-(64), cf. that both belong to group (51) above):

- (77) Yi. a. Er iz gekumen glaykh arayn
 b. *Er iz glaykh arayngekumen
 He is (right in-)come (right in) (He came right in)
 (from Diesing 1997:385, (27a), (28a))

I have not been able to reproduce this data, my informant has exactly the opposite judgments of (77), i.e. he finds (77b) better than (77a). The example may be problematic anyway, as it is not clear that *glaykh* modifies only the particle, because it may modify the entire VP (in addition to 'directly', *glaykh* may also mean 'immediately' or 'right away'). In the following example, which is inspired by an example from Wurmbrand (1998:273) given below as (79a), *in gantsn* (literally 'in the whole', i.e. 'completely, altogether') modifies only *um* ('over'), as is clear from the interpretation:

- (78) Yi. a. Zi hot im nit in gantsn umgeshtoysn
 b. *Zi hot im nit geshtoysn in gantsn um
 She has him not (completely over-)knocked (completely over-)
 (She did not knock him over completely, i.e. he is still standing)

This is parallel to the situation in German, where a particle may also be modified when it is placed to the left of the verb:

- (79) Ge. a. Hans hat das Verkehrsschild halb umgefahren
Hans hat the traffic sign half around-driven
(Hans partially knocked down the traffic sign) (Wurmbrand 1998:273, (10a))
- b. Hans hat die Tür weit aufgemacht
Hans hat the door wide up-made (Hans threw the door wide open)

I therefore disagree with this first set of data of Diesing's, in that I think that it is possible to modify a preverbal separable particle. This would be unexpected if particles could only be preverbal if they were incorporated.

Diesing's second fact is that the combination preverbal separable particle and verb only receive one main stress (see also Wiese 1996:94 and Wurmbrand 1998:284), whereas the combination verb and postverbal particle receive two main stresses, just like two independent elements do:

- (80) Yi. a. Ikh bin aRAYNgekumen preverbal particle: **ONE** main stress
b. Ikh bin geKUMen aRAYN postverbal particle: **TWO** main stresses
I am (in-)come in
(I came in)
- c. Ikh bin NEKHtn geKUMen two elements: **TWO** main stresses
I am yesterday come
(I arrived yesterday) (from Diesing 1997:385-386, (29))

Whereas two stresses may indeed be a reliable indication that incorporation has not taken place, I am not sure that the inverse is the case, i.e. I doubt that a single main stress is only possible if incorporation has taken place. The embedded clauses in (81)/(82) have the same stress conditions: In all four of them, there is only one main stress (indicated by capitals), and yet it is highly unlikely that (81b)/(82b) have incorporation, because it would be incorporation of a PP into a V°.

- (81) Yi. a. Oyb er vet nit aRAYNkumen, ...
If he will not in-come, ...
- b. Oyb er vet nit tsu MIR kumen, ...
If he will not to me come, ...
- (82) Ge. a. Wenn er nicht voRANkommt, ...
If he not ahead-comes ...
- b. Wenn er nicht zu MIR kommt, ...
If he not to me comes ...

I therefore do not agree with Diesing that the possibility of assigning only one main stress to the combination of a preverbal separable particle and its verb shows that the particle must have been incorporated into the verb. That incorporation is not necessary is seen from examples like (81b)/(82b) where the combination PP and verb also only have one main stress, and yet incorporation is out of the question for theoretical (X-bar) reasons.

The third fact that Diesing (1997:386) cites is also cited by Gold (1998:194) in support of preverbal (separable) particles being incorporated into the verb, even if Gold (1998:192) actually assumes also separable particles to be base-generated to the left of the verb. This third fact is that further morphological derivational processes show that the

particle has been incorporated:

- (83) Yi. a. der araynbrekher
the.M in-break-er ('the male burglar')
- b. di araynbrekherke
the.F in-break-er-ess ('the female burglar') (Diesing 1997:386, (30b))

I agree that even particles which have to be stranded/postverbal under V2 may be incorporated in further morphological processes like nominalisations, but I strongly doubt that this shows that such particles also have to be incorporated into their verb in (63e) and (64e). My doubt is based on the following data from Danish, where particles seem to be incorporated during further morphological processes:

- (84) Da. a. halmafbrænding hay-down-burn-ing burning of hay (noun)
b. opvokset op-grow-n grown up (adj.)
c. udholdenhed out-last-ness endurance
d. indkøbscenter in-buy-center shopping centre
e. eftergivenhed after-give-ness indulgence
f. tildækning to-cover-ing cover (noun)
g. tilbageh. sammenstød together-bump clash, collision

The point is that the particle verbs underlying (84) are all from the group in (51) above: They never incorporate the particle into the verb, the particle always occurs postverbally, exactly like the particle *afsted* in (62c,f), (63c,f), and (64c,f):

- (85) Da. a. *Børn bør opvokse i tryghed
b. Børn bør vokse op i tryghed
Children should (up)grow (up) in security
- (86) Da. a. *Jeg vil først indkøbe i morgen
b. Jeg vil først købe ind i morgen
I will first (in)buy in tomorrow (I won't go shopping until tomorrow)
- (87) Da. a. *De har eftergivet for presset fra udlandet
b. De har givet efter for presset fra udlandet
They have (after)given (after) for pressure-the from outland-the
(They have given in to the pressure from abroad)
- (88) Da. a. *De vil tilbageb. De vil trække tropperne tilbage
They will (back)pull troops-the (back) (They will pull the troops back)

The examples in (85)-(88) show that the particles and their verbs do not form a V°. Therefore the kind of incorporation during further morphological processes seen in (83) and (84) can not be taken to be an indication that syntactic incorporation also takes place in the particle verbs themselves.

A similar point is made for German in Haiden (1997:104). The well-formedness of (89a) does not necessarily mean that *raucht* 'smokes' and *Zigaretten* 'cigarettes' form a V° in (89b,c):

- (89) Ge. a. Richard ist ein zigarettenrauchender Dichter
 Richard is a cigarette-smoking poet
 (from Haiden 1997:104, (44b))
- b. Warum raucht Richard Zigaretten ?
 c. *Warum zigarettenraucht Richard ?
 Why (cigarette-)smokes Richard (cigarettes) ?
 (Why does Richard smoke cigarettes?)

This point is also valid for Yiddish. Although the object may be incorporated into the verb in the present participle in (90a), it does not follow that the object may always be incorporated:

- (90) Yi. a. Ruvn iz a papirosn-roykhdiker dikhter
 Ruben is a cigarette-smoking poet
- b. Far vos roykht Ruvn papirosn ?
 c. *Far vos papirosn-roykht Ruvn ?
 For what (cigarette-)smokes Ruben (cigarettes) ?
 (Why does Ruben smoke cigarettes?)

Haiden (1997:103) also gives another somewhat related argument against verb and separable particle forming an X° -constituent in the syntax of German, and as above this argument can be extended to Yiddish. Like non-separable particles, separable particles may affect the argument structure of the verb:

- (91) Ge. a. *Hans hat das Verkehrsschild gefahren
 b. Hans hat das Verkehrsschild umgefahren
 Hans has the traffic sign (around-)driven
 (Hans has knocked down the traffic sign)
 (based on Stiebels & Wunderlich 1994:952, (95), and Wurmbrand 1998:273, (10a))
- (92) Yi. a. *Dos bukh hobn mir nit geredt
 b. Dos bukh hobn mir nit arumgeredt
 The book have we not (around-)talked (This book we have not discussed)

This modification of argument structure cannot be the effect of syntactic incorporation of the particle into the verb (or vice versa), says Haiden (1997:103), because the syntactic incorporation (if it takes place at all) only takes place after the incorporation of tense and aspect elements like *-ge-* and *-zu-/tsu-*, but the modification of the argument structure of the verb has to precede the tense and aspectual modification of the verb. Hence the modification of the argument structure must have taken place at a stage earlier than the earliest point at which the particle may form an X° -constituent with the verb. The forming of a unit in the lexicon and the (potential) syntactic incorporation therefore have to be two independent phenomena.

In this subsection, I argued against Diesing's claim that all preverbal particles are incorporated into their verb (i.e. form a V° with their verbs), mainly by showing that the data cited by Diesing in support of her analysis are also compatible with other views.

In the following subsections I will give other arguments against Diesing's analysis. Because her analysis says that all particles occurring preverbally form a V° with their verbs, it would seem to have no way of accounting for the differences between separable and non-separable particle verbs concerning e.g. the placement of the participial prefix *ge-* and the infinitival marker *tsu*.

An alternative analysis, which says that only non-separable particle verbs form a V°, is compatible with the data cited above, and it is much better suited to deal with the data discussed in the following subsection.

2.4.5 "Infixation" of *-ge-* and *-zu-/tsu-*

This subsection will discuss the position of the participial prefix *ge-* and the infinitival marker *tsu* in particle verbs.

Yiddish has a very strict correlation between whether or not a particle has to be left behind during V2 and whether or not *ge-* occurs between the particle and the verb stem in the past participle. This is just like other languages which prefix their past participle with *ge-*, e.g. Afrikaans (Donaldson 1993:224), Dutch (e.g. Geerts et al. 1984:427) and German.

It may also be suggestive in itself that although there are at least two present-day OV-languages which do not form their past participles with *ge-* (namely Frisian and Low German), all the languages that have past participles with *ge-*, are OV-languages. Should Yiddish be a VO-language, it would be rather exceptional in being the only VO-language to have past participles with *ge-*.

The generalisation is that if and only if the particle has to be left behind during V2, (62b,e), i.e. if there is no incorporation in the present analysis, the past participle must include *ge-* between the particle and the verb stem:

- (93) Yi. a. *arayngekumen*, **araynkumen*, **gearaynkumen* 'come in', (51f)
 b. *avekgeshikt*, **avekshikt*, **geavekshikt* 'sent off', (51b)

If and only if the particle has to be carried along during V2, (59b,e), i.e. if there is incorporation even in the present analysis, the past participle may not include *ge-* anywhere:

- (94) Yi. a. *bamerkt*, **bagemerkt*, **gebamerkt* 'noticed', (58b)
 b. *farshtanen*, **fargeshtanen*, **gefarshtanen* 'understood', (58d)

I know of only one type of exception to this rule: Even verbs that leave behind particles under V2 do not take *ge-* if they end in *-irn* in the infinitive, e.g. *oppolirn* 'polish':

- (95) Yi. *oppolirt*, **opgepolirt*, **geoppolirt* 'polished' (from Weinreich 1968:xxxiv)

This exception is not related to the particle however, cf. that the participle of *polirn* is also *polirt*, not **gepolirt* (*polirn* also means 'polish' but it is imperfective, i.e. whereas *oppolirn* implies that the polishing has been finished, *polirn* does not have such an implication). In German, the exact same class of exceptions is found, in Afrikaans these are only optional, and in Dutch the verbs are not exceptional at all: Yiddish *prubirn* and German *probieren* 'try' have the past participles *prubirt/probiert*, not **geprubirt*/**geprobiert*, whereas Dutch *proberen* 'try out' has the past participle *geprobeerd*, not **probeerd* (Geerts et al. 1984:428) and in Afrikaans the past participle of *probeer* 'try out' is "more often used without *ge-* than with it: *Ek het dit al probeer* 'I have already tried it'" (Donaldson 1993:224).

Infinitives with *tsu* present a parallel case to the past participles with *ge-*, but without the above-mentioned exception concerning *-irn-*verbs. In some cases the infinitives may appear with the infinitival marker *tsu* 'to':

- The generalisation is that if and only if the particle has to be left behind during V2, (62b,e), i.e. if there is no incorporation in the present analysis, the *tsu*-infinitive must include *tsu* between the particle and the verb stem, cf. (96a):

- If and only if the particle has to be carried along during V2, (59b,e), i.e. if there is incorporation even in the present analysis, *tsu* must precede the entire particle verb completely, cf. (96b):

- This too is a feature which Yiddish shares with all the (other) Germanic OV-languages, this time including Low German and Frisian. Incidentally, Frisian illustrates how little one should rely on orthographical conventions, as here particle and verb are written together in infinitives without the infinitival marker, but apart in infinitives with the infinitival marker:

8(95) has an almost exact German parallel in *ausprobieren* ‘try out’, which also leaves *aus* behind during V2 but nevertheless has the past participle *ausprobiert*, and not **ausgeprobiert* or **geausprobiert*. The following German verbs belong to the same class as Yiddish *oppolim* and German *ausprobieren*: *ausagieren*, *ausbalancieren*, *ausbetonieren*, *ausdifferenzieren*, *ausdiskutieren*, *ausformulieren*, *ausklariieren*, *auskristallisieren*, *auskurieren*, *ausmanövrieren*, *ausquartieren*, *ausradieren*, *ausrangieren*, *aussondieren*, *aussortieren*, *austrainieren*, ...

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- (99) Fs. a. Hja frege om meigean te kinnen
She asked in-order-to with-go to could
(She asked to be able to go along)

- b. ... om mei te gean
... in-order-to with to go

(from Tiersma 1985:128, 109)

Summing up this subsection on participial and infinitival forms: Only if the preverbal particles that are left behind under V2 are taken not to be incorporated into a V°, is it possible to explain the difference concerning the occurrence of *-ge-* and *-tsu-* between the particle and the verb stem.

I would like to suggest that *ge-* and *tsu* can only be "prefixed" on constituents with the category V° (this is why they cannot precede separable particles, (93) & (97)).

I would also like to suggest that *ge-* and *tsu* want to be "prefixed" on the largest V°-constituent possible (this is why they prefer to precede non-separable prefixes, (94) & (98), rather than separate them from their verbs. As for why I take this only to be a preference, see section 3.3.5 below).

Then it would follow that in separable particle verbs like *araynkumen* and *avekshikn*, (93), the particle is never incorporated even when it is preverbal: If incorporation was obligatory or optionally possible, it should be possible to have *-ge-* and *-tsu-* prefixed to the entire particle verb in (93) and (97).

2.4.6 Topicalisation of particles

Wurmbrand (1998:276) argues (for German) that facts concerning topicalisation of particles also show a difference in degree of incorporation, in that only separable particles may undergo movement in the syntax, non-separable particles (prefixes) always form a X°-constituent together with the verb.

Particles can be topicalised, but only if they are contrastively focused (Heidolph et al. 1981:720, Diesing 1997:384, Wurmbrand 1998:274, against Stiebels & Wunderlich 1994:923). This requires not only that the particles are separable but also that they are semantically transparent, (101), as opposed to the semantically opaque ones in (103):

- (100) a. Ge. Er ist hereingekommen
b. Yi. Er iz arayngekumen
He is in-come

- (101) a. Ge. Herein ist er gekommen
b. Yi. Arayn iz er gekumen
In is he come (In he came) (from Diesing 1997:384, (24b))

- (102) a. Ge. Sie hat ihn hereingelegt
She has him in-laid (hereinlegen 'deceive', 'betray')

- b. Yi. Si hot im arayngezogn
She has him in-said (araynzogn 'tell off', 'scold')

- (103) a. Ge. *Herein hat sie ihn gelegt
In has she him laid

- b. Yi. *Arayn hot si im gezogn
In has she him said

The important difference is that non-separable particles, even semantically transparent ones, can never be topicalised:

- (104) Ge. a. Er soll den Lastwagen entladen, nicht beladen
He shall the lorry PRT-load, not PRT-load
(He shall unload the lorry, not load it; entladen 'unload', beladen 'load')
- b. *Ent- soll er den Lastwagen laden, nicht beladen
c. *Ent- soll er den Lastwagen laden, nicht be-
PRT shall he the lorry load, not PRT(load)
- (105) Yi. a. Di UNO zol zey antvofenen, nisht bavofenen
The UN shall them disarm, not PRT-arm
(The UN shall disarm them, not arm them; antvofenen 'disarm', bevofenen 'give weapons to')
- b. *Ant- zol di UNO zey vofenen, nisht bavofenen
c. *Ant- zol di UNO zey vofenen, nisht ba-
Dis- shall the UN them -arm, not PRT-arm

Compare this to a parallel case with a semantically transparent separable particle:

- (106) Ge. a. Er soll die Tür aufmachen, nicht zumachen
He shall the door up-make, not to-make
(He shall open the door, not close it; aufmachen 'open', zumachen 'close')
- b. Auf soll er die Tür machen, nicht zumachen
c. Auf soll er die Tür machen, nicht zu
Up shall he the door make, not to (-make)
((106c) based on Wurmbrand 1998:272, (8b))
- (107) Yi. a. Er zol arayngeyn, nit aroysgeyn
He shall in-go, not out-go
(He shall go in, not go out; arayngeyn 'go in', aroysgeyn 'go out')
- b. Arayn zol er geyn, nit aroysgeyn
c. Arayn zol er geyn, nit aroys
In shall he go, not out (go)

I would like to suggest that the fact that even semantically transparent non-separable particles cannot be topicalised may be accounted for by appealing to the ban on traces inside X° -constituents (Baker 1988:73). Topicalisation of either kind of particle leaves a trace, but only in the case of non-separable particles is this trace situated inside a V° .

Wurmbrand (1998:276) observes that these data also show that separable particles may behave as phrases, which also makes it unlikely that they may incorporate into a V° .

The data discussed in this subsection are thus better accounted for if only non-separable particles (and thus not separable particles) form a V° together with their verb than if all particles form a V° together with their verb.

2.4.7 Conclusion

As an alternative to Diesing's (1997) and Gold's (1998) analyses, I have suggested the following account.

In **Danish**, the base-generated position of the particle (as part of the complement of the verb) is to the right of the verb. The only way for it to precede the verb is to be

incorporated into the verb, in which case it is non-separable. As it is clearly a lexical property of a given particle verb whether the particle must, may, or may not be incorporated into the verb, it now follows that those particles that may appear preverbally in non-V2 contexts are exactly the same that may appear preverbally in V2 contexts (in both cases they are the ones that may be incorporated).

A few particle verbs might at first glance seem to behave like German and Yiddish: They allow the verb to leave the particle behind during V2 and they allow the particle preverbally in non-V2 contexts. However, all such verbs turn out to also allow a preverbal particle during V2 and also to allow a postverbal particle in non-V2 contexts. In other words, such verbs allow the particle to be either preverbal (incorporated) or postverbal (not incorporated), with no discernible change in semantics (although the incorporated version may sound more formal, cf. the footnote in 2.4.1 above). Such verbs have both options during V2 and consequently also both options in all other contexts:⁹

- (108) Da. a. Det her brev skrev han under
 b. Det her brev underskrev han
 This here letter (under)wrote he (under) (This letter he signed)
- (109) Da. a. Det her brev vil han skrive under
 b. Det her brev vil han underskrive
 This here letter will he (under)write (under) (This letter he will sign)
- (110) Da. a. Det her brev har han skrevet under
 b. Det her brev har han underskrevet
 This here letter has he (under)written (under) (This letter he has signed)

Also in an OV-language like **German**, for a particle to precede the verb in a V2 context is a clear sign of incorporation. For a particle to precede the verb in a non-V2 context in German, however, does not indicate whether incorporation has taken place or not, because both incorporated and non-incorporated verb particles may precede the verb in an OV-language. It is therefore possible to take separable particles not to be incorporated into the verb even when they precede the verb in non-V2 contexts, as in (63d) and (64d). If separable particle verbs do not form a V° , we can appeal to the ban on empty categories inside a X° -constituents (Baker 1988:73) and avoid an appeal to excorporation as an explanation for (62a) and (65a), i.e. V2 leaving a particle behind, which was suggested e.g. in Roberts (1991:215), and criticised in Schwartz & Vikner (1996:49), because excorporation leaves us without an explanation e.g. why clitics then have to come along when their verbs move in the Romance languages or for why there could exist a class of non-separable particles that must come along when their verbs move in the Germanic languages. Furthermore, only if separable particle verbs do not form a V° , can we accommodate the participial and infinitival data in section 2.4.5 above, and the topicalisation data in section 2.4.6 above.

If **Yiddish** is also assumed to be an OV-language, we have an explanation for why particles that do not incorporate into the verb in V2 contexts, (62b) and (65b), nevertheless occur preverbally in non-V2 contexts, (63e) and (64e): This is where they are base-

⁹This kind of example should not be confused with particle plus verb combinations which may exist in both separable and non-separable versions, but where the separable particle verb has a completely different interpretation from the non-separable particle verb. German *umfahren* 'around-drive' thus means 'to drive around something' as non-separable particle verb but 'to drive into and knock down' as a separable particle verb, cf.

generated. If Yiddish were a VO-language, it would be a mystery why particles that do not incorporate during V2 are ever possible preverbally, cf. that this is not possible in Scandinavian.

After the comparison of Yiddish not only with German but also with Danish, I would like to suggest that we have actually seen what a language looks like that has the characteristics that Diesing (1997) ascribes to Yiddish: When the particle is preverbal, it is incorporated (the whole particle verb is a V°), and when the particle is postverbal, it is not incorporated (the particle verb is not a V° , but only a V^*). This language, however, is not Yiddish, but Danish.

Furthermore, in Danish, whether a particle is incorporated or not is a lexical property of the particle verb, as pointed out above, irrespective of whether a given occurrence of the verb happens to be in a V2 context or not. It is also a lexical property of German and Yiddish particle verbs whether the particle is incorporated or not under V2. Only under an analysis like the one defended above is it possible to maintain the view that also in non-V2 contexts it is a lexical property of the given Yiddish or German particle verb whether the particle is incorporated or not.

Summing up the whole section on verbal particles (section 2.4), I have argued against Diesing (1997:383) when she says that particles may not form the basis of an argument for the underlying order of Yiddish being OV. Only if Yiddish is an OV-language like German and Dutch, not a VO-language like English or Danish, can we explain why Yiddish is like German and unlike Scandinavian in allowing even such particles to occur preverbally in non-V2 constructions that do not incorporate, as seen by their not moving along with the finite verb during V2, by their requiring participial/infinitival forms with intervening *-ge-/**-tsu-*, and by their ability to topicalise.

Wurmbrand (1998:268) and Abraham (1995:377).

2.5 The obligatory lack of agreement on predicative adjectives

In this section, I will try to show that the view that Yiddish is an OV-language like German and Dutch, not a VO-language like English or Danish, is supported by facts concerning the inflection of adjectives, or to be more exact, facts concerning the agreement of predicative adjectives.

2.5.1 Introduction

At a first glance, German would seem to have much more morphology than e.g. French or Danish. From the point of view of French or Danish, with their two genders and with no case outside the pronoun system, German, with its three genders and with its four cases throughout the nominal system, seems much more complex.

However, there is one area where German agreement morphology could not possibly be simpler, and where German is much easier for non-native speakers than e.g. French or Danish: predicative adjectives. Both gender and number distinctions, (111a-b), disappear when adjectives are used predicatively, (111c-f):

- (111) Ge. a. ein grüner Bus / zwei grüne Busse
a.M.NOM green.M.SG.NOM bus two green.PL.NOM buses
b. ein grünes Haus / zwei grüne Häuser
a.N.NOM green.N.SG.NOM house two green.PL.NOM houses
- c. Ein Bus ist grün_, (die anderen sind gelb)
One.M.NOM bus is green, (the others are yellow)
d. Zwei Busse sind grün_, (die anderen sind gelb)
Two buses are green, (the others are yellow)
- e. Ein Haus ist grün_, (die anderen sind gelb)
One.N.NOM house is green, (the others are yellow)
f. Zwei Häuser sind grün_, (die anderen sind gelb)
Two houses are green, (the others are yellow)

Compare this to the situation in French (and all the other Romance languages), where the inflectional differences found in the attributive construction are also found in the predicative construction:

- (112) Fr. a. un autobus vert_ / deux autobus verts
a.M bus green.M.SG two buses green.M.PL
b. une maison verte / deux maisons vertes
a.F house green.F.SG two houses green.F.PL
- c. Un autobus est vert_, (tous les autres sont jaunes)
One.M bus is green.M.SG, (all the others are yellow)
d. Deux autobus sont verts (tous les autres sont jaunes)
Two buses are green.M.PL, (all the others are yellow)
- e. Une maison est verte, (toutes les autres sont jaunes)
One.F house is green.F.SG, (all the others are yellow)
f. Deux maisons sont vertes, (toutes les autres sont jaunes)
Two houses are green.F.PL, (all the others are yellow)

In the following subsections, the situation in the other Germanic languages will be examined.

2.5.2 Scandinavian

Danish (and also Norwegian and Swedish) are like French, exactly the same inflectional differences are found in the attributive construction and in the predicative construction :

- (113) Da. a. en grøn_ bus / to grønne busser
 a.M/F green.M/F.SG bus two green.PL buses
 b. et grønt hus / to grønne huse
 a.N green.N.SG house two green.PL houses
- c. En bus er grøn_, (de andre er gule)
 One.M/F bus is green.M/F.SG, (the others are yellow)
 d. To busser er grønne, (de andre er gule)
 Two buses are green.PL, (the others are yellow)
- e. Et hus er grønt_, (de andre er gule)
 One.N house is green.N.SG, (the others are yellow)
 f. To huse er grønne, (de andre er gule)
 Two houses are green.PL (the others are yellow)

(These inflectional endings are only found in indefinite DPs. In definite DPs, both attributive and predicative adjectives display no number or gender differences, cf. the form *grønne* in (134) below).

Not surprisingly, the situation is no simpler in those Scandinavian languages which have retained a rich inflectional system (cf. chapter 1 for an overview of the verbal inflectional systems), namely Faroese and Icelandic:

- (114) Fa. a. ein grønur bussur / tveir grønr bussar
 a.M green.M.NOM.SG bus two.M green.M.NOM.PL buses
 b. eitt grønt hús / tvey grøn_ hús
 a.N green.N.NOM.SG house two.N green.N.NOM.PL houses
- c. Ein bussur er grønur
 One.M bus is green.M.NOM.SG
 d. Tveir bussar eru grønr
 Two.M buses are green.M.NOM.PL
- e. Eitt hús er grønt
 One.N house is green.N.NOM.SG
 f. Tvey hús eru grøn_
 Two.N houses are green.N.NOM.PL

- (115) Ic. a. grønn strætisvagn / tveir grønr strætisvagnar
 (a) green.M.NOM.SG bus two.M green.M.NOM.PL buses
 b. grønt hús / tvö græn_ hús
 (a) green.N.NOM.SG house two.N green.N.NOM.PL houses
- c. Einn strætisvagn er grønn
 One.M bus is green.M.NOM.SG
 d. Tveir strætisvagnar eru grønr
 Two.M buses are green.M.NOM.PL
- e. Eitt hús er grønt
 One.N house is green.N.NOM.SG
 f. Tvö hús eru græn_
 Two.N houses are green.N.NOM.PL

Agreement is thus found in predicative adjective constructions in all the Romance and all

the Scandinavian languages, irrespective of whether these have a relatively rich inflectional system (like Icelandic, Faroese, or French) or a relatively poor one (like Danish, Norwegian, and Swedish).

2.5.3 West Germanic

The obvious question is now whether German is unique in not having agreement in predicative adjective constructions. The answer is no. Two situations will have to be kept apart: Languages which trivially lack predicative adjective inflection, because they do not have any adjectival inflection at all, and languages which only lack adjectival inflection in predicative adjective constructions, but have adjectival inflection in attributive constructions.

At least two Germanic languages lack adjectival inflection completely, namely English and Afrikaans:

- (116) En. a. a green_ bus / two green_ buses
 b. a green_ house / two green_ houses
 c. One bus is green_
 d. Two buses are green_
 e. One house is green_
 f. Two houses are green_
 (117) Af. a. 'n groen_ bus / twee groen_ busse
 a green_ bus two green_ buses
 b. 'n groen_ huis / twee groen_ huizen
 a green_ house two green_ houses
 c. Een bus is groen_
 One bus is green
 d. Twee busse is groen_
 Two buses are green
 e. Een huis is groen_
 One house is green
 f. Twee huizen is groen_
 Two houses are green

The other West Germanic languages all lack adjectival inflection in predicative adjective constructions only, not in attributive adjective constructions. We have already seen the German data in (111) above, and the following examples show that the situation is completely parallel in Dutch, West Flemish¹⁰, Frisian, Swabian, the three types of Swiss German from Sankt Gallen, Zürich, Bern, and finally Yiddish:

¹⁰An expletive pronoun is obligatory in (119c-f) in West Flemish, though not in the other languages. This presence or absence of the expletive does not influence the agreement facts. On the form and variation of West Flemish expletives, see Grange & Haegeman (1989).

- (118) Du. a. een groene bus / twee groene bussen
a green.M/F bus two green.PL buses
b. een groen huis / twee groene huizen
a green.N.SG house two green.PL houses
c. Een bus is groen_
One bus is green
d. Twee bussen zijn groen_
Two buses are green
e. Een huis is groen_
One house is green
f. Twee huizen zijn groen_
Two houses are green
- (119) WF. a. nen groenen bus / twee groene bussen
a.M/F green.M/F bus two green.PL buses
b. een groen us / twee groene uzen
a.N green.N.SG house two green.PL houses
c. T' is eenen bus groen_
There is one bus green
d. T zyn twee bussen groen_
There are two buses green
e. T' is een us groen_
There is one house green
f. T zyn twee uzen groen_
There are two houses green
- (120) Fs. a. in griene bus / twa griene bussen
a green.M/F bus two green.PL buses
b. in grien hûs / twa griene huizen
a green.N.SG house two green.PL houses
c. Ien bus is grien_
One bus is green
d. Twa bussen binne grien_
Two buses are green
e. Ien hûs is grien_
One house is green
f. Twa huzen binne grien_
Two houses are green
- (121) St. a. an grinr Bus / zwoi grine Bus
a.M.NOM green.M.SG.NOM bus two green.PL.NOM buses
b. a gring Haus / zwoi grine Heisr
a.N.NOM green.N.SG.NOM house two green.PL.NOM houses
c. Oin Bus isch grin_
One.M.NOM bus is green
d. Zwoi Bus sen grin_
Two buses are green
e. Oi Haus isch grin_
One.N.NOM house is green
f. Zwoi Heisr sen grin_
Two houses are green

- (122) SG. a. än grünee Bus / zwei grünei Būs
a.M.NOM green.M.SG.NOM bus two green.PL.NOM buses
b. äs grüneg Huus / zwei grünei Hüser
a.N.NOM green.N.SG.NOM house two green.PL.NOM houses
- c. Ain Bus isch grüne_
One.M.NOM bus is green
d. Zwei Būs sind grüne_
Two buses are green
e. Ais Huus isch grüne_
One.N.NOM house is green
f. Zwei Hüser sind grüne_
Two houses are green
- (123) Zü. a. en grünee Bus / zwäi grünei Būs
a.M.NOM green.M.SG.NOM bus two green.PL.NOM buses
b. es grüneg Huus / zwäi grünei Hүүser
a.N.NOM green.N.SG.NOM house two green.PL.NOM houses
- c. Äin Bus isch grüne_
One.M.NOM bus is green
d. Zwäi Būs sind grüne_
Two buses are green
e. Äis Huus isch grüne_
One.N.NOM house is green
f. Zwäi Hүүser sind grüne_
Two houses are green
- (124) Be. a. ei grünee Böss / zwe grünei Bösse
a.M.NOM green.M.SG.NOM bus two.M.NOM green.PL.NOM buses
b. eis grüneg Huus / zwöi grünei Hüser
a.N.NOM green.N.SG.NOM house two.N.NOM green.PL.NOM houses
- c. Ei Böss isch grüne_
One.M.NOM bus is green
d. Zwe Bösse si grüne_
Two.M.NOM buses are green
e. Eis Huus isch grüne_
One.N.NOM house is green
f. Zwöi Hüser si grüne_
Two.N.NOM houses are green
- (125) Yi. a. a griner oytobus / tsvey grine oytobusn
a green.M.SG.NOM bus two green.PL buses
b. a grin hoyz / tsvey grine hayzer
a green.N.SG house two green.PL houses
- c. Eyn oytobus iz grin_
One bus is green
d. Tsvey oytobusn zaynen grin_
Two buses are green
e. Eyn hoyz iz grin_
One house is green
f. Tsvey hayzer zaynen grin_
Two houses are green

The possibilities given for Yiddish in (125) above do not give the complete picture. In plural, Yiddish predicative adjectives might seem also to be possible with agreement:

(126) Yi. Tsvey oytobusn zaynen grine
 Two buses are green.PL

However, I shall follow e.g. Weinreich (1971:308), Katz (1987:87), and Lockwood (1995:112) in taking the agreeing form in (126) to be a nominalisation. Lockwood (1995:112): "Exceptionally frequently, [Yiddish] adjectives (including participles) in predicative position are nominalisations". In other words, (126) would correspond to English "two buses are green ones" (see Olsen 1988:345 and Delsing 1993:86 on nominalised attributive adjectives). This analysis is based on the fact that the possibilities for inflected predicative adjectives in the singular are:

(127) Yi. a. *Eyn oytobus iz griner
 b. Eyn oytobus iz a griner
 One bus is (a) green.M.SG.NOM

which makes it clear that the Yiddish for "one bus is green" must use an uninflected adjective, cf. (125c), and that the only way to have an inflected adjective in a predicative construction is to use the expression corresponding to "one bus is a green one", namely (127b).

The "exceptionally high frequency" of nominalisations cited above might be connected with the existence of a parallel structure in the Slavic languages. According to Weinreich (1958:383), cited in Eggers (1998:314), there is a difference in interpretation between nominalisations (with an inflected adjective) and a normal uninflected predicative adjective, and a similar difference is found between short and long forms of predicative adjectives in Russian: *ikh bin a kranker*, 'I am an ill (one)' means that the speaker is chronically ill, whereas *ikh bin krank*, 'I am ill' means that the speaker is only temporarily ill. This does not carry over to all other constructions, though, it is not the case that the colour of the bus is less temporary in (127b) than in (125c). Also in the Russian counterparts of these two examples, there would be no such difference.

Also Afrikaans merits a few more remarks, even though there is no reason to question the picture given in (117) above, that Afrikaans has no predicative adjective agreement. It is the situation concerning attributive adjectives in Afrikaans which is more complex than (117) might indicate.

Like predicative adjectives, attributive adjectives never show agreement in Afrikaans. In some cases, however, e.g. if they are polysyllabic (Donaldson 1993:163, Ponelis 1993:366), attributive adjectives have an affix (-e), but although this ending is diachronically derived from an agreement ending (Ponelis 1993:364), it shows no distinctions of number, gender, or case.¹¹

¹¹Presumably, it is not a coincidence that the remains of an agreement affix is found only on the attributive adjectives in Afrikaans, and not on the predicative adjectives. Unfortunately, the analysis to be suggested below will have nothing to say about this.

- (128) Af. a. 'n reusagtige bus / twee reusagtige busse
 a huge.ATT bus two huge.ATT buses
 b. 'n reusagtige huis / twee reusagtige huise
 a huge.ATT house two huge.ATT houses
- c. Een bus is reusagtig_
 One bus is huge
 d. Twee busse is reusagtig_
 Two buses are huge
- e. Een huis is reusagtig_
 One house is huge
 f. Twee huise is reusagtig_
 Two houses are huge

Summing up, the overall picture is as follows: Of all the Romance and Germanic languages, only the West Germanic ones lack predicative adjective agreement. English and Afrikaans lack both attributive and predicative adjective agreement, the other West Germanic languages lack only predicative adjective agreement.

2.5.4 Explaining the differences

The observations made in the preceding subsections are not completely new. They have also been made, at least partially, in e.g. Haugen (1982:173), Abraham (1995:245), and Kester (1996:89, 92), although these works merely note the difference and do not try to relate them to other differences between the languages in question.

An important goal of an account of the adjective agreement facts should be to explain why the West Germanic languages lack predicative adjective agreement, why the Scandinavian and the Romance languages have it, and why it is not the other way around. This is only possible if the adjective agreement facts are related to other properties of the languages in question.

According to Webelhuth's (1992:57) analysis of adjectival agreement in German and English, German adjectives are not as such able to be attributive (in Webelhuth's terms: to be a modifier of N-bar), so they have to be inflected in order to acquire this property, which in German is a property of the adjectival inflectional affix. In English, on the other hand, this property is a property of the category adjective as such. Webelhuth (1992:58): The obligatory agreement on German attributive adjectives "is highly idiosyncratic compared to the English one". However, the situation in German, where attributive adjectives show agreement, is by far the most common situation within the Germanic and Romance languages, whereas the situation in English, where attributive adjectives show no agreement, is comparatively rare (only found in English and Afrikaans). It furthermore remains unclear why in Romance and Scandinavian, even predicative adjectives should obligatorily have an inflectional affix, given that the role of this affix in German is to make it possible for an adjective to be attributive.

Lattewitz (1997:54) derives the lack of agreement of predicative adjectives in German, Dutch and English from predicative AdjPs not being embedded inside an AgrAdjP: In attributive adjective constructions in German and Dutch, the AdjP is embedded inside an AgrAdjP, but in English, attributive adjectives lack such an AgrAdjP, and so do predicative adjectives in German, Dutch and English. It remains unclear why in Romance and Scandinavian, even predicative adjectives should obligatorily have an

inflectional AgrAdjP.

As the crucial property (to Webelhuth: the property of being attributive, to Lattewitz: the presence of AgrAdjP) is not related to any other differences between German (and Dutch) on one hand and English on the other, and as no account is given of languages where predicative adjectives agree, Webelhuth's and Lattewitz's analyses make no predictions as to which kind of languages should behave like German and which should not.

In the following, I would like to suggest an analysis which relates the facts discussed to other properties of the languages in question. So far we have seen that the two groups could be described as

- | | | |
|-------|--|-----------------------|
| (129) | 1. Predicative adjective agreement: | Romance, Scandinavian |
| | 2. No predicative adjective agreement: | West Germanic |

but unless this is related to other differences between the languages, it remains as descriptive as the treatments cited above. I shall suggest that the crucial property is whether verb phrases and adjective phrases are head-initial or head-final. This makes a slightly different division between the languages:

- | | | |
|-------|--------------------------------|--|
| (130) | 1. Head-initial VPs and AdjPs: | English, Romance, Scandinavian |
| | 2. Head-final VPs and AdjPs: | All West Germanic languages except English |

It is not always possible simply to take the surface word order as an indication of head-finality (or the opposite). Cases where surface word order would seem to conflict with the above classification include the assumption that Yiddish has a head-final VP. As in the previous sections, I shall follow e.g. Hall (1979), Geilfuß (1991) and Haider & Rosengren (1998:78-81), against e.g. Santorini (1993), Diesing (1997), in assuming Yiddish to be an OV-language.

Now English belongs to group (130.1) where it before belonged to group (129.2). This regrouping of English has no empirical consequences, however, as it merely says that English may have predicative adjective agreement, not that it has to have it. To be more precise, given the predictions spelled out in (136) below, the prediction for English now is that it either has agreement with both attributive and predicative adjectives or with neither.

2.5.5 The subject originates inside the predicative AdjP

Let us for a moment disregard the absence or presence of adjective agreement, and turn to the general analysis of predicative adjectives. According to Delsing (1993:84), "normally, linguists assume, implicitly or explicitly, that predicative adjectival agreement is an instance of Spec-Head agreement where the XP subject is base generated as the specifier of AP and raised to SpecIP, to get Case". This analysis is also found in, among others, Couquaux (1981), Stowell (1981:262), Burzio (1986:154), Vikner & Sprouse (1988:19), and to some extent even in Bach (1967:467).

Chomsky (1995) also belongs in this group, as he gives the following analysis of predicative adjectives (1995:354, (184)):

- (131) En. John is [_{AdjP} *t*₁ [_{Adj} *t*₂ intelligent]]

The subject *John* is base-generated in the position marked t_2 , i.e. inside the complement of the Adj° *intelligent*. It then moves to the position marked t_1 , i.e. AdjP-spec , where adjectival agreement is "checked". Finally it moves out of the AdjP into the subject position of the clause.

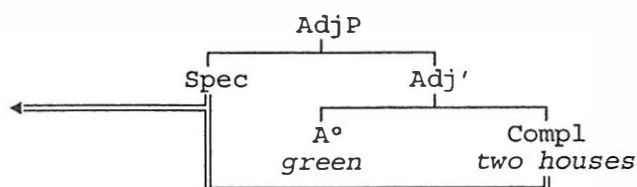
I shall follow this general line of analysis and assume that the subject of a predicative adjective construction has to be linked (presumably by movement) to an empty category inside AdjP (which represents an empty argument slot in the argument structure of the adjective). If we assume that such a link takes the form of a chain that includes AdjP-spec , the result is adjective agreement. If AdjP-spec is not part of such a chain, there is no adjective agreement.

This also means that the copula in a predicative adjective construction does not assign any thematic role to its subject. This assumption is supported by the fact that in the syntax of English, the copula *be* falls into the same group as auxiliary *be*, *have*, and *do* (which do not assign any thematic roles, and which occur to the left of sentential adverbs and do not require *do*-insertion in negated sentences) and not into the same group as all other main verbs, including main verb *have* and *do* (which assign thematic roles, and which occur to the right of sentential adverbs and require *do*-insertion in negated sentences), cf. section 6.3 below.

2.5.6 Extraction does not always have to go via AdjP-spec

I assume that in languages where the AdjP is head-initial, the subject DP of a predicative adjective construction is base-generated either inside the complement of Adj° , (132a,b), or in AdjP-spec , (132c). It does not matter for the purposes of this analysis whether a given DP is base-generated in one or the other of these two positions, as long as any DP that is moved out of the AdjP (by means of A-movement) has to move via AdjP-spec , i.e. as long as (132b) is ruled out. This is trivially the case for DPs base-generated in AdjP-spec , and I will also assume that it holds for DPs base-generated inside the complement of Adj° . As the movement in question is an A-movement, it would follow from e.g. Relativised Minimality (Rizzi 1990:93), which basically says that any particular type of movement may not skip any specifiers of the same type (this can presumably be reformulated in terms of e.g. the Minimal Link Condition, Chomsky 1995:294). As both IP-spec and AdjP-spec are potential argument positions, i.e. A-positions, any movement to IP-spec which skips AdjP-spec violates Relativised Minimality, cf. the impossible (132b), in which an attempt is made to skip the specifier:

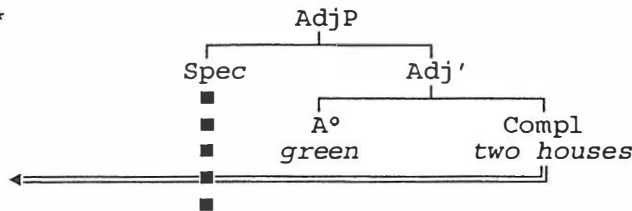
(132) a.



The result is adjective agreement

(AdjP-spec is part of the chain)

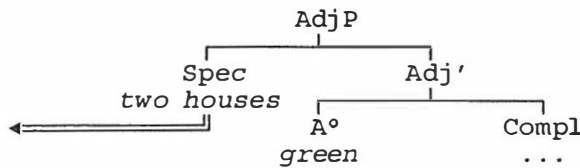
b. *



The result would have been
no adjective agreement

(AdjP-spec is not part of the chain)

c.



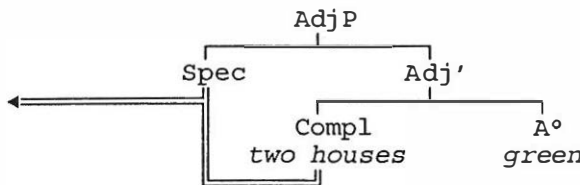
The result is
adjective agreement

(AdjP-spec is part of the chain)

As the analysis suggested here can account for predicative adjective agreement, both if the subject of the clause is base-generated inside the complement of Adj°, (132a), and if it is base-generated in AdjP-spec, (132c), the analysis has little to say about whether ergative (unaccusative) adjectives exist (though see the discussion of (133) below), cf. the debate in e.g. Burzio (1986:74, n13), Cinque (1990a), and Abraham (1995:268).

Adapting the analysis of head-final VPs in Haider & Rosengren (1998:48-51), I would like to suggest that in languages where the AdjP is head-final, there is one more option, in addition to base-generation in the complement of Adj°, (133a,b), or in AdjP-spec, (133c): Base-generation in a position left-adjoined to AdjP, (133d). If a DP is generated in this position, movement of the DP out of AdjP does not have to go via AdjP-spec (and may nevertheless observe Relativised Minimality). Leaving the AdjP from the adjoined position without going through AdjP-spec could not be seen as skipping AdjP-spec, (133d), as opposed to the impossible (133b), where leaving the AdjP without going through AdjP-spec counts as skipping (and thus violating Relativised Minimality):

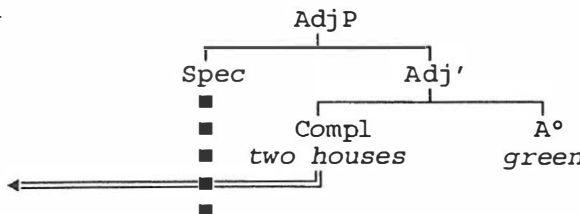
(133) a.



The result is
adjective agreement

(AdjP-spec is part of the chain)

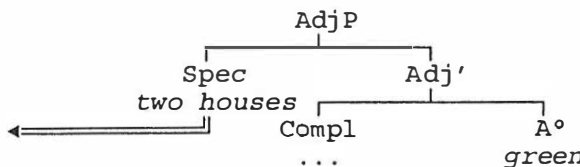
b. *



The result would have been
no adjective agreement

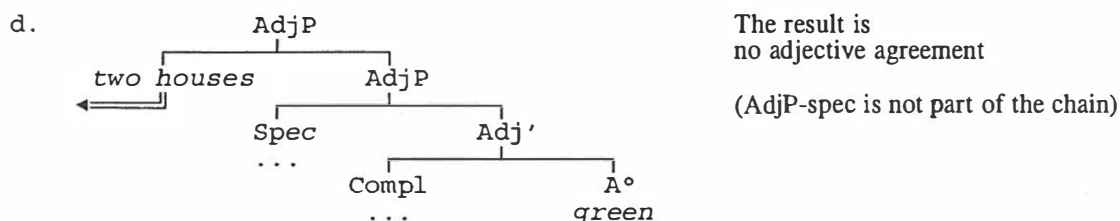
(AdjP-spec is not part of the chain)

c.



The result is
adjective agreement

(AdjP-spec is part of the chain)



Why do head-final AdjPs only base-generate the subject DP in the position adjoined to AdjP, (133d), when it should also be possible to do this in AdjP-spec, (133c), or in the complement of Adj°, (133a)? The reason why (133a,c) need to be ruled out is that they would lead to predicative adjective agreement in precisely those languages where this is not found.

One possible answer to the above question is that the derivation with the subject DP base-generated adjoined to AdjP, (133d), is more economical than derivations with the DP base-generated in AdjP-spec, (133c), or in the complement of Adj°, (133a). (133d) could either be more economical than (133c) (and a fortiori (133a)) because the first step involved in the movement to IP-spec is shorter, as it starts out somewhat higher in the tree, or because the movement to IP-spec involves fewer steps. The latter would only work if all extractions from AdjP have to go via a position adjoined to AdjP, cf. e.g. Chomsky (1986:76) on A-movement of a DP out of VP having to go via a position adjoined to VP. At any rate, for the analysis to work, not only (133b), but also (133a,c) would have to be ruled out.

One potential problem with this particular analysis is that it would be impossible to tell ergative (unaccusative) adjectives apart from unergative ones, and it is thus incompatible with the analysis in Cinque (1990a).

Another potential problem is that, according to Haider (1993:195), there are indications that Dutch, which is an OV-language and therefore also expected to be able to license arguments adjoined to VP, does not seem to allow this as freely as e.g. German. According to Haider (1993:195), it would seem that Dutch insists on licensing in the specifier position, as can be seen e.g. from the obligatoriness of the expletive *er*.

Another question that arises in connection with (132) and (133) above is: Why is it only possible to base-generate the subject DP in a position adjoined to AdjP if the AdjP is head-final? In other words, why is there no head-initial version of (133d)?

As stated above, I adopt Haider & Rosengren's (1998:48-51) assumption that a lexical X° may license any positions inside its maximal projections (i.e. including adjoined positions, cf. e.g. Chomsky 1986:9), provided the licensing takes place in the specified direction. In head-initial XPs, this direction is rightwards ("progressive licensing" in the terminology of Haider & Rosengren 1998), and in head-final XPs, this direction is leftwards ("regressive licensing").

The reason why there is no well-formed version of (133d) in head-initial AdjPs, i.e. base-generation of the subject DP in a position left-adjoined to AdjP, is thus that any element base-generated in this position would not be licensed by a head-initial Adj°, because a head-initial Adj° is only able to license to the right.¹²

The question is then, if the licensing direction is so crucial, why is it not possible to

¹²This gives rise to the question of how specifiers of lexical X°s are licensed in X°-initial XPs. Haider & Rosengren (1998:49): By movement of the lexical X° to a higher X°-position. This will, however, also create a new specifier position, which any A-movement extraction would have to pass through, again predicting

base-generate the subject DP in a position right-adjoined to (a head-initial) AdjP? The answer is that it is universally impossible to adjoin to the right. It is only the complement of lexical X°s which may occur either to the left or to the right of this X°. At all other points in the syntax, the sequence is fixed (see also section 5.2 below). Here I follow Haider & Rosengren's (1998:48) *Basic Branching Condition* (BBC): "The branching node of the projection line is to the right of its sister node" (cf. Haider's 1993:28 *Binary Branching Conjecture* and Haider's 1997b:15 *Branching Constraint*). In other words: According to the BBC, all adjoined positions, all specifiers, and all non-lexical (i.e. functional) heads are exclusively found on left branches.

A potential problem of the present analysis is that it does not tie predicative adjective agreement to attributive adjective agreement, i.e. I have nothing new to say about why attributives agree in almost all the Germanic and Romance languages (the only exceptions that I am aware of are English and Afrikaans). This weakness, however, is one that this analysis shares with all other analyses that I know of. Not that there is a scarcity of analyses of attributive adjective agreement (cf. also the discussion in 2.5.4 of Webelhuth 1992 and Lattewitz 1997), it is just that none of them connect the two kinds of adjective agreement to each other. Furthermore, there seems to be very little consensus about attributive adjective agreement in the literature, cf. the summary in Delsing (1993:78-93). Cf. also the following remark from Chomsky (1995:382, n22): "We still have no good phrase structure theory of such simple matters as attributive adjectives, [...]".

Another potential weakness is that the analysis has nothing to say about why predicative adjectives in the superlative lack agreement in more languages than predicative adjectives in general. Predicative superlative adjectives lack agreement not only in the languages where all adjectives lack agreement (English, Afrikaans) and in the languages where all predicative adjectives lack agreement (Dutch, Frisian, German, ...), but also in some of the languages where all other predicative adjectives show agreement, namely Danish, Norwegian and Swedish. Only in Icelandic and Faroese is there agreement, and spoken Faroese would seem to be in the process of losing this kind of agreement, i.e. of going from a situation such as the one in Danish, (134), to one such as the one in Icelandic, (135), according to Petersen et al. (1998:70):¹³

(134)	Da.	a.	Den	grønne bus	er	størst_
			<i>The.M/F.SG</i>	<i>green bus</i>	<i>is</i>	<i>biggest</i>
		b.	De	grønne busser	er	størst_
			<i>The.PL</i>	<i>green buses</i>	<i>are</i>	<i>biggest</i>
		c.	Det	grønne hus	er	størst_
			<i>The.N.SG</i>	<i>green house</i>	<i>is</i>	<i>biggest</i>
		d.	De	grønne huse	er	størst_
			<i>The.PL</i>	<i>green houses</i>	<i>are</i>	<i>biggest</i>

agreement.

¹³As throughout this section, the presence of one form of the adjective implies that other forms are impossible:
 (134a-d) are all ungrammatical if any kind of inflectional element is added to *størst*.
 (135a,b) are both ungrammatical if *stærstur/stærstir* are replaced by *stærst*.

(135)	Ic. a.	Græni	strætisvagninn	er stærstur
		<i>Green.M.NOM.SG</i>	<i>bus-the.M.NOM/AKK.SG</i>	<i>is biggest.M.NOM.SG</i>
	b.	Grænu	strætisvagnanir	eru stærstir
		<i>Green.PL</i>	<i>buses-the.M.NOM.PL</i>	<i>are biggest.M.NOM.PL</i>
	c.	Græna	húsið	er stærst
		<i>Green.N.SG</i>	<i>house-the.N.NOM/AKK.SG</i>	<i>is biggest.N.NOM/AKK</i>
	d.	Grænu	húsin	eru stærst
		<i>Green.PL</i>	<i>houses-the.N.NOM/AKK.PL</i>	<i>are biggest.N.NOM/AKK</i>

2.5.7 Predictions

There are two reasons why predicative adjectives might not agree. One is a phonetic/morphological reason: the erosion of endings found throughout the Germanic and Romance languages, and the other is a syntactic reason: head-final AdjPs, as discussed in the preceding subsections. This syntactic reason does not apply to attributive adjectives. Presupposing that there are no other reasons why adjectives should lack agreement, the following predictions are made:

- (136)
1. Languages with head-final AdjPs do not have agreement on predicative adjectives.
 2. Languages with head-initial AdjPs do not have agreement only on attributive adjectives.
 3. No languages have agreement only on predicative adjectives.

The prediction (136.3) is borne out, at least for the Germanic and the Romance languages. The predictions (136.1), that languages with head-final AdjPs never have predicative adjective agreement, and (136.2), that languages with head-initial AdjPs never have adjective agreement only with attributive adjectives, are more problematic.

There is not much agreement in the literature as to what might count as reliable independent evidence of whether a given language has head-final or head-initial AdjPs, and therefore this prediction is difficult to test (cf. e.g. that Haider & Rosengren 1998:27 take the German AdjP to be head-final, whereas Corver 1997 takes the Dutch AdjP to be head-initial).

If the additional assumption is made, as in 2.5.4 above, that head-finality in the AdjP cooccurs with head-finality in the VP (at least in the Germanic and Romance languages), the two predictions become much easier to test: (136.1), that OV-languages never have predicative adjective agreement, and (136.2), that VO-languages never have adjective agreement only with attributive adjectives. As outlined in 2.5.4 above, both turn out to be correct for all the Germanic languages, that is, for all the Germanic languages spoken today¹⁴.

¹⁴As Jürg Fleischer (p.c.) has pointed out, this is actually not quite true: In the very southernmost varieties of Swiss German, e.g. in the German-speaking part of the canton Valais (German: *Wallis*), predicative adjective agreement occurs, although not obligatorily:

- (i)
- | | | | |
|--------|--------------------------|--------------------------|--------------------------------|
| Wa. a. | Är isch alt _ä | He is old. _M | |
| b. | Si isch alt _i | She is old. _F | |
| c. | Es isch alt _s | It is old. _N | (from Hotzenköcherle 1961:214) |

Fuchs (1993:77) finds predicative adjective agreement to have applied only in 40% of the possible cases. She also reports that only adjectives used in their literal sense may inflect:

For one of these languages, namely Yiddish, the situation with respect to head-finality in the VP and in the AdjP is not uncontroversial. In so far as the analysis of predicative adjectives given here is on the right track, the fact that Yiddish has agreement only with attributive adjectives lends some support to the grouping of Yiddish with the Germanic OV-languages, as also suggested by e.g. Hall (1979), Geilfuß (1991) and Haider & Rosengren (1998:78-81), cf. the discussion of (130) at the end of 2.5.4 above. Notice that under this analysis, we expect head-final AdjPs to be the only option in Yiddish, head-initial AdjPs are not possible at all, as otherwise Yiddish should have optional predicative adjective agreement. The analysis thus provides an argument against applying the double-base analysis of Santorini (1993) and others to the AdjP domain of Yiddish (though this analysis remains feasible for e.g. Old English, and Old and Middle High German, cf. below).

Testing the two predictions for earlier stages of the Germanic languages is made difficult both by the scarcity of evidence (for many of the older Germanic languages only few or no texts have survived) and by the fact that the evidence that does exist is not always unambiguous. It seems that the older languages fall into three groups:

Languages with no predicative adjective agreement, e.g. Middle Dutch (Burridge 1993:248) and Old Frisian (Markey 1981:169). As these languages are always taken to be OV-languages, this is as expected.

Languages where predicative adjectives do not show any agreement in the majority of the cases, e.g. Old English (Brunner 1965:236, Mitchell 1985:62), Old High German (Paul 1917:164, Penzl 1986:55), and Middle High German (Paul 1998:360, Penzl 1989:82). If this is taken as evidence that predicative adjectives do not agree, then this is as expected, as these languages are commonly taken to be OV-languages. If, however, this is taken to show that some varieties/dialects of the three languages did have predicative adjective agreement, then this is unexpected, in that at least for Old and Middle High German, it is not commonly assumed that they had any varieties/dialects which were VO.

And finally, the third group of older Germanic languages is languages where predicative adjectives do show agreement, e.g. Old Norse (Nygaard 1905:68) and Gothic (Braune 1956:74). This is not unexpected for Old Norse, if e.g. Nygaard (1905:357-358) and Hróarsdóttir (1999:318-319) are right that Old Norse was a VO-language, like the modern Scandinavian languages (contra Faarlund 1990:110, who takes Old Norse to be non-configurational). It is, however, rather unexpected for Gothic, at least if Eythórsson (1995:22), Ferraresi (1997:7, 34) and references cited there are right that Gothic was an OV-language (This last remark also goes for Latin: Like Gothic, it has predicative adjective agreement but it is most commonly assumed to be an OV-language).

Summing up, the data that go against the predictions made are that Old and Middle High German show predicative adjective agreement in some cases, and that Gothic always show predicative adjective agreement. However, given that all the present-day languages are accounted for by the analysis, I am tempted to not take Old and Middle High German to be problematic, since the unexpected cases are in the minority, which leaves only Gothic. Notice that it is of course possible to take some of the older languages, e.g. Gothic, to have head-final

-
- | | | | | | |
|------|-----|----|--------------------------|----------------------|----------------------|
| (ii) | Wa. | a. | Das isch <u>schweer</u> | <i>It is heavy</i> | |
| | | b. | Das isch <u>schweers</u> | <i>It is heavy.N</i> | (from Fuchs 1993:76) |

The German adjective *schwer* corresponds to both *heavy* and *difficult* in English. When something is heavy, either (iia) or (iib) can be used, whereas when something is difficult, only (iia) can be used.

VPs and head-initial AdjPs, but such an assumption would raise the question of why this kind of combination is not possible in the modern languages, and thus completely undermine the predictive abilities of the analysis.

The analysis also makes another prediction, still under the assumption that head-finality in the AdjP and head-finality in the VP cooccur. In the languages where VPs and AdjPs are head-final, we would not only expect there to be no agreement with Adj° when an argument is extracted under A-movement from AdjP (i.e. in predicative adjective constructions), we would also expect there to be no agreement with V° when an argument is extracted under A-movement from VP. The relevant constructions are those where a non-finite verb in V° shows agreement with an argument extracted to the subject position, e.g. passive and unaccusative (ergative) constructions, as the following French examples show :

(137) Fr. a. Ce bureau_i a été [_{VP} t_i repeint_ t_i]
 This desk has been repainted.M.SG

b. Cette table_i a été [_{VP} t_i repeinte_ t_i]
 This table has been repainted.F.SG

(based on Kayne 1985:77, (31))

(138) Fr. a. Les soldats_i sont [_{VP} t_i morts_ t_i] il y a des années
 The soldiers are died.M.PL it there has of years
 (The soldiers have died years ago)

b. Les victimes_i sont [_{VP} t_i mortes_ t_i] il y a des années
 The victims are died.F.PL it there has of years
 (The victims have died years ago)

(based on Kayne 1985:84, (74))

The subjects are base-generated in the object position, i.e. following the main verb, then move to VP-spec, and from there to the subject position in IP-spec. Agreement with the participles is triggered when the subjects move through VP-spec. Under the present analysis, such agreement should never occur in the OV-languages, as here there would be no need to move through VP-spec, cf. the argumentation above why A-movement out of AdjP does not have to go via AdjP-spec in head-final AdjPs. This prediction seems to be correct, at least for the Germanic OV-languages¹⁵ spoken today, which never show agreement with the participles in constructions like (137) and (138), even though the same participles might show agreement used in other constructions, e.g. used attributively.

Notice that no predictions are made about subject-verb agreement, since this is agreement between the subject and not the lexical head, V°, but a functional one, the name of which vary between different analyses, namely I° or AgrS° or, according to Chomsky (1995:377), Tense°, or, according to chapter 5 below, Person°

¹⁵Of course, such agreement may also be missing in VO-languages. The prediction is only that such agreement cannot exist in OV-languages, but that it may exist in VO-languages. Many VO-languages nevertheless do not have agreement with the participles in constructions like (137) and (138), e.g. English or Spanish. Also in Danish, agreement is not complete, there is a difference between verbal passives (without agreement) and adjectival passives (with agreement), cf. the examples in Allan et al. (1995:321-22).

2.5.8 Conclusion

In this section, I have tried to argue that languages with head-final AdjPs and VPs do not show predicative adjective agreement (nor any other kind of agreement with Adj° or V° under A-extraction), because in these languages such extraction may not go via AdjP-spec or VP-spec. This analysis accounts for facts which, as far as I am aware, have not been accounted for earlier. The predictions made for the modern languages seem to hold (with the exception noted above of the southernmost varieties of Swiss German, none of the present-day OV-languages have predicative adjective agreement), even if the predictions made for the older languages are less impressive (here the main problem case would seem to be Gothic).

The section started out by noting a paradox, namely how unexpected it is that a language with so much agreement morphology as German lacks predicative adjective agreement, when predicative adjective agreement is found in languages with so little agreement morphology as Danish or French. The analysis presented resolves this paradox by setting the lack of predicative adjective agreement in the OV-languages apart from other kinds of lack (or loss) of agreement, in attributing it to a particular structural cause, head-finality in AdjP.

This allows us to keep the general view that both German and Icelandic are languages which tend to express agreement with respect to many categories (person, number, gender, case, ...) , whenever they have the chance, whereas e.g. Danish, Dutch, and English are languages which tend to either not express agreement at all or only express agreement with respect to very few categories.

2.6 Verb sequences

In this section, I will try to show that the view that Yiddish is an OV-language like German and Dutch, not a VO-language like English or Danish, is supported by facts concerning verb sequences, i.e. the order of two (or more) verbs in the same clause.

2.6.1 Introduction: A finite and a non-finite verb

Consider the possible word orders in sentences with two verbs in various Germanic languages (plus French).

The examples below all use the cognate of the modal verb *will*. In most of the languages, this only has a volitional interpretation, which is expressed in English by the main verb *want*. In English *will* only has a future interpretation, and in Danish *ville* has both a future and a volitional interpretation.

- (139) En. a. ... that John will buy a house
b. *... that John will a house buy
c. *... that John a house buy will
d. *... that John a house will buy
e. *... that John buy will a house
f. *... that John buy a house will

- (140) Da. a. ... at Johan vil købe et hus
b. *... at Johan vil et hus købe
c. *... at Johan et hus købe vil
d. *... at Johan et hus vil købe
e. *... at Johan købe vil et hus
f. *... at Johan købe et hus vil

- (141) Ic. a. ... að Jón vill kaupa hús
b. *... að Jón vill hús kaupa
c. *... að Jón hús kaupa vill
d. *... að Jón hús vill kaupa
e. *... að Jón kaupa vill hús
f. *... að Jón kaupa hús vill

- (142) Fr. a. ... que Jean veut acheter une maison
b. *... que Jean veut une maison acheter
c. *... que Jean une maison acheter veut
d. *... que Jean une maison veut acheter
e. *... que Jean acheter veut une maison
f. *... que Jean acheter une maison veut

- (143) Yi. a. ... az Jonas vil koyfn a hoyz
b. ... az Jonas vil a hoyz koyfn
c. ??... az Jonas a hoyz koyfn vil
d. ??... az Jonas a hoyz vil koyfn
e. ??... az Jonas koyfn vil a hoyz
f. *... az Jonas koyfn a hoyz vil

- (144) Du. a. *... dat Jan wil kopen een huis
b. *... dat Jan wil een huis kopen
c. ... dat Jan een huis kopen wil
d. ... dat Jan een huis wil kopen
e. *... dat Jan kopen wil een huis
f. *... dat Jan kopen een huis wil

((144b,c,d) from Haegeman & van Riemsdijk 1986:419, (6))

- (145) Af. a. *... dat Jan wil koop 'n huis
 b. ?... dat Jan wil 'n huis koop
 c. *... dat Jan 'n huis koop wil
 d. ... dat Jan 'n huis wil koop
 e. *... dat Jan koop wil 'n huis
 f. *... dat Jan koop 'n huis wil

- (146) WF. a. *... da Jan wilt kopen een hus
 b. ... da Jan wilt een hus kopen
 c. ... da Jan een hus kopen wilt
 d. ... da Jan een hus wilt kopen
 e. *... da Jan kopen wilt een hus
 f. *... da Jan kopen een hus wilt

((146b,c,d) from Haegeman & van Riemsdijk 1986:419, (7))

- (147) Fs. a. *... dat Jan wol keapje in hûs
 b. *... dat Jan wol in hûs keapje
 c. ... dat Jan in hûs keapje wol
 d. *... dat Jan in hûs wol keapje
 e. *... dat Jan keapje wol in hûs
 f. *... dat Jan keapje in hûs wol

- (148) Ge. a. *... dass Johann will kaufen ein Haus
 b. *... dass Johann will ein Haus kaufen
 c. ... dass Johann ein Haus kaufen will
 d. *... dass Johann ein Haus will kaufen
 e. *... dass Johann kaufen will ein Haus
 f. *... dass Johann kaufen ein Haus will

- (149) St. a. *... dass dr Hans will kaufa s Haus
 b. ... dass dr Hans will s Haus kaufa
 c. ... dass dr Hans s Haus kaufa will
 d. ... dass dr Hans s Haus will kaufa
 e. *... dass dr Hans kaufa will s Haus
 f. *... dass dr Hans kaufa s Haus will

- (150) SG. a. *... dass de Hans wil chaufe es Huus
 b. ... dass de Hans wil es Huus chaufe
 c. ... dass de Hans es Huus chaufe wil
 d. ... dass de Hans es Huus wil chaufe
 e. *... dass de Hans chaufe wil es Huus
 f. *... dass de Hans chaufe es Huus wil

- (151) Zü. a. *... das de Hans wil chaufe es Huus
 b. ... das de Hans wil es Huus chaufe
 c. ... das de Hans es Huus chaufe wil
 d. ... das de Hans es Huus wil chaufe
 e. *... das de Hans chaufe wil es Huus
 f. *... das de Hans chaufe es Huus wil

(cf. Haegeman & van Riemsdijk 1986:419, (8))

- (152) Be. a. *... dass dr Jonas wott choufen es Huus
 b. ... dass dr Jonas wott es Huus choufe
 c. *... dass dr Jonas es Huus choufe wott
 d. ... dass dr Jonas es Huus wott choufe
 e. *... dass dr Jonas choufe wott es Huus
 f. *... dass dr Jonas choufen es Huus wott

The above data can be summarised as in the following table:

[illegible]

Various generalisations can be drawn from these data:

The VO-languages all allow only one and the same order. The OV languages, on the other hand, differ in which order they prefer, and 7 out of 9 OV languages also allow more than one order (8 out of 10 if Yiddish is counted as OV).

Only VO languages and Yiddish allow the indefinite object to occur at the end, (153a). This may be derived as the base order (English, Danish, Icelandic, French) or via extraposition (Yiddish).

Two ways of deriving the order finite verb - infinitive in OV-languages have frequently been discussed in the literature. Examples like (153d) are called "**verb raising**" in the literature, e.g. in Evers (1975), because the non-finite V° *buy* is taken to "raise" (move) to a position to the right of the finite verb, assuming that the base order in OV-languages is represented by (153c). Similarly, examples like (153b) are called "**verb projection raising**" in the literature, e.g. in Haegeman & van Riemsdijk (1986), because the non-finite V° *buy* and its complement *a house*, which together constitute a projection of V, e.g. VP or V-bar, are taken to "raise" (move) to a position right of the finite verb, again assuming that the base order in OV-languages is represented by (153c). Notice that the same order is thus ambiguous between OV with verb projection raising as in West Flemish (146b), Afrikaans (145b), Swabian (149b), Sankt Gallen (150b), Zürich (151b), and Bern (152b), and OV with V°-to-I° movement in Yiddish (143b) (or alternatively for Yiddish: VO with both scrambling and V°-to-I° movement):

(154) a. WF. ... da Jan _____ wilt een hus kopen VPR, (146b)
 b. Yi. ... az Jonas vil a hoyz koyfn _____ V°-to-I°, (143b)

One reason to assume these two different possible derivations of the order in (153b), verb projection raising and V°-to-I° movement, is that the languages which allow this order differ with respect to whether they allow lexical elements to occur to the left of the finite verb (cf. that Yiddish is the only language which allows (153b) and which finds (153d) close to unacceptable).

Taking the order in (153b) in Yiddish to be caused by movement of the finite verb to the left (into I°) would explain why it is not possible to have a sentential adverb or the object between the subject (in IP-spec) and the finite verb (in I°), see (155a) and (156a) below, and why it is possible for the finite verb to precede the sentential adverb *maybe*, (157a).

Taking the order in (153b) in Afrikaans, West Flemish, Swabian, Sankt Gallen, Zürich, and Bern not to be caused by movement of the finite verb to the left but by movement of the other elements to the right would explain why it is possible to have a sentential adverb and/or the object between the subject (in IP-spec) and the finite verb (in V°): In (155b-g) only the verb *buy* undergoes verb raising to the right, and in (156b-g) the VP *buy the house* undergoes verb projection raising to the right. This analysis also predicts that (157b-g) is ungrammatical: This word order could not arise by verb projection raising because presumably *maybe* is adjoined to the VP headed by *will*, so that the structure is

[*maybe [[the house buy] will]*] in which the string *maybe the house buy*, which would have had to undergo verb projection raising, does not make up a constituent:

- (155) a. Yi. *... az Jonas efsher dos hoyz vil koyfn
 b. Af. ... dat Jan miskien die huis wil koop
 c. WF. ... da Jan messchien dat us wilt kuopen
 d. St. ... dass dr Hans vielleicht s Haus will kaufa
 e. SG. ... dass de Hans villicht s Huus wil chaufe
 f. Zü. ... das de Hans vilicht s Huus wil chaufe
 g. Be. ... dass dr Hans vilech ds Huus wott choufe
 ... that J./H. maybe the house will buy
- (156) a. Yi. *... az Jonas efsher vil dos hoyz koyfn
 b. Af. ?... dat Jan miskien wil die huis koop
 c. WF. ... da Jan messchien wilt dat us kuopen
 d. St. ?... dass dr Hans vielleicht will s Haus kaufa
 e. SG. ?... dass de Hans villicht wil s Huus chaufe
 f. Zü. ... das de Hans vilicht wil s Huus chaufe
 g. Be. ... dass dr Hans vilech wott ds Huus choufe
 ... that J./H. maybe will the house buy
- (157) a. Yi. ... az Jonas vil efsher dos hoyz koyfn
 b. Af. ?... dat Jan wil miskien die huis koop
 c. WF. ??... da Jan wilt messchien dat us kuopen
 d. St. ??... dass dr Hans will vielleicht s Haus kaufa
 e. SG. *... dass de Hans wil villicht s Huus chaufe
 f. Zü. *... das de Hans wil vilicht s Huus chaufe
 g. Be. *... dass dr Hans wott vilech ds Huus choufe
 ... that J./H. will maybe the house buy

These examples thus show that Yiddish has V°-to-I° movement but neither verb raising nor verb projection raising and that Afrikaans, West Flemish, Swabian, and Swiss German from Sankt Gallen, Zürich, and Bern have verb raising and/or verb projection raising but not V°-to-I° movement.

Because the finite verb in Yiddish is moved out of its base position by V°-to-I° movement, its position gives no direct indication of OV vs. VO. We therefore have to consider only non-finite verbs when we try to pin down the base position of the verb and its complements in Yiddish clauses.

Actually, this is just like main clauses in all V2 languages. Here we also have to examine the order of the object and a non-finite verb in order to determine OV vs. VO and disregard the finite verb, because the finite verb is moved from its base position to C°.

2.6.2 Two non-finite verbs: Past Perfect and Future Perfect

I shall therefore examine constructions where more than one non-finite verb occurs. One such construction is the following, whose interpretation corresponds to that of the English past perfect:

(158) a. Yi. Ikh hob gehat gezungen (Diesing 1997:387, (32b))
 b. St. *I han ghett gsonga
 c. SG. *Ich ha qha gsunge
 d. Zü. *Ich ha qhaa gsunge
 e. Be. *I ha qha gsunge
 I have had sung (I had sung (when we met))

(159) a. Yi. *Ikh hob gezungen gehat (Diesing 1997:387, (32c))
 b. St. I han gsonga ghett
 c. SG. Ich ha gsunge gha
 d. Zü. Ich ha gsunge ghaa
 e. Be. I ha gsunge gha
 I have sung had (*I had sung (when we met)*)

Yiddish differs from the (other) OV-languages that allow this form. However, this form is not possible at all in most Germanic languages (i.e. the five Scandinavian languages, English, Dutch, Frisian, and all German dialects spoken north of the river Main). These languages express simple past tense by means of one inflected verb form (hence the term "simple past"), e.g. *sang*, *had*, cf. the paradigms in section 1.2 above, and they employ this form in forming the past perfect, e.g. *had sung*, and therefore examples like (158)/(159) are not found in all languages.

Furthermore, Afrikaans which is one of the languages without a simple past tense, still has no separate past perfect form. Instead, the perfect form is also used as past perfect, sometimes with a time adverbial signalling the difference:

(160) Af. Voordat dit begin reën het, ... form: perfect,
Before it begun rain has, ... function: simple past

... het sy al reeds haar reënjas angetrek form: perfect,
 ... *has she already her raincoat on-put* function: past perfect
 (Donaldson 1993:232, (736))

Compare this to what happens in Yiddish and in the southern dialects of German (here Swabian), where the simple past has also been lost, but where past perfect is formed by the so-called double perfect, using a perfect form of the auxiliary, *she has had sung*, instead of a simple past form, *she had sung*:

(161) Yi.	Eyder es <u>hot ongehoybn</u> tsu regenen, ... <i>Before it has begun to rain, ...</i>	form: perfect, function: simple past
	... <u>hot</u> zi shoyrn ir regn-mantl <u>ongeton</u> <u>gehat</u> ... <i>has she already her raincoat on-put had</i>	form: "double perfect", function: past perfect
(162) St.	Bevor dassas zom Regna <u>aagfanga</u> <u>hot</u> , ... <i>Before that-it to rain begun has, ...</i>	form: perfect, function: simple past
	... <u>hot</u> sie scho d' Regemandl <u>aazoge</u> <u>ghett</u> ... <i>has she already the raincoat on-put had</i>	form: "double perfect", function: past perfect

and to what happens in languages like Standard German and English where the simple past has not been lost and where past perfect is formed by using a simple past form of the auxiliary:

- (163) Ge. Bevor es anfing zu regnen, ... simple past
 Before it began to rain, ...
 ... hatte sie schon ihren Regenmantel angezogen past perfect
 ... had she already her raincoat on-put
- (164) En. Before it began to rain, ... simple past
 ... she had already put her raincoat on past perfect

It is potentially problematic for my analysis of Yiddish as an OV-language that Yiddish is the only language to allow the word order in (158a). Before drawing any conclusions, I would like to consider a much wider picture, drawing in many other constructions that also involve two non-finite verbs.

Let us first consider a parallel example in future perfect, a form which is possible in all the languages under discussion. Here we immediately encounter a problem with establishing what the data are in Yiddish. In Diesing (1997), two orders are reported as possible in future perfect in Yiddish:

- (165) a. Yi. Ikh vel hobn gezungen (Diesing 1997:387, (32e,f))
 b. Yi. Ikh vel gezungen hobn
 I will (sung) have (sung) (I will have sung (when we meet again))

However, according to my informant Marvin Herzog (editor-in-chief of *The Language and Culture Atlas of Ashkenazic Jewry*, Niemeyer, Tübingen), both (165b) and (169b) are if not ungrammatical then at least rather marked:^{16 17}

- (166) En. a. This film, we will have seen (by the time you come back from holidays)
 b. *This film, we will seen have
- (167) Ic. a. Þessa mynd myndum við hafa séð
 b. *Þessa mynd myndum við séð hafa
- (168) Da. a. Denne film vil vi have set
 b. *Denne film vil vi set have
- (169) Yi. a. Dos dozike film veln mir hobn gezen (Katz 1987:140)
 b. ??Dos dozike film veln mir gezen hobn
- (170) Du. a. Deze film zullen wij hebben gezien
 b. Deze film zullen wij gezien hebben
- (171) Af. a. *Hierdie rolprent sal ons het gesien
 b. ?Hierdie rolprent sal ons gesien het
- (172) WF. a. *Dienen film goan wonder een gezien
 b. Dienen film goan wonder gezien een
- (173) Fs. a. *Dizze film sille wy hawwe sjoen
 b. Dizze film sille wy sjoen hawwe

¹⁶In Afrikaans, the form *het* is used both as the finite form and the infinitive of the auxiliary *have*, cf. Donaldson (1993:230). The main verb *have* has a separate infinitive, *hê*.

¹⁷The interpretation of *werden* in Swabian and the three Swiss German variants is not so much one of future as one of epistemic modality, which is also possible in High German (cf. e.g. Zifonun et al. 1997:1900).

- (174) Ge. a. *Diesen Film werden wir haben gesehen
b. Diesen Film werden wir gesehen haben
- (175) St. a. *Dr Film werdet mr han gsaea
b. Dr Film werdet mr gsaea han
- (176) SG. a. *Dä Film werdet mer ha gsee
b. Dä Film werdet mer gsee ha
- (177) Zü. a. *Dee Film werded mer haa gsee
b. Dee Film werded mer gsee haa
- (178) Be. a. *Dä Fium wärde mer ha gsee
b. Dä Fium wärde mer gsee ha

Whether or not Yiddish allows (169b), it is important to notice that it is not only VO-languages and Yiddish that allow examples like (169a), as Dutch also allows (170a).

The exact same point can be made by means of the following set of future perfect examples, except that here it is Weissberg (1988) with whom my informant disagrees:

- (179) En. a. I will have finished the work (by the time you come back from holidays)
b. *I will finished have the work
- (180) Ic. a. Ég myndi hafa lokið vinnunni
b. *Ég myndi lokið hafa vinnunni
- (181) Da. a. Jeg vil have afsluttet arbejdet
b. *Jeg vil afsluttet have arbejdet
- (182) Yi. a. Ikh vel hobn farendikt di arbet
b. Ikh vel farendikt hobn di arbet
(M. Herzog (p.c.): ??, Weissberg 1988:147: fine)
- (183) Du. a. Ik zal dit werk hebben beëindigt
b. Ik zal dit werk beëindigt hebben
- (184) Af. a. *Ek zal die werk het gedaan
b. Ek zal die werk gedoan het
- (185) WF. a. *K goan da werk een gedoan
b. K goan da werk gedoan een
- (186) Fs. a. *Ik sil dit wurk hawwe beëinige
b. Ik sil dit werk beëinige hawwe
- (187) Ge. a. *Ich werde die Arbeit haben getan
b. Ich werde die Arbeit getan haben
- (188) St. a. *I werd d Erbet han do
b. I werd d Erbet do han
- (189) SG. a. *Ich werd t'Arbet ha gmacht
b. Ich werd t'Arbet gmacht ha
- (190) Zü. a. *Ich wirt d Arbet haa gmacht
b. Ich wirt d Arbet gmacht haa
- (191) Be. a. *I wurde t Arbeit haa gmacht
b. I wurde t Arbeit gmacht haa

2.6.3 Two non-finite verbs: Passive

Consider now a different kind of data, with the perfect tense of a passivised verb (Icelandic has no verb corresponding to *bring*):¹⁸

- (192) En. a. Presents have been brought
b. *Presents have brought been
- (193) Da. a. Gaver er blevet bragt
b. *Gaver er bragt blevet
- (194) Yi. a. Matones zaynen gevorn gebrakht
b. Matones zaynen gebrakht gevorn
(both are from den Besten et al. 1986:117, (14), see also Geilfuß 1991:171, (2))
- (195) Du. a. Kado's zijn worden gebracht
b. Kado's zijn gebracht worden
- (196) WF. a. *T zyn kados geweest gebrocht
b. T zyn kados gebrocht geweest
- (197) Fs. a. *Kado's binne wurde brocht
b. Kado's binne brocht wurde
- (198) Ge. a. *Geschenke sind worden gebracht
b. Geschenke sind gebracht worden
- (199) St. a. *Gschenk sen worda brochd
b. Gschenk sen brochd worda
- (200) SG. a. *Gschenk sind worde brocht
b. Gschenk sind brocht worde
- (201) Zü. a. *Gschänk sind worde bbracht
b. Gschänk sind bbracht worde
- (202) Be. a. *Gschänk si worde bbraacht
b. Gschänk si bbraacht worde

Although den Besten and Moed-van Walraven (1986:117, (14)) take both orders in (194) to be possible, Jacobs, Prince & van der Auwera (1994) only accept the order where the auxiliary participle *gevorn* 'been', is final:

- (203) Yi. a. *Di shtub iz gevorn opgebrent
The house is been up-burned
b. Di shtub iz opgebrent gevorn
The house is up-burned been
(The house was burned down) (from Jacobs, Prince & van der Auwera 1994:411)

Also in the next set of examples, the future tense of a passivised verb, there is disagreement as to whether Yiddish allows the sequence where the participle is final:

¹⁸An expletive pronoun is obligatory in (196) in West Flemish, though not in the other languages. This presence or absence of the expletive does not seem to influence the position of the verbs. On the form and variation of West Flemish expletives, see Grange & Haegeman (1989).

- (204) En. a. The book will be bought
b. *The book will bought be
- (205) Ic. a. Bókin mundi verða keypt
b. *Bókin mundi keypt verða
- (206) Da. a. Bogen vil blive købt
b. *Bogen vil købt blive
- (207) Yi. a. Dos bukh vet vern gekoyft (M. Herzog (p.c.):*, den Besten et al.: fine)
b. Dos bukh vet gekoyft vern
(both are from den Besten et al. 1986:117, (15), see also Geilfuß 1991:171, (3))
- (208) Du. a. Het boek zal worden gekocht
b. Het boek zal gekocht worden
- (209) Af. a. *Die boek sal word gekoop
b. Die boek sal gekoop word
- (210) WF. a. *Dienen boek goa worden gekocht
b. Dienen boek goa gekocht worden
- (211) Fs. a. *It boek sil wurde kocht
b. It boek sil kocht wurde
- (212) Ge. a. *Das Buch wird werden gekauft
b. Das Buch wird gekauft werden
- (213) St. a. *Des Buach wird werda kaufd
b. Des Buach wird kaufd werda
- (214) SG. a. *Das Buech wirt werde gkouft
b. Das Buech wirt gkouft werde
- (215) Zü. a. *Das Buech wirt weerde gchauft
b. Das Buech wirt gchauft weerde
- (216) Be. a. *Das Buech wirt wärde gchouft
b. Das Buech wirt gchouft wärde

Again with the caveat that opinions are divided on Yiddish, there are three groups: only (a) in the VO-languages, (a) and (b) in Yiddish and Dutch, and only (b) in the other OV-languages.

The exact same picture emerges from passive verbs embedded under a different modal (with the only differences that these are not possible in Icelandic and Danish: In Icelandic, the modal and the passive meaning is expressed by the same verb, *verða*. In Danish, under an obligation modal like *must*, the non-periphrastic *s*-passive must be used, i.e. *bygges* instead of *blive bygget*, cf. Vikner 1988:24, n13, Allan et al. 1995:316-317, and Thráinsson & Vikner 1995:66).

- (217) En. a. A house must be built (before one can live in it)
b. *A house must built be
- (218) Yi. a. A hoyz muz vern geboyt (M. Herzog (p.c.):*, den Besten et al.: fine)
b. A hoyz muz geboyt vern
(both are from den Besten et al. 1986:117, (16), see also Geilfuß 1991:171, (4))

- (219) Du. a. Een huis moet worden gebouwd
 b. Een huis moet gebouwd worden
- (220) Af. a. *'n Huis moet word gebou
 b. 'n Huis moet gebou word
- (221) WF. a. *En us moet worden gebouwd
 b. En us moet gebouwd worden
- (222) Fs. a. *In hûs moat wurde boud
 b. In hûs moat boud wurde
- (223) Ge. a. *Ein Haus muß werden gebaut
 b. Ein Haus muß gebaut werden
- (224) St. a. *A Haus muass werda boud
 b. A Haus muass boud werda
- (225) SG. a. *Es Huus muess werde phout
 b. Es Huus muess phout werde
- (226) Zü. a. *Es Huus mues weerde pout
 b. Es Huus mues pout weerde
- (227) Be. a. *Es Huus mues wärde bbout
 b. Es Huus mues bbout wärde

2.6.4 Two non-finite verbs: Durative and IPP

Consider now a different type of example, the durative expression *remain standing* (which is not found in Icelandic). First in the perfect:

- (228) En. a. The people have remained standing
 b. *The people have standing remained
- (229) Da. a. Menneskene er blevet stående
 b. *Menneskene er stående blevet
- (230) Yi. a. Di layt zenen geblibn shteyn
 b. Di layt zenen shteyn geblibn (Lockwood 1995:135)
- (231) Du. a. De mensen zijn blijven staan
 b. *De mensen zijn staan blijven
- (232) Af. a. De mense het bly staan
 b. *De mense het staan bly
- (233) WF. a. De mensen zyn bluven stoan
 b. *De mensen zyn stoan bluven
- (234) Fs. a. *De minsken binne bleaun stean
 b. De minsken binne steaun bleaun
- (235) Ge. a. *Die Leute sind geblieben stehen
 b. Die Leute sind stehen geblieben
- (236) St. a. *D Leid sen bliaba schdanda
 b. D Leid sen schdanda bliaba

- (237) SG. a. *T'Lüet sind plibe schto
b. T'Lüet sind schto plibe
- (238) Zü. a. *D Lüüt sind bblibe schtaa
b. D Lüüt sind schtaa bblibe
- (239) Be. a. T Lüt si blibe schtaa
b. *T Lüt si schtaa blibe

and then in the future:

- (240) En. a. The people will remain standing
b. *The people will standing remain
- (241) Da. a. Menneskene vil blive stående
b. *Menneskene vil stående blive
- (242) Yi. a. Di layt veln blaybn shteyn (Lockwood 1995:135)
b. Di layt veln shteyn blaybn
- (243) Du. a. De mensen zullen blijven staan
b. *De mensen zullen staan blijven
- (244) Af. a. De mense sal bly staan
b. *De mense sal staan bly
- (245) WF. a. De mensen goan bluven stoan
b. *De mensen goan stoan bluven
- (246) Fs. a. *De minsken sille bliuwe stean
b. De minsken sille stean bliuwe
- (247) Ge. a. *Die Leute werden bleiben stehen
b. Die Leute werden stehen bleiben
- (248) St. a. *D Leid werdad bleiba schdanda
b. D Leid werdad schdanda bleiba
- (249) SG. a. *T'Lüet werdet blibe schto
b. T'Lüet werdet schto blibe
- (250) Zü. a. *D Lüüt weereded bliibe schtaa
b. D Lüüt weereded schtaa bliibe
- (251) Be. a. T Lüt wärde blibe schtaa
b. *T Lüt wärde schtaa blibe

There are three groups: only (a) in the VO-languages, and in Dutch, Afrikaans, West Flemish, and Bern Swiss German; (a) and (b) in Yiddish; and only (b) in the other OV-languages.

Notice that Yiddish also behaves like the (other) OV-languages in that the form that is used is the infinitive *stand*, as opposed to the VO-languages English and Danish which employ the present participle, *standing*. (Swabian *schdanda* is the infinitive, not the present participle).

Before we move on to perfect and future of causative verbs, a few words about IPP (Infinitivus Pro Participio), also known as "Ersatzinfinitiv" (replacement infinitive) or "double infinitive construction" (see den Besten & Edmondson 1983, Vanden Wyngaerd 1996, and many others): The perfect tense of certain verbs (which vary from language to

language, see below and e.g. Schmid 1999:232) is not a combination of the aspectual auxiliary *have* plus past participle but instead of *have* plus infinitive. In other words, the infinitive form replaces the past participle.

This process is only found in Dutch, Afrikaans, West Flemish, German, Swabian and the three Swiss German variants, it never occurs in the VO-languages, nor in Frisian, Low German or Yiddish. Like the VO-languages, Frisian and Low German form past participles without using the *ge-* prefix, as observed by Lange (1981), whereas the other OV-languages form past participles by means of both a particular ending and the *ge-* prefix (even if *ge-* is not always directly visible in Swabian and Swiss German, cf. German *bleiben/geblieben* (infinitive and past participle of ‘become’), Swabian *bleiba/bliaba*, Sankt Gallen *blibe/plibe*, Zürich *bliibe/bblibe*, and Bern *blibe/bblibe*).

Yiddish is thus the only language that forms past participles by means of *ge-* and that does not have any IPP. If Yiddish were a VO-language, the lack of IPP would be expected (though then Yiddish would be the only VO-language to form past participles by means of *ge-*), but I have to admit that under the present analysis, which takes Yiddish to be an OV-language, the lack of IPP is unexpected:

- (252) Yi. a. Dos dozike hobn zey badarft ton
 This have they must.PPLE do
- b. Shoel hot gedarft haltn milkhóme mit di Plishtim
 Saul has must.PPLE hold war with the Philistines
- c. Zey hobn keyn zakh nit gekent ton
 They have no thing not could.PPLE do
- d. Yidn hobn gemuzt zikh fartheydikn
 Men have must.PPLE themselves defend
- e. Farsheydene felker hobn gevolt tsunemen
 Various peoples have would.PPLE take
 bay di Bney-Yisróel dos land
 from the Israelites the land
- f. Es hot gezolt zayn a matóne
 It had should.PPLE be a present (all from Lockwood 1995:81-83)

Four of the examples already discussed above, (231), (232), (233) and (239), were actually IPP-examples, as they used the the infinitive of *remain*, Du. *blijven*/Af. *bly*/WF. *bluven*/Be. *blibe*, rather than the past participles, Du. *gebleven*/Af. *gebly*/WF. *gebleven*/Be. *bblibe*. In the examples below, IPP is distributed differently: With the perfect of causatives and with the perfect of modals, Dutch, Afrikaans, German, Swabian and the three Swiss German variants all obligatorily show IPP, and with the perfect of perception verbs, IPP is obligatory in Dutch and Afrikaans, but optional in German and Swiss German.

2.6.5 Two non-finite verbs: Causative

Let us now turn to the perfect of causative verbs, where it is clear that IPP is obligatory in at least Dutch, Afrikaans, and German, when the forms are considered: Although English and Sankt Gallen Swiss German use one form, En. *let* / SG. *loo*, for both infinitive and past participle, the other languages make a distinction, Icelandic *láta* (infinitive)/*latið* (past

participle), Danish *lade* [la]/*ladet* [ˈla:ðð], Yiddish *lozn/gelozt*, Dutch *laten/gelaten*, Afrikaans *laat/gelaat*, West Flemish *loaten/geloaten*, Frisian *litte/litten*, German *lassen/gelassen*, Swabian *lassa/glassa*, Zürich *laa/glaa*, and Bern *laa/gglaa*:

- (253) En. a. He has let us wait
b. *He has wait let us

- (254) Ic. a. Hann hefur látið okkur bíða
b. *Hann hefur bíða látið okkur

- (255) Da. a. Han har ladet os vente
b. *Han har os vente ladet

- (256) Yi. a. Er hot undz gelozt vartn (Lockwood 1995:135)
b. Er hot undz vartn gelozt

- (257) Du. a. Hij heeft ons laten wachten
b. *Hij heeft ons wachten laten

- (258) Af. a. Hy het ons laat wag
b. *Hy het ons wag laat

- (259) WF. a. J'eet uns loaten wachten
b. *J'eet uns wachten loaten

- (260) Fs. a. *Hy hat ús litten wachtsje
b. Hy hat ús wachtsje litten

- (261) Ge. a. *Er hat uns lassen warten
b. Er hat uns warten lassen

- (262) St. a. *R hod ons lassa warda
b. R hod ons warda lassa

- (263) SG. a. *Er hät üüs loo warte
b. Er hät üüs warte loo

- (264) Zü. a. Er hät öis laa warte
b. Er hät öis warte laa

- (265) Be. a. Er het is la warte
b. *Er het is warte laa

and then the future:

- (266) En. a. He will let us wait
b. *He will us wait let

- (267) Ic. a. Hann mun láta okkur bíða
b. *Hann mun bíða láta okkur

- (268) Da. a. Han vil lade os vente
b. *Han vil os vente lade

- (269) Yi. a. Er vet undz lozn vartn (Lockwood 1995:135)
b. Er vet undz vartn lozn

- (270) Du. a. Hij zal ons laten wachten
b. *Hij zal ons wachten laten

- (271) Af. a. Hy sal ons laat wag
b. *Hy sal ons wag laat
- (272) WF. a. Je goad ons loaten wachten
b. *Je goad ons wachten loaten
- (273) Fs. a. *Hy sil ús litte wachtsje
b. Hy sil ús wachtsje litte
- (274) Ge. a. *Er wird uns lassen warten
b. Er wird uns warten lassen
- (275) St. a. *R wird ons lassa warda
b. R wird ons warda lassa
- (276) SG. a. *Er wirt üüs loo warte
b. Er wirt üüs warte loo
- (277) Zü. a. Er wirt öis laa warte
b. Er wirt öis warte laa
- (278) Be. a. Er wirt is la warte
b. *Er wirt is warte laa

The picture is almost the same, but not quite, as with the durative verbs: Only (a) in the VO-languages and in Dutch, Afrikaans, West Flemish, and Bern Swiss German, (a) and (b) in Yiddish and Zürich Swiss German, and only (b) in the other OV-languages.

2.6.6 Two non-finite verbs: Perception verbs

I shall now turn to perception verbs. Consider first the perfect forms. Here IPP is obligatory in Dutch and West Flemish, optional in Afrikaans, German, Swabian, and the three Swiss German variants, and (as always) impossible in VO-languages, Frisian, and Yiddish. The relevant forms are English *hear/heard*, Icelandic *heyra/heyrt*, Danish *høre/hørt*, Yiddish *hern/gehert*, Dutch *horen/gehoord*, Afrikaans *hoor/gehoor*, West Flemish *uoren/ghuort*, Frisian *hearre/heard*, German *hören/gehört*, Swabian *hera/gherd*, Sankt Gallen *ghöre/ghört*, Zürich *ghööre/ghöört*, and Bern *ghöre/ghöört*.

- (279) En. a. He has heard her shout
b. *He has her shout heard
- (280) Ic. a. Hann hefur heyrt hana hrópa
b. *Hann hefur hrópa heyrt hana
- (281) Da. a. Han har hørt hende råbe
b. *Han har hende råbe hørt
- (282) Yi. a. Er hot zi gehert rufn
b. ?Er hot zi rufn gehert
- (283) Du. a. Hij heeft haar horen roepen
b. *Hij heeft haar roepen horen (Schmid 1999:232, (11a))
- (284) Af. a. ?Hy het haar gehoor roep
b. *Hy het haar roep gehoor (Schmid 1999:232, (8b))

- (285) Af. a. Hy het haar hoor roep (Schmid 1999:232, (8a))
 b. *Hy het haar roep hoor
- (286) WF. a. J'eet heur uoren roepen (see also Schmid 1999:232, (12a))
 b. *J'eet heur roepen uoren
- (287) Fs. a. *Hy hat har heard roppen
 b. Hy hat har roppen heard
- (288) Ge. a. *Er hat sie gehört rufen
 b. Er hat sie rufen gehört (Schmid 1999:232, (9b))
- (289) Ge. a. *Er hat sie hören rufen
 b. Er hat sie rufen hören (Schmid 1999:232, (9a))
- (290) St. a. *R hod se gherd ruafa
 b. R hod se ruafa gherd
- (291) St. a. R hod se hera ruafa
 b. R hod se ruafa hera
- (292) SG. a. Er hät sie ghört rüefe (Schmid 1999:232, (10b))
 b. Er hät sie rüefe ghört
- (293) SG. a. Er hät sie ghöre rüefe (Schmid 1999:232, (10a))
 b. *Er hät sie rüefe ghöre
- (294) Zü. a. Er hät si ghöört rüefe
 b. Er hät si rüefe ghöört
- (295) Zü. a. Er hät si ghööre rüefe
 b. *Er hät si rüefe ghööre
- (296) Be. a. Er het se ghöört rüeffe
 b. *Er het se rüeffe ghöört
- (297) Be. a. Er het se ghöre rüeffe
 b. *Er het se rüeffe ghöre

The picture is similar to the ones seen above, with three groups: only (a) in the VO-languages and Yiddish, Dutch, Afrikaans, West Flemish, and Bern Swiss German; (a) and (b) to various extents in Swabian, Sankt Gallen and Zürich; and only (b) in Frisian and German.

When we turn to the future forms, the picture remains the same:

- (298) En. a. He will hear her shout
 b. *He will her shout hear
- (299) Ic. a. Hann mun heyra hana hrópa
 b. *Hann mun hrópa heyra hana
- (300) Da. a. Han vil høre hende rábe
 b. *Han vil høre rábe hende
- (301) Yi. a. Er vet zi hern rufn
 b. *Er vet zi rufn hern
- (302) Du. a. Hij zal haar horen roepen
 b. *Hij zal haar roepen horen

- (303) Af. a. Hy sal haar hoor roep
 b. *Hy sal haar roep hoor
- (304) WF. a. Je goad eur uoren roepen
 b. *Je goad eur roepen uoren
- (305) Fs. a. *Hy sil har hearre roppen
 b. Hy sil har roppen hearre
- (306) Ge. a. *Er wird sie hören rufen
 b. Er wird sie rufen hören
- (307) St. a. ?R wird se hera ruafa
 b. R wird se ruafa hera
- (308) SG. a. ?Er wirt sie ghöre rüefe
 b. Er wirt sie rüefe ghöre
- (309) Zü. a. Er wirt si ghööre rüefe
 b. ?Er wirt si rüefe ghööre
- (310) Be. a. Er wirt se ghöre rüeffe
 b. *Er wirt se rüeffe ghöre

2.6.7 Two non-finite verbs: Modal verbs

Let us now finally consider perfect and future of modal verbs, beginning with the perfect. Also here the forms should be considered: Difference between the two are found in Icelandic *þurfa* (infinitive)/*þurft* (past participle), Danish *måtte/måttet*, Yiddish *darfn/gedarft*, Dutch and West Flemish *moeten/gemoeten*, Frisian *moatte/moatten*, German *müssen/gemusst*, whereas there would seem to be no past participles in the last four languages: Swabian only has *missa*, Sankt Gallen and Zürich only *müese*, and Bern only *müesse*.

However, on closer inspection, it turns out that there is another possibility (see Lötscher 1978:3, n2, Cooper 1994:187, Schönenberger 1995:356, n3, and many others), namely that Swabian *missa*, Sankt Gallen and Zürich *müese*, and Bern *müesse* are actually both infinitives and past participles. The latter is supported by the fact that the form identical to the infinitive shows up not only in potential IPP contexts, but also in contexts where IPP is not possible:

- (311) a. Ge. Das hättest du nicht gemusst (past participle)
 b. Ge. *Das hättest du nicht müssen (infinitive)
 c. St. Des heddsch net missa
 d. SG. Das heetsch nöd müese
 e. Zü. Das hettisch nöd müese
 f. Be. Das hättsch nid müesse
 That had you not must
 (You shouldn't have done that / You didn't have to do that)

- (312) a. Ge. Er ist gegangen, weil er nach Hause gemusst hat (p.pp.)
 b. Ge. *Er ist gegangen, weil er nach Hause müssen hat (inf.)
 c. Ge. *Er ist gegangen, weil er nach Hause hat müssen (inf.)
 d. St. R isch ganga, weil r hoim missa hod
 e. SG. Er isch gange, wil- er hai hät müese
 f. Zü. Er isch gange, wil er häi hät müese
 g. Be. Är isch ggange, wüu er hei het müesse
 h. Be. Är isch ggange, wüu er het hei müesse
He is gone bec. he (has) home (has) must (has)
(He left because he had to go home)

IPP is not possible in examples like (311) and (312), because there is no infinitival embedded below the potential IPP-verb, i.e. the modal verb. That IPP also requires an infinitive below the IPP-verb in Swabian and in the Swiss German variants can of course not be seen here, but it can be seen in cases where there is a clear difference between the infinitive and the past participle forms, e.g. perception verbs. With perception verbs, it is possible to have an infinitive instead of the past participle if there is an embedded verb, (291), (293a), (295a), (297a) above, but the infinitive is impossible when there is no embedded verb, (313) below:

- (313) a. St. *R hod se hera
 b. SG. *Er hät sie qhöre
 c. Zü. *Er hät si qhööre
 d. Be. *Er het se qhöre
He has her hear. INF
- (314) a. St. R hod se qherd
 b. SG. Er hät sie qhört
 c. Zü. Er hät si qhöört
 d. Be. Er het se qhöört
He has her heard. PPLE

Given the ambiguity of the forms in Swabian, Sankt Gallen, Zürich, and Bern, it is only Dutch, West Flemish, and German that clearly require IPP with modal verbs:

- (315) Ic. a. Hann hefur þurft að segja það
He has must to say it (He has had to say it)
 b. *Hann hefur að segja þurft það
- (316) Da. a. Han har måttet sige det
He has must say it (He has had to say it)
 b. *Han har sige måttet det
- (317) Yi. a. Er hot dos gedarft zogn
 b. ??Er hot dos zogn gedarft
- (318) Du. a. Hij heeft dat moeten zeggen (de Rooy & Wikén Bonde 1971: 124)
 b. *Hij heeft dat zeggen moeten
- (319) WF. a. J'eet dat moeten zeggen
 b. *J'eet da zeggen moeten
- (320) Fs. a. *Hy hat dat moatten sizze
 b. Hy hat dat sizze moatten
- (321) Ge. a. *Er hat das müssen sagen
 b. Er hat das sagen müssen

- (322) St. a. R hod des missa saqa
 b. R hod des saqa missa
- (323) SG. a. Er hät das müese säqe
 b. ?Er hät das säqe müese (say contrastive)
- (324) Zü. a. Er hät das müese säqe
 b. Er hät das säqe müese (must contrastive)
- (325) Be. a. Er het das müesse säqe
 b. *Er het das säqe müesse

There are no English examples, neither in the perfect, nor in the future, as English modals have neither participial nor infinitival forms. There are no Afrikaans perfect examples, as we here have the mirror image situation from other verbs in Afrikaans: Modal verbs have simple past forms, but no past participles (Ponelis 1993:439-440, Donaldson 1993:222, 241).

Consider now the future examples:

- (326) Ic. a. Hann mun purfa aõ seqja paõ
 He will must to say it (He will have to say it)
 b. *Hann mun aõ segja purfa paõ
- (327) Da. a. Han vil mätte sige det
 He will must say it (He will have to say it)
 b. *Han vil sige mätte det
- (328) Yi. a. Er vet dos darfn zogn
 b. *Er vet dos zogn darfn
- (329) Du. a. Hij zal dat moeten zeggen
 b. *Hij zal dat zeggen moeten
- (330) Af. a. Hy sal dit moet sê
 b. *Hy sal dit sê moet
- (331) WF. a. Je goat da moeten zeggen
 b. *Je goat da zeggen moeten
- (332) Fs. a. *Hy sil dat moatte sizze
 b. Hy sil dat sizze moatte
- (333) Ge. a. *Er wird das müssen sagen
 b. Er wird das sagen müssen
- (334) St. a. R wird des miassa saqa
 b. R wird des saqa miassa
- (335) SG. a. Er wirt das müese säqe
 b. ?Er wirt das säqe müese (say contrastive)
- (336) Zü. a. Er wirt das müese säqe
 b. Er wirt das säqe müese (must contrastive)
- (337) Be. a. Er wirt das müesse säqe
 b. *Er wirt das säqe müesse

In both perfect and future modal constructions, there are three groups: only (a) in the VO-languages and Yiddish, Dutch, Afrikaans, West Flemish, and Bern Swiss German; (a) and

(b) in Swabian and Swiss German from Sankt Gallen and Zürich; and only (b) in Frisian and German.

In the table in 2.6.8 below, I am assuming that Swabian, Sankt Gallen, Zürich, and Bern allow only IPP with modal verbs, as this would be parallel to the other IPP-languages: Dutch, Afrikaans, and German allow only IPP with modal verbs (provided of course that the IPP conditions are fulfilled, i.e. that a further verb is embedded under the modal verb, cf. (313) above). This interpretation also is parallel to the situation with causative *let*: Also here all IPP-languages require IPP.

The Swabian, Sankt Gallen, Zürich, and Bern data could of course also be interpreted in other ways, because it is impossible to tell whether an infinitive or a past participle is used. It is thus possible that modals in these four languages do not have IPP at all, or that the situation with modals is parallel to the situation with the perception verbs in these four languages.

2.6.8 Conclusion

All the results of 2.6.2-2.6.7, are summarised in the following table. The languages are divided into three main groups: First the ones that are definitely VO (English, Icelandic, Danish), then Yiddish, and finally the ones that are indisputably OV (Dutch, Afrikaans, West Flemish, Frisian, German, Swabian, and the three Swiss German variants from Sankt Gallen, Zürich, and Bern). The verbs have been numbered, starting with "0" for the finite verb. The question of the relative order of the two non-finite verbs can thus be seen as the question of which of the two non-finite verbs precedes the other, and this is the figure ("1" or "2") given in the table:

(338)

En	Ic	Da	Yi	Du	Af	WF	Fs	Ge	St	SG	Zü	Be	0	1	2	
-	-	-	1	-	-	-	-	-	2	2	2	2	has	had	sung	<i>perfect, 2.6.2</i>
1	1	1	1	1/2	2	2	2	2	2	2	2	2	will	have	seen	<i>past perfect</i>
1	1	1	1/2	1/2	2	2	2	2	2	2	2	2	will	have	finished	<i>future perfect</i>
1	-	1	1/2	1/2	-	2	2	2	2	2	2	2	has	been	brought	<i>passive, 2.6.3</i>
1	1	1	1/2	1/2	2	2	2	2	2	2	2	2	will	be	bought	<i>perfect</i>
1	-	-	1/2	1/2	2	2	2	2	2	2	2	2	must	be	built	<i>future modal</i>
1	-	1	1/2	-	-	-	2	2	2	2	2	-	has	remained	stand	<i>durative, 2.6.4</i>
-	-	-	-	1	1	1	-	-	-	-	-	1	has	remain	stand	<i>perfect</i>
1	-	1	1/2	1	1	1	2	2	2	2	2	1	will	remain	stand	<i>IPP-perfect</i>
1	1	1	1/2	-	-	-	2	-	-	-	-	-	has	let	wait	<i>future</i>
-	-	-	-	1	1	1	-	2	2	2	1/2	1	has	let	wait	<i>perfect</i>
1	1	1	1/2	1	1	1	2	2	2	2	1/2	1	will	let	wait	<i>IPP-perfect</i>
1	1	1	1/2	-	1	1	2	2	2	1/2	1/2	1	has	heard	shout	<i>perception, 2.6.6</i>
-	-	-	-	1	1	1	-	2	1/2	1	1	1	has	hear	shout	<i>perfect</i>
1	1	1	1	1	1	1	2	2	1/2	1/2	1/2	1	will	hear	shout	<i>IPP-perfect</i>
-	1	1	1	1	-	-	2	-	-	-	-	-	has	must	say	<i>modal, 2.6.7</i>
-	-	-	-	1	-	-	-	2	1/2	1/2	1/2	1	has	must	say	<i>perfect</i>
-	1	1	1	1	1	1	2	2	1/2	1/2	1/2	1	will	must	say	<i>IPP-perfect</i>
																<i>future</i>

If Yiddish was a VO-language, it would be exceptional, as there is no (other) VO-language that has a "2" anywhere, i.e. Yiddish would be the only OV-language to ever have a (non-finite) verb to the right of another more deeply embedded verb in the same clause.

If Yiddish was an OV-language, it would not be so exceptional, given that also most other OV-languages show a considerable amount of variation, in particular Dutch, Afrikaans, and Bern Swiss German.

In fact, only two OV-languages seem to be real mirror-images of the VO-languages, namely Frisian and German, and even German strays from the strict OV-pattern (a non-finite verb always occurs to the right of another more deeply embedded verb) in certain constructions with three or more verbs. Consider first IPP-constructions with three verbs, where the deviation from the strict OV-order is obligatory:

- (339) Ge. a. *Er wird es sagen₃ gemusst₂ haben₁ (order: 3-2-1, no IPP)
 b. *Er wird es sagen₃ müssen₂ haben₁ (order: 3-2-1, with IPP)
 c. *Er wird es haben₁ sagen₃ gemusst₂ (order: 1-3-2, no IPP)
 d. Er wird es haben₁ sagen₃ müssen₂ (order: 1-3-2, with IPP)
He will it (have) say must (have)
- (340) Ge a. *... dass er es sagen₃ gemusst₂ hat₁ (order: 3-2-1, no IPP)
 b. *... dass er es sagen₃ müssen₂ hat₁ (order: 3-2-1, with IPP)
 c. *... dass er es hat₁ sagen₃ gemusst₂ (order: 1-3-2, no IPP)
 d. ... dass er es hat₁ sagen₃ müssen₂ (order: 1-3-2, with IPP)
... that he it (has) say must (has)

Instead of the expected (339a)/(340a) examples with the 3-2-1 order and a participle (which is what is found in Frisian, Tiersma 1985:138), German has to have both IPP and the mixed 1-3-2 order, as in (339d)/(340d), cf. Schmid (1999:237) and references there. (Both of these are necessary: IPP without the mixed order, (339b)/(340b), or the mixed order without IPP, (339c)/(340c), do not suffice).

Even when there is no perfect involved, German allows deviation from the strict OV-pattern as one of two possibilities in the future modal construction with three verbs, as in (341b):

- (341) Ge. a. ... dass er es sagen₃ müssen₂ wird₁ (order: 3-2-1)
 b. ... dass er es wird₁ sagen₃ müssen₂ (order: 1-3-2)
... that he it (will) say must (will)

I therefore conclude, that as in the preceding sections, the data concerning verb sequences discussed in the present section shows that an analysis of Yiddish as an OV-language like German and Dutch is less problematic than an analysis of Yiddish as a VO-language like English or Danish.

2.7 Conclusion: Yiddish is an OV-language

This chapter is part of establishing the typology of verb movement in the Germanic languages. Most of the typology was already set out in chapter 1 above, i.e. under which circumstances which Germanic languages showed which of the three following kinds of variation: whether the finite verb undergoes V2 or not, whether the finite verb undergoes V°-to-I° movement or not, whether the verb is base generated to the left (VO) or to the right (OV) of its complement.

A few aspects were left open in chapter 1, however, and the present chapter dealt with one of these aspects, namely with the question of whether Yiddish is a VO language like the Scandinavian languages and English, or an OV-language like the other continental West Germanic languages, e.g. Afrikaans, Dutch, West Flemish, Frisian, German, Swabian, and Swiss German.

Section 2.3 argued, following Sadock (1998), that the possibility in Yiddish of certain coordination constructions in which the second object is empty was most easily accounted for if the base order in Yiddish was the same as in German, namely OV.

Section 2.4 argued, against Diesing (1997), that the behaviour of particle verbs in Yiddish had far more in common with the OV-language German than with a VO-language like Danish. Only if Yiddish is an OV-language like German and Dutch, not a VO-language like Danish and English, can it be explained why Yiddish is like German and unlike Scandinavian in allowing even such particles to occur preverbally in non-V2 constructions that do not incorporate, as seen by their not moving along with the finite verb during V2, by their requiring participial/infinitival forms with intervening *-ge-/tsu-*, and by their ability to topicalise.

The point in section 2.5 was that Yiddish, like the OV-languages Dutch, Frisian and German, has inflected attributive adjectives, but uninflected predicative adjectives, whereas those VO-languages which have inflected attributive adjectives (e.g. all the Scandinavian languages and all the Romance ones) also have inflected predicative adjectives. A derivation of predicative adjective constructions was given which allowed only head-final predicative AdjPs to not show any agreement. Assuming that the directionality inside VP (i.e. OV vs. VO) correspond to the directionality inside AdjP, Yiddish forms a group with the (other) OV-languages.

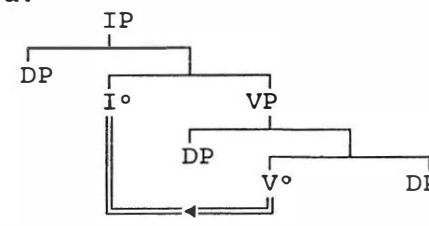
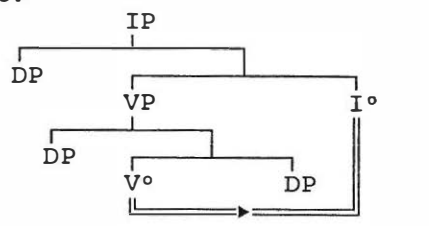
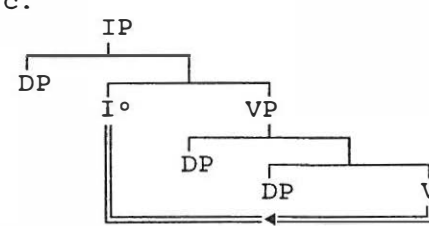
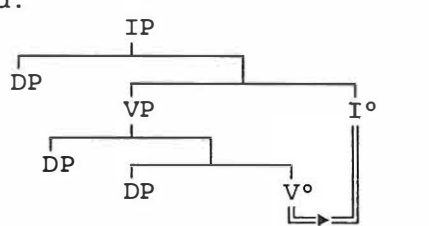
Finally, section 2.6 examined sequences of two non-finite verbs, concluding that since the VO-languages showed no order variation whatsoever, and since the OV-languages varied very much, with Frisian being the only of nine languages that showed no variation at all, Yiddish would be rather exceptional within the VO-group but fit very well into the picture of the OV one.

The general conclusion of this chapter is therefore that although the individual arguments may not be 100% compelling, it is still clear that an account of Yiddish as an OV-language will have far less problems to deal with than an account of Yiddish as a VO-language would.

Chapter 3. The lack of V°-to-I° movement in most OV-languages

3.1 Introduction

In section 2.1, I listed the following four possible clause structures, arguing that in the Germanic languages only two of these were found:

(1)	I°-VP	VP-I°
VO	<p>a.</p>  <p>with the arrow ($=\Leftarrow$): Älvdalsmålet, (French), Icelandic</p> <p>without the arrow ($=\Leftarrow$): Danish, English, Faroese, Hallingmålet, Kronoby, Norwegian, Swedish, Tromsø</p>	<p>b.</p>  <p>not found in Germanic (or Romance)</p>
	<p>c.</p>  <p>with the arrow ($=\Leftarrow$): Yiddish</p> <p>without the arrow ($=\Leftarrow$): Afrikaans, Dutch, Frisian, German, Swabian, Swiss German, West Flemish</p>	<p>d.</p>  <p>not found in Germanic (or Romance)</p>

(1a) is found in English and in the Scandinavian languages (and in all the Romance languages). The arrow is only relevant for Älvdalsmålet and Icelandic (and the Romance languages), which are the only ones to have V°-to-I° movement.

(1c) is found in Yiddish and the other continental West Germanic languages. The arrow is only relevant for Yiddish, which is the only one to have V°-to-I° movement.

(1b,d) are not found in the Germanic or Romance languages. (1b,d) should be ruled out universally, according to Haider & Rosengren's (1998:48) *Basic Branching Condition* (BBC): "The branching node of the projection line is to the right of its sister node" (cf. Haider's 1993:28 *Binary Branching Conjecture* and Haider's 1997b:15 *Branching Constraint*). In other words: According to the BBC, all adjoined positions, all specifiers,

and all non-lexical (i.e. functional) heads are exclusively found on left branches. This rules out (1b,d), where I° , a functional head, is to the right of its sister (the VP).

I furthermore pointed out that such an analysis contains at least two controversial claims: That Yiddish is OV and that Dutch, Afrikaans, West Flemish, Frisian, German, Swabian, and the three Swiss German variants from Sankt Gallen, Zürich, and Bern have no V° -to- I° movement.

From the data, it would seem to be certain that Yiddish has V° -to- I° movement to an I° which precedes the VP, whereas it is not determined unambiguously whether Yiddish is VO or OV. In chapter 2, I argued that Yiddish is OV.

From the data, it would seem to be certain that German (like Dutch, Afrikaans, West Flemish, Frisian, Swabian, and the three Swiss German variants from Sankt Gallen, Zürich, and Bern) is OV, whereas it is not determined unambiguously whether these languages have V° -to- I° movement or not. This chapter will argue that they all lack V° -to- I° movement.

The argumentation will be divided into three parts: verb sequences (section 3.2), verbs that cannot undergo V2 (section 3.3), and constructions where the main verb must be c-commanded by medial adverbials (section 3.4).

3.2 Verb sequences again

In this section, I will try to show that the view that all Germanic OV-languages except Yiddish (i.e. Dutch, Afrikaans, West Flemish, Frisian, German, Swabian, and the three Swiss German variants from Sankt Gallen, Zürich, and Bern) do not have V°-to-I° movement (except as part of V2), is supported by the facts concerning verb sequences. These facts are closely related to the facts discussed in section 2.6 above.

3.2.1 Introduction

In section 2.6 above, I examined the sequence of non-finite verbs across twelve Germanic languages and dialects to argue that Yiddish is OV. In this section I will examine the sequence of a finite and a non-finite verb with the same verbs in the same languages.

I will attempt to show that in Dutch, Afrikaans, West Flemish, Frisian, German, Swabian, and the three Swiss German variants from Sankt Gallen, Zürich, and Bern, the sequence of the two verbs in question is the same when the higher of the two verbs is finite (and the clause contains only two verbs) as it is when the higher of the two verbs is non-finite (and the clause contains three or more verbs of which the two verbs in question are the lowest ones).

Many factors influence the position of the two verbs in the nine languages in question, so that the order varies depending on the language and on the type of the higher verb. The point is that whatever the actual order is and what kind of movement causes the actual order, it does not seem to play a significant role whether the higher verb is finite or non-finite.

This would only be expected if the higher verb occurs in the "same" position in both cases (i.e. when it is finite and when it is non-finite). I assume that when the higher verb is non-finite, it undergoes neither V°-to-I° movement nor V2, see *have/haben* in (2a,c) and (3a,c). I would like to draw the conclusion that if the higher verb behaves in exactly the same fashion when it is finite, see *has/hat* in (2b,d) and (3b,d), then the finite verb too will be in situ, and cannot be taken to have undergone V°-to-I° movement or V2.

- | | | | | |
|-----|-----|----|--|--------------------------------|
| (2) | En. | a. | Why will she <u>have</u> <u>seen</u> this film? | <i>main clause, non-finite</i> |
| | | b. | ... if she <u>has</u> <u>seen</u> this film | <i>embedded clause, finite</i> |
| | | c. | *Why will she <u>seen</u> <u>have</u> this film? | <i>main clause, non-finite</i> |
| | | d. | *... if she <u>seen</u> <u>has</u> this film | <i>embedded clause, finite</i> |
| (3) | Ge. | a. | *Warum wird sie diesen Film haben gesehen? | <i>main clause, non-finite</i> |
| | | b. | *... ob sie diesen Film <u>hat</u> <u>gesehen</u> | <i>embedded clause, finite</i> |
| | | c. | Warum wird sie diesen Film <u>gesehen</u> <u>haben</u> ? | <i>main clause, non-finite</i> |
| | | d. | ... ob sie diesen Film <u>gesehen</u> <u>hat</u> | <i>embedded clause, finite</i> |

Below, I will go through the same constructions as in 2.6.2 - 2.6.7 above, and in the same order.

3.2.2 Perfect

Consider first the same two present perfect constructions that were examined in 2.6.2, *have seen the film*:

- (4) En. a. ... that we have seen this film
b. *... that we seen have this film
- (5) Ic. a. ... að við höfum séð þessa mynd
b. *... að við séð höfum þessa mynd
- (6) Da. a. ... at vi har set den her film
b. *... at vi set har den her film
- (7) Yi. a. ... az mir hobn gezen dos dozike film
b. *... az mir gezen hobn dos dozike film
- (8) Du. a. ... dat wij deze film hebben gezien
b. ... dat wij deze film gezien hebben
- (9) Af. a. *... dat ons hierdie rolprent het gesien
b. ... dat ons hierdie rolprent gesien het
- (10) WF. a. *... dan wonder dienen film een gezien
b. ... dan wonder dienen film gezien een
- (11) Fs. a. *... dat wy dizze film hawwe sjoen
b. ... dat wy dizze film sjoen hawwe
- (12) Ge. a. *... dass wir diesen Film haben gesehen
b. ... dass wir diesen Film gesehen haben
- (13) St. a. *... dass mr dr Film hen gsaea
b. ... dass mr dr Film gsaea hen
- (14) SG. a. *... dass-mer dä Film händ gsee
b. ... dass-mer dä Film gsee händ
- (15) Zü. a. *... dass mer de Film händ gsee
b. ... dass mer de Film gsee händ
- (16) Be. a. ... dass-mer dä Fium hei gsee
b. ... dass-mer dä Fium gsee hei

and the parallel *have finished the work*:

- (17) En. a. ... that I have finished the work
b. *... that I finished have the work
- (18) Ic. a. ... að ég hef lokið vinnunni
b. *... að ég lokið hef vinnunni
- (19) Da. a. ... at jeg har afsluttet arbejdet
b. *... at jeg afsluttet har arbejdet
- (20) Yi. a. ... az ikh hob farendikt di arbet
b. *... az ikh farendikt hob di arbet
- (21) Du. a. ... dat ik dit werk heb beëindigt
b. ... dat ik dit werk beëindigt heb
- (22) Af. a. *... dat ek die werk het gedaan
b. ... dat ek die werk gedoan het
- (23) WF. a. *... dank ik da werk een gedaan
b. ... dank ik da werk gedoan een

- (24) Fs. a. *... dat ik dit wurk ha beëinige
b. ... dat ik dit werk beëinige ha
- (25) Ge. a. *... dass ich die Arbeit habe getan
b. ... dass ich die Arbeit getan habe
- (26) St. a. *... dass-e d Erbet han do
b. ... dass-e d Erbet do han
- (27) SG. a. *... dass-er t'Arbet hät gmacht
b. ... dass-er t'Arbet gmacht hät
- (28) Zü. a. *... dass er d Arbet hät gmacht
b. ... dass er d Arbet gmacht hät
- (29) Be. a. ... dass-i t Arbeit ha gmacht
b. ... dass-i t Arbeit gmacht ha

There are three groups: only (a) in English, Icelandic, Danish and Yiddish, (a) and (b) in Dutch, and Bern Swiss German, and only (b) in the other seven OV-languages.

3.2.3 Passive

Consider now the two parallel passive constructions, *the book is bought*:

- (30) En. a. ... that the book is bought
b. *... that the book bought is
- (31) Ic. a. ... að bókin verður keypt
b. *... að bókin keypt verður
- (32) Da. a. ... at bogen bliver købt
b. *... at bogen købt bliver
- (33) Yi. a. ... az dos bukh vert gekoyft
b. *... az dos bukh gekoyft vert
- (34) Du. a. ... dat het boek wordt gekocht
b. ... dat het boek gekocht wordt
- (35) Af. a. *... dat die boek word gekoop
b. ... dat die boek gekoop word
- (36) WF. a. *... da dienen boek wordt gekocht
b. ... da dienen boek gekocht wordt
- (37) Fs. a. *... dat it boek waard kocht
b. ... dat it boek kocht waard
- (38) Ge. a. *... dass das Buch wird gekauft
b. ... dass das Buch gekauft wird
- (39) St. a. *... dass des Buach wird kaufd
b. ... dass des Buach kaufd wird
- (40) SG. a. *... dass das Buech sicher nöd wirt gkouft
b. ... dass das Buech sicher nöd gkouft wirt

- (41) Zü. a. *... dass das Buech wirt gchauft
b. ... dass das Buech gchauft wirt
- (42) Be. a. *... dass das Buech wirt gchouft
b. ... dass das Buech gchouft wirt

and *a house is built*:

- (43) En. a. ... that a house is built
b. *... that a house built is
- (44) Ic. a. ... að hús verður byggt
b. *... að hús byggt verður
- (45) Da. a. ... at et hus bliver bygget
b. *... at et hus bygget bliver
- (46) Yi. a. ... az a hoyz vert geboyt
b. *... az a hoyz geboyt vert
- (47) Du. a. ... dat een huis wordt gebouwd
b. ... dat een huis gebouwd wordt
- (48) Af. a. *... dat 'n huis word gebou
b. ... dat 'n huis gebou word
- (49) WF. a. *... dat er en us wordt gebouwd
b. ... dat er en us gebouwd wordt
- (50) Fs. a. *... dat in hús waard boud
b. ... dat in hús boud waard
- (51) Ge. a. *... dass ein Haus wird gebaut
b. ... dass ein Haus gebaut wird
- (52) St. a. *... dass a Haus wird baud
b. ... dass a Haus baud wird
- (53) SG. a. *... dass do sicher es Huus wirt phout
b. ... dass do sicher es Huus phout wirt
- (54) Zü. a. *... dass do sicher es Huus wirt pout
b. ... dass do sicher es Huus pout wirt
- (55) Be. a. *... dass es Huus wirt bbout
b. ... dass es Huus bbout wirt

The distribution in passive is not completely identical to that seen above for perfect. There are three groups: only (a) in English, Icelandic, Danish and Yiddish, (a) and (b) in Dutch, and only (b) in the other eight OV-languages.

3.2.4 Durative

Let us now turn to other constructions with embedded infinitives. First the durative:

- (56) En. a. ... that the people remain standing
b. *... that the people standing remain

- (57) Da. a. ... at menneskene bliver stående
 b. *... at menneskene stående bliver
- (58) Yi. a. ... az di layt blaybn shteyn
 b. *... az di layt shteyn blaybn
- (59) Du. a. ... dat de mensen blijven staan
 b. ... dat de mensen staan blijven
- (60) Af. a. ... dat de mense bly staan
 b. *... dat de mense staan bly
- (61) WF. a. ... dan de mensen bluven stoan
 b. *... dan de mensen staan bluven
- (62) Fs. a. *... dat de minsken bliuwe stean
 b. ... dat de minsken stean bliuwe
- (63) Ge. a. *... dass die Leute bleiben stehen
 b. ... dass die Leute stehen bleiben
- (64) St. a. *... dass d Leid bleibad schdanda
 b. ... dass d Leid schdanda bleibad
- (65) SG. a. *... dass t'Lüet blibet schto
 b. ... dass t'Lüet schto blibet
- (66) Zü. a. *... dass d Lüüt bliibed schtaa
 b. ... dass d Lüüt schtaa bliibed
- (67) Be. a. ... dass t Lüt blibe schtaa
 b. *... dass t Lüt schtaa blibe

The distribution with durative verbs is slightly different from the ones for perfect and passive: Only (a) in English, Danish, Yiddish, Afrikaans, West Flemish, and Bern Swiss German, (a) and (b) in Dutch, and only (b) in the other five OV-languages.

3.2.5 Causative

Consider now the causative:

- (68) En. a. ... that he lets us wait
 b. *... that he wait lets us
- (69) Ic. a. ... aǝ hann lætur okkur bíðá
 b. *... aǝ hann bíðá lætur okkur
- (70) Da. a. ... at han lader os vente
 b. *... at han vente lader os
- (71) Yi. a. ... az er lozt undz vartn
 b. *... az er vartn lozt undz
- (72) Du. a. ... dat hij ons laat wachten
 b. ... dat hij ons wachten laat
- (73) Af. a. ... dat hy ons laat wag
 b. *... dat hy ons wag laat

- (74) WF. a. ... da tje ons loat wachten
b. *... da tje ons wachten loat
- (75) Fs. a. *... dat hy ús lit wachtsje
b. ... dat hy ús wachtsje lit
- (76) Ge. a. *... dass er uns läßt warten
b. ... dass er uns warten läßt
- (77) St. a. *... dass er ons lessd warda
b. ... dass er ons warda lessd
- (78) SG. a. *... dass-er üüs loot warte
b. ... dass-er üüs warte loot
- (79) Zü. a. ... dass er öis laat warte
b. ... dass er öis warte laat
- (80) Be. a. ... dass-er-is laat warte
b. *... dass-er-is warte laat

The distribution with causative verbs is slightly different from the previous ones: Only (a) in English, Icelandic, Danish, Yiddish, Afrikaans, West Flemish, and Bern Swiss German, (a) and (b) in Dutch and Zürich Swiss German, and only (b) in the other four OV-languages.

3.2.6 Perception verbs

Consider now perception verbs:

- (81) En. a. ... that he hears her shout
b. *... that he shout hears her
- (82) Ic. a. ... að hann heyrrir hana hrópa
b. *... að hann hrópa heyrrir hana
- (83) Da. a. ... at han hører hende råbe
b. *... at han råbe hører hende
- (84) Yi. a. ... az er hert zi rufn
b. *... az er rufn hert zi
- (85) Du. a. ... dat hij haar hoort roepen
b. ... dat hij haar roepen hoort
- (86) Af. a. ... dat hy haar hoor roep
b. *... dat hy haar roep hoor
- (87) WF. a. ... da tje eur uort roepen
b. *... da tje eur roepen uort
- (88) Fs. a. *... dat hy har heart roppen
b. ... dat hy har roppen heart
- (89) Ge. a. *... dass er sie hört rufen
b. ... dass er sie rufen hört

- (90) St. a. ?... dass-r se herd ruafa
 b. ... dass-r se ruafa herd
- (91) SG. a. ... dass-er sie ghört rüefe
 b. ?... dass-er sie rüefe ghört
- (92) Zü. a. ... dass er si ghöört rüefe
 b. ... dass er si rüefe ghöört
- (93) Be. a. ... dass er se ghört rüeffe
 b. *... dass er se rüeffe ghört

The distribution with perception verbs is different again from the previous ones: Only (a) in English, Icelandic, Danish, Yiddish, Afrikaans, West Flemish, and Bern Swiss German, (a) and (b) in Dutch, Swabian, and Sankt Gallen and Zürich Swiss German, and only (b) in Frisian and German.

3.2.7 Modal verbs

Consider finally the modal construction:

- (94) En. a. ... that he must say it
 b. *... that he say must it
- (95) Ic. a. ... að hann þarf að segja það
 b. *... að hann að segja þarf það
- (96) Da. a. ... at han må sige det
 b. *... at han sige må det
- (97) Yi. a. ... az er darf dos zogn
 b. *... az er zogn dos darf
- (98) Du. a. ... dat hij dat moet zeggen
 b. ... dat hij dat zeggen moet
- (99) Af. a. ... dat hy dit moet sê
 b. *... dat hy dit sê moet
- (100) WF. a. ... da tje da moet zeggen
 b. *... da tje da zeggen moet
- (101) Fs. a. *... dat hy dat moat sizze
 b. ... dat hy dat sizze moat
- (102) Ge. a. *... dass er das muss sagen
 b. ... dass er das sagen muss
- (103) St. a. (?)... dass-r des muass saga
 b. ... dass-r des saga muass
- (104) SG. a. ... dass-er das mues säge
 b. (?)... dass-er das säge mues
- (105) Zü. a. ... dass-er das mues säge
 b. ... dass-er das säge mues

- (106) Be. a. ... dass er das mues säge
b. *... dass er das säge mues

The distribution with modal verbs is identical to the one found with perception verbs: Only (a) in English, Icelandic, Danish, Yiddish, Afrikaans, West Flemish, and Bern Swiss German, (a) and (b) in Dutch, Swabian, and Sankt Gallen and Zürich Swiss German, and only (b) in Frisian and German.

3.2.8 Conclusion

The whole set of data from (4) to (106) can be summarised as in table (107) below. I have kept the numbering of the verbs parallel to the summarising table in 2.6.8 above, which I repeat as (108) below, in order to facilitate comparison between the findings of this section concerning the sequence of two verbs where the higher verb is finite and the findings of section 2.6 concerning the sequence of two verbs where both verbs are non-finite.

In both tables, the question of the relative order of the two verbs can thus be seen as the question of which of the two verbs that precedes the other, and this is the figure ("1" or "2") given in the table. Also in both tables, the languages are divided into three main groups: First the ones that are definitely VO (English, Icelandic, Danish), then Yiddish, and finally the ones that are indisputably OV (Dutch, Afrikaans, West Flemish, Frisian, German, Swabian, and the three Swiss German variants from Sankt Gallen, Zürich, and Bern).

(107) When the verb labelled "1" is **finite**:

En	Ic	Da	Yi	Du	Af	WF	Fs	Ge	St	SG	Zü	Be	1	2	
1	1	1	1	1/2	2	2	2	2	2	2	2	1/2	has has	seen finished	<i>perfect</i>
1	1	1	1	1/2	2	2	2	2	2	2	2	2	is is	bought built	<i>passive</i>
1	-	1	1	1/2	1	1	2	2	2	2	2	1	remains	stan	<i>durative</i>
1	1	1	1	1/2	1	1	2	2	2	2	1/2	1	let	wait	<i>causative</i>
1	1	1	1	1/2	1	1	2	2	1/2	1/2	1/2	1	hears	shout	<i>perception</i>
1	1	1	1	1/2	1	1	2	2	1/2	1/2	1/2	1	must	say	<i>modal</i>

(108) When the verb labelled "1" is **non-finite** (repeated from 2.6.8):

En	Ic	Da	Yi	Du	Af	WF	Fs	Ge	St	SG	Zü	Be	0	1	2	
-	-	-	1	-	-	-	-	-	2	2	2	2	has	had	sung	<i>past perfect</i>
1	1	1	1	1/2	2	2	2	2	2	2	2	2	will	have	seen	<i>future perfect</i>
1	1	1	1/2	1/2	2	2	2	2	2	2	2	2	will	have	finished	<i>future perfect</i>
1	-	1	1/2	1/2	-	2	2	2	2	2	2	2	has	been	brought	<i>passive perfect</i>
1	1	1	1/2	1/2	2	2	2	2	2	2	2	2	will	be	bought	<i>future</i>
1	-	-	1/2	1/2	2	2	2	2	2	2	2	2	must	be	built	<i>modal</i>
1	-	1	1/2	-	-	-	2	2	2	2	2	-	has	remained	stand	<i>durative perfect</i>
-	-	-	-	1	1	1	-	-	-	-	-	1	has	remain	stand	<i>IPP-perfect</i>
1	-	1	1/2	1	1	1	2	2	2	2	2	1	will	remain	stand	<i>future</i>
1	1	1	1/2	-	-	-	2	-	-	-	-	-	has	let	wait	<i>causative perfect</i>
-	-	-	-	1	1	1	-	2	2	2	1/2	1	has	let	wait	<i>IPP-perfect</i>
1	1	1	1/2	1	1	1	2	2	2	2	1/2	1	will	let	wait	<i>future</i>
1	1	1	1/2	-	1	1	2	2	2	1/2	1/2	1	has	heard	shout	<i>perception perfect</i>
-	-	-	-	1	1	1	-	2	1/2	1	1	1	has	hear	shout	<i>IPP-perfect</i>
1	1	1	1	1	1	1	2	2	1/2	1/2	1/2	1	will	hear	shout	<i>future</i>
-	1	1	1	1	-	-	2	-	-	-	-	-	has	must	say	<i>modal perfect</i>
-	-	-	-	1	-	-	-	2	1/2	1/2	1/2	1	has	must	say	<i>IPP-perfect</i>
-	1	1	1	1	1	1	2	2	1/2	1/2	1/2	1	will	must	say	<i>future</i>

To facilitate comparison between the two tables concerning the findings in Dutch, Afrikaans, West Flemish, Frisian, German, Swabian, and the three Swiss German variants from Sankt Gallen, Zürich, and Bern, I repeat in (109) and (110) below the relevant part of the two tables, with the patterns emphasised (i.e. a box around all the "1" specifications, another around all the "2" specifications, etc.). I have furthermore simplified table (108) above by only including the results for the future or modal forms (thus avoiding any interference from the choice between IPP forms and non-IPP forms in the perfect):

(109) When the verb labelled "1" is **finite** (partial repetition of (107) above):

Du	Af	WF	Fs	Ge	St	SG	Zü	Be	0	1	2
1/2	2	2	2	2	2	2	2	1/2	-	has	finished <i>perfect</i>
1/2	2	2	2	2	2	2	2	2	-	is	built <i>passive</i>
1/2	1	1	2	2	2	2	2	1	-	remains	stand <i>durative</i>
1/2	1	1	2	2	2	2	1/2	1	-	let	wait <i>causative</i>
1/2	1	1	2	2	1/2	1/2	1/2	1	-	hears	shout <i>perception</i>
1/2	1	1	2	2	1/2	1/2	1/2	1	-	must	say <i>modal</i>

(110) When the verb labelled "1" is **non-finite** (partial repetition of (108) above):

Du	Af	WF	Fs	Ge	St	SG	Zü	Be	0	1	2
1/2	2	2	2	2	2	2	2	2	will have	finished	<i>future perfect</i>
1/2	2	2	2	2	2	2	2	2	must be	built	<i>passive modal</i>
1	1	1	2	2	2	2	2	1	will remain	stand	<i>durative future</i>
1	1	1	2	2	2	2	1/2	1	will let	wait	<i>causative future</i>
1	1	1	2	2	1/2	1/2	1/2	1	will hear	shout	<i>perception future</i>
1	1	1	2	2	1/2	1/2	1/2	1	will must	say	<i>modal future</i>

It is striking how much the two tables, (109) and (110), resemble each other, i.e. how (almost) exactly the same constructions seem to prefer "1" or "2" or allow both, irrespective of whether the verb indicated by "1" is finite or not. If the results in (109) are compared to the results in (110), only 5 out of 54 points diverge (and these 5 points diverge only minimally, i.e. none of them have "1" in one table and "2" in the other): Perfect in Bern is "1/2" in (109) and "2" in (110), and durative, causative, perception verbs and modal verbs in Dutch are "1/2" in (109), and "1" in (110). These five points of divergence are marked by black squares in the following conflated version of (109) and (110):

(111) Identical and divergent specifications between (109) and (110):

Du	Af	WF	Fs	Ge	St	SG	Zü	Be	
1/2	2	2	2	2	2	2	2	■	<i>perfect</i>
1/2	2	2	2	2	2	2	2	2	<i>passive</i>
■	1	1	2	2	2	2	2	1	<i>durative</i>
■	1	1	2	2	2	2	1/2	1	<i>causative</i>
■	1	1	2	2	1/2	1/2	1/2	1	<i>perception</i>
■	1	1	2	2	1/2	1/2	1/2	1	<i>modal</i>

If the finite verbs in embedded non-V2 sentences in table (109) had undergone V°-to-I° movement, then the parallels between the two tables would be a coincidence, because the movements that had applied would not be the same, the "1" verbs in table (109) would have undergone V°-to-I° movement, which the "1" verbs in table (110) would not have undergone. I am of course here following the consensus in the literature that non-finite

verbs, including those discussed in table (110), never undergo V°-to-I° movement, otherwise this argumentation would make no sense: The question is precisely whether the finite verbs in German and other OV-languages undergo V°-to-I° movement parallel to the finite (and only the finite) verbs in French, Icelandic and Yiddish, cf. chapter 1 above.

If, on the other hand, the finite verb in embedded non-V2 sentences in table (109) has not undergone V°-to-I° movement, then the parallels between the two tables would not be a coincidence, because the movements that have applied could be the same, e.g. neither the "1" verbs in table (109), nor the "1" verbs in table (110) would have undergone V°-to-I° movement¹.

This would seem to indicate that in these languages, the finite verbs in embedded non-V2 sentences in table (109) do not undergo any type of movement that only applies to finite verbs (i.e. neither V2 nor V°-to-I° movement). Only if we assume that the exact same kind of movements (whatever they actually are, e.g. extraposition of VP, V', or V°, cf. the extensive literature beginning with Evers 1975 and including e.g. Vanden Wyngaerd 1996, Haegeman 1998a, 1998b, Schmid 1999, Wurmbrand 1999, 2000 and references cited there) apply to finite verbs in table (109) that apply to non-finite verbs in table (110), would we expect the finite verbs in these languages to have the same position as the corresponding embedded non-finite verbs.

I therefore conclude that the cross-linguistic distributional patterns support the assumptions of the present analysis that the clause-final finite verbs in embedded clauses do not undergo V°-to-I° movement (nor V2) in Dutch, Afrikaans, West Flemish, Frisian, German, Swabian, and the three Swiss German variants from Sankt Gallen, Zürich, and Bern.

For Yiddish, a difference is expected between the two tables: In table (107), the verbs have undergone V°-to-I° movement, hence always "1", in table (108) they are in situ, and then "1" or "2" depends e.g. on whether the embedded VPs have been extraposed.

For VO languages, the tables (107) and (108) are not very interesting, as "1" (and only "1") would be the result irrespective of whether the order was base-generated, or the result of V°-to-I° movement, or the result of V2.

¹There are of course further options, two of which I will briefly comment on here.

A third possibility is that in the various languages, the verbs obey different ordering constraints, depending on the verb classes. Such ordering constraints would be responsible for e.g. perception verbs preceding their complement infinitive in Bern Swiss German but following it in Standard German, regardless of whether the perception verb is finite or not; cf. e.g. the constraints "parallel movement" and "shape conservation" in Müller (1998, 1999c).

If such constraints would exist, they could be compatible both with the "1" verbs in table (109) having undergone V°-to-I° movement and with them not having undergone it.

Such constraints would also be possible alternative reasons for the ordering phenomena discussed in chapter 1 above. I will continue to disregard this potential line of exploration in what follows.

A fourth possibility is that V°-to-I° movement is found in West Flemish, Frisian, German, Swabian, and the three Swiss German variants from Sankt Gallen, Zürich, and Bern, but that it is string vacuous, cf. (1d) in section 2.1 and (1d) in section 3.1 above. This would require additional mechanisms to ensure that nothing intervenes between V° and I°, and as stated in 2.1 above, it would also make it more difficult to account for why there are no VO-languages with VP-I° order, when OV-languages exist both with I°-VP order (Yiddish) and VP-I° order (West Flemish, Frisian, German, Swabian, and the three Swiss German variants).

3.3 Verbs that cannot undergo V2

In this section, I will try to show that the view that all Germanic OV-languages except Yiddish (i.e. Dutch, Afrikaans, West Flemish, Frisian, German, Swabian, and the three Swiss German variants from Sankt Gallen, Zürich, and Bern) do not have V°-to-I° movement (except as part of V2), is supported by the facts concerning certain German and Dutch verbs which are unable to undergo V2. These facts are problematic for any analysis in which the finite verb in any of these languages has to undergo V°-to-I° movement.

The first two subsections below, 3.3.1 and 3.3.2, will discuss the argumentation concerning the best known verb of this type, the German *uraufführen* ‘to perform (or to put on)(a play) for the very first time’ and some Dutch parallels, which also have two prefixes. Subsection 3.3.3 will list a number of other verbs that also are unable to undergo V2, although they have a different structure. In 3.3.4, a comparison is made with other types of complex verbs, and in 3.3.5, a new analysis of the facts will be suggested. In 3.3.6, a comparison is made with Danish, and finally the conclusion is given in 3.3.7.

3.3.1 German *uraufführen*

The German verb *uraufführen* ‘to perform (or to put on)(a play) for the very first time’ contains two prefixes, *ur-*, which is non-separable, and *auf-*, which is separable. If the verb has to move, as in V2 contexts, the problem is insoluble:

- | | | | | | |
|--------------|-----------------------------|------------------------------|---------------|-----------------|---|
| (112) Ge. a. | <u>*Uraufführten</u> | sie | das Stück | _____ | ? |
| b. | * <u>Aufführten</u> | sie | das Stück | ur_____ | ? |
| c. | * <u>Ur-</u> <u>führten</u> | sie | das Stück | _____auf_____ | ? |
| d. | * <u>Führten</u> | sie | das Stück | urauf_____ | ? |
| | | (Original) (on)put.3.PL.PAST | they the play | (original) (on) | ? |

Haider (1993:62), following Höhle (1991), suggests the following analysis: Either *auf-* is carried along under V2, violating its requirements, (112a,b), or *ur-* is left behind, violating its requirements, (112b,d), or the moved element is not a constituent, (112c).

Consequently, the only well-formed sentences with this verb are ones where the verb is not moved at all, as in non-finite contexts:

- | | | | | | |
|--------------|---------|------|-----------|-----------------------|---|
| (113) Ge. a. | Sollten | sie | das Stück | <u>uraufführen</u> | ? |
| | Should | they | the play | original-on-put.INF | ? |
| b. | Haben | sie | das Stück | <u>uraufgeführt</u> | ? |
| | Have | they | the play | original-on-put.PPLE? | |

Consider now what happens when a finite form of *uraufführen* occurs not in a V2 context, but sentence-finally in an embedded clause:

- | | | | |
|-----------|-------------|-----------|---------------------------|
| (114) Ge. | ... ob sie | das Stück | <u>uraufführten</u> |
| | ... if they | the play | original-on-put.3.PL.PAST |

The fact that *uraufführen* may take on a finite form if and only if it occurs sentence-finally, (114), leads to the conclusion that the clause-final position of finite verbs in embedded clauses is a non-moved position (i.e. that it is of the same kind as the position that the underlined non-finite verb has in (113a,b)), since it violates neither the requirements of the non-separable *ur-*, nor the requirements of the separable *auf-*.

According to Höhle (1991) and Haider (1993:62), this means that German finite verbs in clause-final position in embedded clauses have not undergone any movement. This again means that German does not have V°-to-I° movement, assuming that a characteristic of V°-to-I° movement (as opposed to other kinds of movement, including V2) is that all finite verbs undergo this movement (which is the case in those Romance languages and those Germanic VO-languages that have V°-to-I° movement).

While I agree with the conclusions in the preceding paragraph, I do not find the analysis itself satisfactory, as it does not apply to a large number of verbs, to be discussed in more detail in 3.3.3 and 3.3.5 below. The verbs not accounted for are verbs that also are unable to undergo V2 but which do not have two "conflicting" prefixes/particles, either because there is only one prefix-like part, e.g. *schutzimpfen* 'inoculate', or because the two prefixes/particles do not impose conflicting requirements, e.g. *voranmelden* 'preregister' (both are separable) or *strafversetzen* 'transfer for disciplinary reasons' (both are non-separable).

3.3.2 Dutch *herinvoeren*

Koopman's (1995:139, (2b)) examples from Dutch are all parallel to *uraufführen*, i.e. they contain two prefixes/particles with conflicting requirements:

- (115) *herindelen* 'to re-in-split', i.e. 'to redive'
herindijken 'to re-dike-in', i.e. 'to put within dikes again'
herinvoeren 'to re-in-lead', i.e. 'to reintroduce'
heruitgeven 'to re-out-put', i.e. 'to republish'
heruitzenden 'to re-out-send', i.e. 'to rebroadcast'

- (116) Du. a. ... omdat se vorig jaar deze wet hebben heringevoerd
... because they last year this law have re-intro-duced.PPLE
b. ... omdat se vorig jaar deze wet herinvoerden
... because they last year this law re-intro-duced.3.PL.PAST
(Koopman 1995:141, (6d) & (5d))

- (117) Du. a. *Deze wet herinvoerden se vorig jaar _____
b. *Deze wet invoerden se vorig jaar her _____
c. *Deze wet her-voerden se vorig jaar in _____
d. *Deze wet voerden se vorig jaar herin _____
This law (re) (intro)duced.3.PL.PAST they last year (re) (intro)
((117a) from Koopman 1995:141, (4d))

Koopman (1995:143) adapts and elaborates Haider's (1993:62) analysis of (112)-(114). This analysis rests on an insoluble conflict between the two particles/prefixes: *ur-* cannot be left behind if the verb moves, and *auf-* must be left behind if the verb moves, and so the only way to avoid conflict is to avoid verb movement. Koopman (1995:156-159) accounts for the data by assuming that *ur-* in (112)-(114) and *her-* in (115)-(117) (i.e. the leftmost or outermost of the two particles/prefixes) blocks overt checking of finiteness features. This in turn means that only LF-checking is an option, which again means that there can be no overt movement to a checking head (i.e. no V°-to-I° movement) in examples like (114) and (116b).

It seems to me that the conclusions concerning verb movement drawn by Haider

(1993:62) and Koopman (1995) must be on the right track, even if I disagree with the analyses themselves.

The only possible analysis of the above data which is compatible with V°-to-I° movement having applied in (114) and (116b) (i.e. an analysis which is compatible with German and Dutch having V°-to-I° movement) would be that the ungrammaticality of (112) and (117) results from the blocking of an obligatory checking procedure (e.g. Rizzi's 1996:64 *wh*-criterion) that takes place at some point after V°-to-I° movement has taken place (i.e. in C°). This would seem to be the only way to explain why *uraufführten* and *herinvoerden* cannot undergo V2, (112) and (117), when they may undergo V°-to-I° movement, as shown by (114) and (116b) under the assumption that German and Dutch have V°-to-I° movement.

The problem with such an account would be that the particles/prefixes that would have to block checking in C° could not possibly block checking in I° (or Agr° or T°), which makes working out exactly what it is that is checked in C° and in I° very difficult. If I° can check a finite verb across such particles/prefixes, why should C° not be able to do the same thing? Even though there may be a difference in that C° may have to check the verb (stem) itself and I° may only have to check the finite verb ending, it does not seem very likely that C° should not be able to check the verb across the finite verbal ending, given that in other cases C° has no trouble doing such checking across the finite verbal ending: All well-formed verbs in C° (i.e. the finite verb in all well-formed main clauses) not only may, but actually must have a finite ending.

Both Haider's and Koopman's analyses only work for verbs with two prefixes: Haider's (1993:62) analysis needs the prefixes to conflict, and Koopman's (1995:159) analysis needs a second prefix to violate the strict c-command requirement. In 3.3.5 below, I will suggest a different analysis, also based on conflicting requirements, but not requiring such verbs to have two prefix-like parts. Before that, in 3.3.3 below, I will discuss verbs which cannot undergo V2 although they only have one prefix-like part.

First, however, let us turn to one minor question that remains to be answered: Why do the German verbs corresponding to (115) not show the same behaviour as their Dutch counterparts in (115)-(117)? This is presumably because *wieder* 'again', which corresponds to Dutch *her-*, may occur as a separate item. This is even reflected in the German orthography: Since the 1998 German orthography reform, such verbs are written in two words; what used to be *wiedereinsetzen* became *wieder einsetzen* 'to re-in-set', i.e. 'to reinstate or redeploy'. V2 clauses with such verbs as finite verbs therefore do not find themselves in an insoluble dilemma, because the verb itself can occur in C°, leaving behind both *wieder* and the separable prefix, (119d), and therefore the well-formedness of (118b) is not surprising at all:

(118) Ge. a. Sie haben den König wieder eingesetzt
 They have the king re- in-stated.PPLE

b. ... daß sie den König wieder einsetzten
 ... that they the king re- in-stated.3.PL.PAST

(119) Ge. a.	<u>*Wiedereinsetzten</u>	sie	den König	_____	_____	?
b.	<u>*Einsetzten</u>	sie	den König	wieder	_____	?
c.	<u>*Wieder-</u> <u>setzten</u>	sie	den König	_____	ein	?
d.	<u>Setzten</u>	sie	den König	wieder	ein	?
	(Re-) (in-) stated.3.PL.PAST	they	the king	(re-)	(in-)	?
	(= Did they reinstate the king?)					

However, if the difference between what has been called the restitutive and the

repetitive readings are taken into account, it could be argued that some German (restitutive) verbs with *wieder* are not able to undergo V2:

- (120) Ge. a. ... weil die Römer die Stadt wieder eroberten
 b. ... weil die Römer die Stadt wiedereroberten
 ... because the Romans the town again-conquered

(For more discussion of the different readings and their intonation, see Fabricius-Hansen 1983, Stechow 1996, and Jäger & Blutner 2000).

(120a), where *wieder* 'again' and *eroberten* 'conquered, captured' are written in two words, has stress on the first syllable of *wieder* 'again' and is repetitive, i.e. it has the reading that the Romans must have captured the town also at some earlier occasion(s).

(120b), where *wieder-* 'again' and *-eroberten* 'conquered' are written in one word, has stress on the fourth syllable of *wiedereroberten* 'again-conquered' and is restitutive, i.e. it has the reading that the town must have belonged to the Romans at some earlier occasion(s), even though it does not have to be the case that it had come into their possession through being captured, it might also have belonged to them because they had built it (and subsequently lost it to the enemy).

The only possible way for any sentence with *wiedereroberten* or *wieder eroberten* to be a main clause is for *wieder* to be left behind while *eroberten* undergoes V2:

- (121) Ge. a. *Dann wiedereroberten die Römer die Stadt
 b. Dann eroberten die Römer die Stadt wieder
 c. *Dann wieder- oberten die Römer die Stadt er
 d. *Dann oberten die Römer die Stadt wieder er
 Then (again) (con)quered the Romans the town (again) (con-)

The point here is that irrespective of which intonation (121b) is given, only the repetitive reading is possible. In a certain sense, at least two German restitutive verbs, *wiedererobern* 'recapture' and *wiedererstaten* 'reimburse', thus share with their Dutch counterparts in (115)-(117) that they are unable to undergo V2. Notice, though that this view is not shared by the analyses in Fabricius-Hansen (1983), Stechow (1996), and Jäger & Blutner (2000), who would argue that e.g. *wiedererobern* is one verb with two interpretations, and not two different verbs.

3.3.3 Other verbs that cannot undergo V2

Haider (1993:62) lists additional German verbs (originally from Höhle 1991) which behave exactly like *uraufführen* in (112)-(114), cf. (123). All these verbs have only one prefix-like part, and it is thus not clear which predictions Haider's (1993:62) account or Koopman's (1995:156-159) account would make for them:

- (122) *bauchreden* 'to stomach-speak', i.e. 'to ventriloquise'
bausparen 'to building-save', i.e. 'to save with a building society'
rückfragen 'to back-question', i.e. 'to query'
wettrudern 'to contest-row', i.e. 'to row in a competition'

(123) Ge. a. Sie will bausparen
 She wants (to) building-save
 (She wants to save with a building society)

b. ... weil er bauspart
 ... because he building-saves
 (... because he saves with a building society)

((123a,b) adapted from Eisenberg 1998:226, 324, (16a))

c. * Spart er bau ?
 d. * Bauspart er ?
 (Building-)saves he (building) ?
 (Intended: Does he save with a building society?)

Eisenberg (1998:324, (14)) adds the following verbs:

- (124) *bauchlanden* 'to stomach-land', i.e. 'to land on one's stomach'
bergsteigen 'to mountain-rise', i.e. 'to climb mountains'
bruchlanden 'to break-land', i.e. 'to make a crash-landing'
ehebrechen 'to marriage-break', i.e. 'to commit adultery'
kopfrechnen 'to head-reckon', i.e. 'to do mental arithmetic'
kunststopfen 'to art-mend', i.e. 'to mend textiles so well that you cannot tell that they have been mended'
manndecken 'to man-cover', i.e. 'to mark someone in soccer (man-to-man marking)'
preiskegeln 'to prize-bowl', i.e. 'to play skittles in order to win a prize'
punktschweißen 'to spot-weld'
schutzimpfen 'to protection-inoculate', i.e. 'to inoculate'
strafversetzen 'to punishment-transfer', i.e. 'to transfer for disciplinary reasons'
teilzahlen 'to part-pay', i.e. 'to pay by instalments'
wettturnen 'to contest-exercise', i.e. 'to do gymnastics in a competition'

A search through the electronic versions of two *Duden* dictionaries of German, the 1993 *Duden Universal Wörterbuch* and the 2000 *Duden Rechtschreibung* and subsequent checks with native speakers turned up the following further examples of the same kind, i.e. of verbs which may occur in finite form clause-finally in embedded clauses, but not in the first or second position in main clauses:

- (125) *auferstehen* 'to up-rise', i.e. 'to rise from the dead'
auferwecken 'to up-wake', i.e. 'to raise from the dead'
erstaufführen 'to first-on-put', i.e. 'to perform a play for the first time'
feuerverzinken 'to fire-zinc', i.e. 'to rustproof someth. by immersion in liquid zinc'
gefriertrocknen 'to freeze-dry'
gegensprechen 'to counter-speak', i.e. 'to speak on a two-way intercom'
generalüberholen 'to general-overhaul', i.e. 'to give something a general overhaul'
hartlöten 'to hard-solder', i.e. 'to solder at more than 450°C'
hohnlächeln 'to scorn-smile', i.e. 'to smile scornfully'
hohnsprechen 'to scorn-speak something', i.e. 'to fly in the face of something'
prämiensparen 'to prize-save', i.e. 'to save in such a way that a prize may be won'
sonnenbaden 'to sun-bathe'

voranmelden 'to pre-at-report', i.e. 'to preregister, to book e.g. a ticket'
vorglühen 'to pre-glow', i.e. 'to pre-heat a diesel engine'
zweckentfremden 'to purpose-alienate', i.e. 'to use for a different purpose'
zwischenlanden 'to between-land', i.e. 'to stop over in X on the way to Y'

A brief check of Dutch (Norbert Corver, p.c.) shows that at least the following Dutch verbs behave the same way:

- (126) *bergklimmen* 'to mountain-climb', i.e. 'to climb mountains'
bouwsparen 'to building-save', i.e. 'to save with a building society'
buikspreek 'to stomach-speak', i.e. 'to ventriloquise'
echtbreken 'to marriage-break', i.e. 'to commit adultery'
diepvriezen 'to deep-freeze'
hartsolderen 'to hard-solder', i.e. 'to solder at more than 450°C'
hoofdrekenen 'to head-reckon', i.e. 'to do mental arithmetic'
mandekken 'to man-cover', i.e. 'to mark someone in soccer (man-to-man marking)'
prijschieten 'to prize-shoot', i.e. 'to shoot a rifle for a prize'

Strictly speaking, some of these verbs have a structure similar to *uraufführen* and the other verbs discussed in 3.3.1 above: In *auferstehen*, *auferwecken*, *feuerverzinken*, *generalüberholen*, *strafversetzen*, *zweckentfremden*, and also in *erstaufführen* and *voranmelden*, there is not one but two prefix-like parts. However, only *erstaufführen* and *voranmelden* are really parallel to *uraufführen*, because these are the only two where the second of the prefix-like parts, i.e. *-auf-* and *-an-*, is a separable particle (see 3.3.5 below).

Another question is of course whether examples of either kind exist in the other Germanic OV-languages. According to Cooper (1994:47), the Zürich Swiss German versions of *uraufführen* (*uruffüere*) and the verbs in (122) may move to C°. However, according to my informants, in so far as verbs that correspond to the German verbs that are unable to undergo V2 exist at all, most of them are also unable to do this in Swabian and the three Swiss German variants (where the conflict may be avoided by insertion of *tun* 'do'). Consider the following example from Swiss German as spoken in Bern (Ursula Wegmüller, p.c.):

- (127) Be. a. Uf em Wääg vo Züri uf New York müesse mer in Paris zwüschelände
 On the way from Zürich to New York must we in Paris between-land
 (On the way from Zürich to New York, we have to have a stopover in Paris)
- b. Uf em Wääg vo Züri uf New York si mer in Paris zwüschegglandet
 On the way from Zürich to New York are we in Paris between-landet
 (On the way from Zürich to New York, we had a stopover in Paris)
- c. ... öb mer äch uf em Wääg vo Züri uf New York
 ... if we really on the way from Zürich to New York
 in Paris zwüschelände
 in Paris between-land
 (... whether we will really have a stopover in Paris on the way from Zürich to New York)
- (128) Be. a. * Zwüschelände mer eigentlech in Paris ?
 b. * Lande mer eigentlech in Paris zwüsche ?
 (Between-)land we actually in Paris (between) ?
 (Intended: Will we actually have a stopover in Paris?)

Summing up this subsection, we have seen that the verbs that are unable to undergo V2 include not only verbs with two (conflicting) prefix-like parts, but also verbs with only one prefix-like part. Furthermore we have seen that the languages are less different than would have appeared from the literature so far: The data would seem to be quite parallel in at least Dutch, German, Swabian, and the three Swiss German variants.

3.3.4 Complex verbs: V° or V*

The crucial property common to all the verbs that are unable to undergo V2 as discussed above is that they are complex verbs, with two (or more) internal parts, the last of which is itself a verb. Before returning to the verbs above, I would like to discuss complex verbs more generally.

I assume that for a verb which consists of e.g. a noun and a verb, there are two relevant analyses, which I will characterise as V° and V*, cf. 2.4.3 above. An example of V° is [V° [N° *brand*][V° *marken*]] ‘to fire-mark’, i.e. ‘to brand, to denounce’, cf. verbs with non-separable particles discussed in section 2.4 above. An example of V* is [V* [N° *statt*][V° *finden*]] ‘to place-find’, i.e. ‘to take place’, cf. verbs with separable particles discussed also in section 2.4 above.

- (129)
- | | |
|---|---|
| <div style="text-align: center;"> V°
 ├───┴───
 Prt V°
 a. Ge. ver stehen </div> | <div style="text-align: center;"> V*
 ├───┴───
 Prt V°
 b. Ge. ab schicken </div> |
| <div style="text-align: center;"> V°
 ├───┴───
 N° V°
 c. Ge. brand marken </div> | <div style="text-align: center;"> V*
 ├───┴───
 N° V°
 d. Ge. statt finden </div> |

The following verbs, taken from the lists in Eisenberg (1998:323, (10) & 324, (15)) and Wellmann (1998:449) are further examples of the two types:²

- (130) V°, like *brandmarken*:
gewährleisten ‘to guarantee-achieve’, i.e. ‘to guarantee, to ensure’
handhaben ‘to hand-have’, i.e. ‘to handle, to implement’
lobpreisen ‘to praise.N-praise.V’, i.e. ‘to praise’
lustwandeln ‘to joy-stroll’, i.e. ‘to stroll’
maßregeln ‘to measure-rule’, i.e. ‘to reprimand’
nachtwandeln ‘to night-stroll’, i.e. ‘to sleepwalk’
sandstrahlen ‘to sand-radiate’, i.e. ‘to sandblast’
schlussfolgern ‘to conclusion-conclude’, i.e. ‘to conclude’
wetteifern ‘to contest-strive’, i.e. ‘to compete’
wetterleuchten ‘to weather-light’, i.e. ‘for lightning to flash in the distance’

²I have changed Eisenberg’s spelling to conform with the 1998 German orthographical reform. The changes introduced in the words in (131), from e.g. *achtgeben* to *Acht geben*, have been the subject of heated debate not only in the public at large but also among linguists, cf. e.g. Bredel & Günther (2000), and Gallmann (1999, 2000).

(131) V*, like *stattfinden*:

Acht geben 'to attention give', i.e. 'to pay attention'
Amok laufen 'to amok run', i.e. 'to run amok'
Eis laufen 'to ice run', i.e. 'to ice-skate'
Halt machen 'to stop make', i.e. 'to stop'
Hof halten 'to court hold', i.e. 'to hold court'
Kopf stehen 'to head stand', i.e. 'to stand on one's head'
Maß halten 'to measure hold', i.e. 'to exercise moderation'
preisgeben 'to prize-give', i.e. 'to relinquish, to surrender something'
Probe singen 'to sample sing', i.e. 'to show how well one sings'
Schlange stehen 'to snake stand', i.e. 'to queue, to stand in line'
standhalten 'to stand-hold', i.e. 'to stand firm'
teilnehmen 'to part-take', i.e. 'to take part'
Wort halten 'to word hold', i.e. 'to keep one's word'

The two types behave differently both syntactically and morphologically. If the whole complex verb is a V°, all of it may undergo V2, whereas if it is a V*, only its second half (which is a V°) may undergo V2³.

³Although *stattfinden* thus may split up when *finden* undergoes V2, there are still more indications than the orthography that *stattfinden* and the other V* complex verbs make up a complex verb rather than simply being two different constituents of the clause. One such indication is that unless *-finden* itself undergoes V2, *statt-* and *-finden* can never be split, cf. (ib) and (iiib,c), as opposed to the transitive verb *finden* 'fmd' and its object, cf. (iib) and (ivb,c):

- (i) Ge. a. Die Tagung hat in Berlin stattgefunden
 b. *Die Tagung hat statt in Berlin gefunden
 The conference has (place) in Berlin (place) found
 (The conference took place in Berlin)
- (ii) Ge. a. Peter hat in Berlin das Buch gefunden
 b. Peter hat das Buch in Berlin gefunden
 Peter has (the book) in Berlin (the book) found
 (Peter found the book in Berlin)
- (iii) Ge. a. Stattgefunden hat die Tagung in Berlin
 b. * Gefunden hat die Tagung statt in Berlin
 c. * Gefunden hat die Tagung in Berlin statt
 (Place) found has the conference (place) in Berlin (place)
 (The conference took place in Berlin)
- (iv) Ge. a. Das Buch gefunden hat Peter in Berlin
 b. Gefunden hat Peter das Buch in Berlin
 c. Gefunden hat Peter in Berlin das Buch
 (The book) found has Peter (the book) in Berlin (the book)
 (Peter found the book in Berlin)

The topicalised participles in (iiia) and (iva-c) focus on the main verb and are best in contrastive contexts. Examples of such contexts could be for (iii): *The conference took place in Berlin, but it was planned in Stuttgart*, for (iva): *Peter found the book in Berlin, but he wrote his paper on it in Stuttgart*, for (ivb): *Peter found the book in Berlin, but he read it in Stuttgart*, and finally for (ivc): *Peter found the book in Berlin, but he found the article in Stuttgart*.

- (132) Ge. a. Er brandmarkte die Missstände
 b. *Er markte die Missstände brand
He (fire)marked the irregularities (fire)
(He denounced the irregularities) (adapted from Eisenberg 1998:322)
- (133) Ge. a. *1999 stattfand die Tagung in Berlin
 b. 1999 fand die Tagung in Berlin statt
1999 (place)found the conference in Berlin (place)
(In 1999, the conference took place in Berlin)

However, if the verb occurs clause-finally in an embedded clause, there are no observable differences:

- (134) Ge. ... ob er die Missstände brandmarkte
 ... if he the irregularities fire-marked
(... whether he denounced the irregularities)
- (135) Ge. ... ob die Tagung in Berlin stattfand
 ... if the conference in Berlin place-found
(... whether the conference took place in Berlin)

If the whole complex verb is a V°, all of it is preceded by the *ge-* prefix in the past participle, and all of it is preceded by the infinitival marker *zu*, whereas if it is a V*, only its second half (which is a V°) is preceded by the *ge-* prefix or by the infinitival marker *zu*:

- (136) Ge. a. Er hat die Missstände gebrandmarkt
 b. *Er hat die Missstände brandgemarkt
He has the irregularities firemarked
(He denounced the irregularities)
- (137) Ge. a. *1999 hat die Tagung in Berlin gestattfunden
 b. 1999 hat die Tagung in Berlin stattgefunden
1999 has the conference in Berlin placefound
(In 1999, the conference took place in Berlin)
- (138) Ge. a. Er hat versucht, die Missstände zu brandmarken
 b. *Er hat versucht, die Missstände brandzumarken
He has tried the irregularities (to) fire(to)mark
(He has tried to denounce the irregularities)
- (139) Ge. a. *2001 scheint die Tagung in Berlin zu stattfinden
 b. 2001 scheint die Tagung in Berlin stattzufinden
2001 seems the conference in Berlin (to) place(to)find
(In 2001, the conference would seem to take place in Berlin)

Neither of the two classes of complex verbs discussed here show the characteristics of the verbs discussed in the previous subsections, in that V2 is possible in both cases, see (132a) and (133b).

3.3.5 Verbs that cannot undergo V2 have to respect the requirements for both V° and V*

I would now like to return to the verbs discussed previously, which did not allow V2. Take as a representative example the complex verb *schutzimpfen* ‘to inoculate’, which behaves syntactically exactly like *uraufführen* in (112)-(114) and *bausparen* in (123) above. It has been derived from the compound noun *Schutzimpfung* (*Schutz* ‘protection’ and *Impfung*

‘inoculation’) by means of back-formation, which undoes the nominalisation of the second part of the compound by removing the nominalising suffix *-ung*. The result is a so-called pseudo-compound (Wellmann 1998:449), as *schutzimpfen* was not derived by composition although it would appear to be a compound, i.e. *schutz-impfen*.

It is clear that the second half of *schutzimpfen*, i.e. *impfen*, is a verb, cf. the infinitival morphology, but the categorial status of the whole complex verb has not been resolved, i.e. it has not been resolved whether it is V° or V^* . I would like to suggest that *schutzimpfen* and the other complex verbs above that are unable to undergo V2 have to fulfill **both** the requirements imposed on complex verbs of the V° type **and** the requirements imposed on complex verbs of the V^* type. It may be that they have to fulfill the requirements imposed on V° because they do not belong to the V^* type and that they have to fulfill the requirements imposed on V^* because they do not belong to the V° type. The result is that complex verbs of this type may only occur in contexts which are compatible with both analyses.

Syntactically, this means that V2 contexts are impossible, as neither the last half of the complex verb, nor the whole complex verb can undergo V2 in more than one of the analyses. In the V° case, the whole complex verb can undergo V2, (132a), as it is a V° , but the last half of the complex verb cannot, (132b), as this would cause the existence of a trace inside a V° (which is impossible, according to Baker 1988:73). In the V^* case, the whole complex verb cannot undergo V2, (133a), as it is not a V° but a V^* , but the last half of the complex verb can, (133b), as it is a V° , and as such a movement would not cause a word-internal trace (but only a trace internal to V^*). However, as both V° and V^* complex verbs may occur clause-finally in an embedded clause, so may verbs like *schutzimpfen*.

Morphologically, the requirement that the complex verb may only occur in contexts which are compatible with both analyses means that *ge-* prefixation of the whole complex verb is impossible, as this is incompatible with the V^* analysis: (137a), *ge-* can only be prefixed on a V° , not on a V^* . Exactly the same goes for the infinitival marker *zu*, it cannot occur in front of the whole complex verb, as this is incompatible with the V^* analysis: (139a), *zu* only occurs in front of a V° , not in front of a V^* .

However, the second half of the complex verb is itself a V° under both analyses, and although this V° cannot be moved when it is itself part of another V° , it may be prefixed either by *ge-* or by *zu*, both when it is part of V^* , (137b) and (139b), and, by assumption, also when it is part of V° . The latter cannot be directly observed, cf. the ungrammaticality of *brandgemarkt*, (136b), and *brandzumarken*, (138b), but I would like to suggest that this ungrammaticality is only caused by a preference for prefixation to apply to as large domains as possible, and so (136b) and (138b) are only dispreferred because the options (136a) and (138a) are possible.

That “infixation” of *ge-* and *zu* is an option with all three types of complex verbs, even with the complex verbs of the V° type is supported by the following facts:

According to the German orthographical dictionary, *Duden Rechtschreibung*, two of the V° verbs in (130) may have either prefixation or infixation of *ge-*: *gelobpreist* and *lobgepriesen* are both possible past participles of *lobpreisen* ‘praise’, *gesandstrahlt* and also *sandgestrahlt* are possible participles of *sandstrahlen* ‘sandblast’.

A search of the corpus of written German available at the Institut für deutsche Sprache in Mannheim⁴ turned up the following infixed forms among the complex verbs of

⁴The corpus searched comprised 529 million words at the time of this search in January 2001. Strings which were

the V° type in (130) above:

- (140) Ge. a. 7 cases of *handzuhaben* vs. 528 of *zu handhaben*
 b. 1 case of *lobzupreisen* vs. 13 of *zu lobpreisen*
 c. 2 cases of *lustzuwandeln* vs. 17 of *zu lustwandeln*
 d. 1 case of *maßzuregeln* vs. 40 of *zu maßregeln* / *zu massregeln*
 e. 21 cases of *sandgestrahlt* vs. 3 of *gesandstrahlt*
 f. 2 cases of *wettzueifern* vs. 37 of *zu wetteifern*

All the other forms of the verbs mentioned here, and the other verbs in (130) above were only found with prefixed *ge-* and *zu*. Still, in contrast to this somewhat mixed picture, all the verbs in the V* group, (131), only have one type of forms, with infixation of *-ge-* and *-zu-*. As for the group of verbs that are the actual topic of this section, the verbs which fail to undergo V2, I would also expect them only to have infixed *-ge-* and *-zu-*, and I have to admit that the corpus search turned up two "prefixed" verb forms that go against this:

- (141) Ge. a. 20 cases of *aufzuerstehen* vs. 1 of *zu auferstehen*
 b. 6 case of *zweckzuentfremden* vs. 1 of *zu zweckentfremden*

I conclude that although prefixation of *ge-* and *zu* (*zu handhaben*) is much more frequent than infixation (*handzuhaben*) with the complex verbs of the V° type, infixation remains an option.

The various possibilities can be summarised as follows:

	[V° N° V°], <i>brandmarken</i>	[V* N° V°], <i>stattfinden</i>	Examples
(142) a.	[C° V°] ... t └──────────┘	a' *[C° V*] ... t └──────────┘	(132a), (133a)
b.	*[C° V°] ... [V° N° t] └──────────┘	b' [C° V°] ... [V* N° t] └──────────┘	(132b), (133b)
(143) a.	C° [IP ... [V° N° V°]]	a' C° [IP ... [V* N° V°]]	(134), (135)
(144) a.	<i>ge-</i> [V° N° V°]	a' * <i>ge-</i> [V* N° V°]	(136a), (137a)
b.	[V° N° <i>ge-V°</i>]	b' [V* N° <i>ge-V°</i>]	(136b), (137b)
(145) a.	<i>zu</i> [V° N° V°]	a' * <i>zu</i> [V* N° V°]	(138a), (139a)
b.	[V° N° <i>zu V°</i>]	b' [V* N° <i>zu V°</i>]	(138b), (139b)

Under the assumption that the verbs like *schutzimpfen* that cannot undergo V2 have to fulfill both the requirements imposed on complex verbs of the V° type and the requirements imposed on complex verbs of the V* type, we expect to find them only in

cited precisely for their peculiar syntax, e.g. as examples in newspaper articles on the German orthographical reform, have not been counted.

structures which are possible in both columns. These cases are (143a/a'), clause-final finite verbs in embedded clauses, and (144b/b') and (145b/b'), "infixation" of *ge-* and of *zu* (even though (144b) and (145b) would seem to be very infrequent).

One way of describing this situation is that the verbs which are unable to undergo V2 are in the intersection of the two sets of verbs, one which comprises complex verbs of the V° type, and another which comprises complex verbs of the V^* type:

(146)

V° [V° [N° brand] [V° marken]] [V° [P_{rt} ver] [V° stehen]]	<div> uraufführen voranmelden bausparen schutzimpfen </div> <div> V^* [V^* [N° statt] [V° finden]] [V^* [P_{rt} ab] [V° schicken]] </div>

What is striking is that there are no particle verbs (to be exact: no particle verbs with only one particle) which belong to the intersection of the two sets, i.e. there are no particle verbs which are unable to undergo V2. I think that this is due to the fact that the verbs which are unable to undergo V2 are not semantically transparent, i.e. we need real world knowledge to interpret what *bauspahren* 'building-save' means, and thus semantics can offer no help in determining whether *bauspahren* should belong to the V° or V^* class. Particle verbs never find themselves in this situation: If they are semantically opaque, then they are also lexicalised and as such established as belonging either to the V° or the V^* group (e.g. *umbringen*, *aufhören*, *verstehen*, cf. 2.4.5 above). If they are not established or lexicalised, then they (or rather their particles) have a transparent semantics/morphology, which will put them clearly into either the V° or the V^* class.

This account (in particular, the fact that the semantics of the verbs in question is non-transparent) is also compatible with the fact that there is considerable variation from speaker to speaker in whether they find a given example well-formed or not when confronted with verbs such as those discussed here. This is because it is a property of the individual complex verb in the lexicon whether it is a V° or a V^* (or "both"). Which class a given complex verb belongs to depends on many factors which vary from speaker to speaker, including how frequently it is used.

As Eisenberg (1998:324) also says, the judgements on these data are subject to a lot of variation. One example is that Eisenberg (1998:324, (15)) classifies *notlanden*, 'to emergency-land', i.e. 'to make an emergency landing', among the V^* verbs, so that *notlanden* may undergo V2 if *not* stays behind while *landen* moves to C° , like *stattfinden* in (133)-(139). Gallmann (1999:298, (90)), on the other hand, classifies *notlanden* among the verbs that are unable to undergo V2, like *uraufführen* in (112)-(114) and *bauspahren* in (123).

Another example of the variability is that the verb-final embedded clause ... *weil sie*

bauspart ‘... because she saves money with a building society’ is found ungrammatical on one page (Eisenberg 1998:226) and grammatical on a different page (Eisenberg 1998:324, (16a)) of the same book.

A search of the corpus of written German available at the Institut für deutsche Sprache in Mannheim⁵ turned up the following figures showing that a few V2 cases do occur, even though informants reject them:

(147)	Ge.	a.	Out of 153 finite cases of <i>auferstehen</i> ,	15 were V2	(9.8 %)
		b.	Out of 4 finite cases of <i>auferwecken</i> ,	0 were V2	(0 %)
		c.	Out of 2 finite cases of <i>bausparen</i> ,	0 were V2	(0 %)
		d.	Out of 1 finite case of <i>erstaufführen</i> ,	0 were V2	(0 %)
		e.	Out of 2 finite cases of <i>gefriertrocknen</i> ,	1 was V2	(50 %)
		f.	Out of 18 finite cases of <i>hohnsprechen</i> ,	0 were V2	(0 %)
		g.	Out of 2 finite cases of <i>manndecken</i> ,	0 were V2	(0 %)
		h.	Out of 26 finite cases of <i>notlanden</i> ,	1 was V2	(3.8 %)
		i.	Out of 1 finite case of <i>rückfragen</i> ,	0 were V2	(0 %)
		j.	Out of 4 finite cases of <i>sonnenbaden</i> ,	0 were V2	(0 %)
		k.	Out of 2 finite cases of <i>strafversetzen</i> ,	0 were V2	(0 %)
		l.	Out of 66 finite cases of <i>uraufführen</i> ,	0 were V2	(0 %)
		m.	Out of 5 finite cases of <i>voranmelden</i> ,	0 were V2	(0 %)
		n.	Out of 42 finite cases of <i>zweckentfremden</i> ,	10 were V2	(23.8 %)
		o.	Out of 19 finite cases of <i>zwischenlanden</i> ,	0 were V2	(0 %)

Notice also that if two of the fifteen non-V2 verbs that are found in finite form were excluded from the count, viz. *auferstehen* and *zweckentfremden*, the number of counterexamples would fall from a total of 27 to only 2 (or from 7.8% to 1.3%)

This analysis can also be applied to those verbs which have two prefix-like parts, the latter of which is a separable prefix, i.e. the Dutch verbs in (115) and the German verbs *uraufführen*, *erstaufführen*, and *voranmelden*. I have already suggested in section 2.4 that complex verbs containing separable prefixes are V*, and now I would like to suggest that the element to which German *ur-*, *erst-*, *vor-*, and Dutch *her-* are prefixed must be interpretable as a V°. We therefore find ourselves in the same double requirement situation as above, where the *-aufführen* that occurs in *uraufführen* has to conform to both the requirements imposed by the V° analysis (e.g. *-auf-* cannot be left behind during verb movement), and those imposed by the V* analysis (e.g. *-auf-* cannot be taken along during verb movement), which means that the *-aufführen* that occurs in *uraufführen* can not occur in V2 at all, only clause-finally, and that *ge-* and *zu* can only precede *-führen*.

This account has some advantages over the one that relies on the two prefix-like parts imposing different requirements, i.e. that *ur-* is non-separable and *auf-* is separable. The point is that such an account could not be applied to *voranmelden* ‘preregister’, nor to another potential back-formation verb *vorankündigen* ‘announce in advance’ (cf. *Vorankündigung* ‘advance announcement’), neither of which are able to undergo V2. The point is that with these two verbs, the inability to undergo V2 cannot be linked to either of the two prefixes/particles being non-separable. That *vor-* and *an-* are both separable can be seen from the fact that when either *vor* or *an* is the only particle, they are always separable, e.g. in *annehmen* ‘assume’, *anschauen* ‘look at’, or *vornehmen* ‘plan, carry out’,

⁵The corpus searched comprised 533 million words at the time of this search in February 2001. Strings which were cited precisely for their peculiar syntax, e.g. as examples in newspaper articles on the German orthographical reform, have not been counted.

vortäuschen ‘simulate’. That *vor-* and *an-* are both separable can also be seen from the large number of verbs where *voran-* can be left behind during V2: e.g. *voranbringen* ‘advance something’, *vorangehen* ‘go in front’, *vorankommen* ‘make headway’, *vorantreiben* ‘push ahead’. The relevant difference between *voranmelden* and *vorankündigen*, which cannot undergo V2 and *vorangehen*, *vorantreiben* etc., which are well-formed in V2 clauses, is not that the prefixes/particles impose different requirements, but instead that the two types have different structures: *[vor[anmelden]]* vs. *[[voran]treiben]* (a difference which is also supported by the differences in interpretation and in accentuation). Only in the former case, *[vor[anmelden]]*, is there a V*, viz. *[anmelden]*, that now also has to fulfill the requirements imposed on a V°, because *vor-* cannot be prefixed on a V*. In the case of *[[voran]treiben]*, there is a complex particle, *voran*, which together with the verbal part *treiben*, form a V*, but there is nothing which has to be interpreted both as a V° and as a V*, and so *[[voran]treiben]* may undergo V2 like any other separable particle and verb combination.

3.3.6 Danish

In Danish and presumably in the other VO-languages, no finite verbs exist that are possible in some positions, e.g. in embedded clauses, but not in others, e.g. in main clauses.

As far as potential verbs derived by back-formation are concerned, there are only two groups. One consists of verbs that do not exist, even though related nouns that could be the source for back-formation do exist:

- (148) **båndoptage* ‘to tape-up-take’, which should mean ‘to record on tape’
 **bjergbestige* ‘to mountain-climb’, which should mean ‘to climb mountains’
 **bogbinde* ‘to book-bind’, which should mean ‘to bind books’
 **boligopspar* ‘to home-up-save’, which should mean ‘to save for buying a home’
 **bugtale* ‘to stomach-speak’, which should mean ‘to ventriloquise’
 **hovedregne* ‘to head-reckon’, which should mean ‘to do mental arithmetic’
 **solbade* ‘to sun-bathe’
 **vandkøle* ‘to water-cool’

The other group consists of back-formation verbs that do exist. I have split this group into two subgroups, because I do not find the (149a) group completely well-formed (although all the verbs in (149a,b) do exist, according to two Danish dictionaries from 1996, *NuDansk Ordbog* and *Retskrivningsordbogen*).

- (149) a. ?*datাবেhandle* ‘to data-treat’, i.e. ‘to computerise, to process on a computer’
 ?*gæsteforelæse* ‘to guest-lecture’
 ?*kæderyge* ‘to chain-smoke’
 ?*maskinskrive* ‘to machine-write’, i.e. ‘to type’
 ?*nydanne* ‘to new-form’, i.e. ‘to construct, to coin’
 ?*prisgive* ‘to prize-give’, i.e. ‘to relinquish, to surrender something’
 ?*strejkelamme* ‘to strike-paralyze’, i.e. ‘to paralyze through a labour strike’

- b. *dagdrømme* 'to day-dream'
deltage 'to part-take', i.e. 'to take part'
dybfryse 'to deep-freeze'
førsteopføre 'to first-up-put', i.e. 'to perform a play for the first time'
hjernevaske 'to brain-wash'
iscenesætte 'to in-scene-put', i.e. 'to direct, to engineer'
lovprise 'to praise.N-praise.V', i.e. 'to praise'
mandsopdække 'to man-cover', i.e. 'to mark someone in soccer'
mavelande 'to stomach-land', i.e. 'to land on one's stomach'
mellemlande 'to between-land', i.e. 'to stop over in X on the way to Y'
planlægge 'to plan-lay', i.e. 'to plan'
støvsuge 'to dust-suck', i.e. 'to vacuum-clean'
sygemelde 'to sick-report', i.e. 'to call in sick, to report someone as sick'
uropføre 'to original-up-put', i.e. 'to perform a play for the first time'

It is clear, however, that in so far as the verbs in (149a,b) are well-formed, they may occur in finite form in all positions in which finite verbs may occur (see also Hansen 1967, III:177).

Thus the question arises why Danish (and presumably the other VO-languages) do not have any verbs like the German and Dutch verbs that may occur in finite form but only in a particular position. The analysis of such verbs suggested in 3.3.5 above was that they have to fulfill the requirements imposed on V° complex verbs as well as the requirements imposed on V* complex verbs.

I would like to suggest that the reason why such verbs do not exist in Danish is that there is no way Danish verbs could possibly satisfy the two sets of requirements, due to the directionality variation. The verbal part of the complex verb is the rightmost one in the V° cases, as in [V° [N° *plan*][V° *lægge*]] 'to plan', but it is the leftmost part in the V* cases, as in [V* [V° *finde*][N° *sted*]] 'to take place'. The difference between Danish [V* [V° *finde*][N° *sted*]] and its German counterpart [V* [N° *statt*][V° *finden*]] is thus completely parallel to the differences between the complex verbs with separable prefixes in the two languages, as discussed in section 2.4 above.

In other words, the intersection between the two sets, illustrated for German in (146), is necessarily empty in Danish:

(150)

V° [V° [N° <i>plan</i>][V° <i>lægge</i>]] [V° [PRT <i>for</i>][V° <i>stå</i>]]	- - -	V* [V* [V° <i>finde</i>][N° <i>sted</i>]] [V* [V° <i>sende</i>][PRT <i>afsted</i>]]
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Here are some more examples of the V* type (more can be found in the literature on Danish under the heading "unit accentuation", e.g. Thomsen 1992 or Grønnum

- (151) *gå amok* 'to go amok'
give agt 'to give attention', i.e. 'to pay attention'
gøre holdt 'to make stop', i.e. 'to stop'
holde måde 'to hold measure', i.e. 'to exercise moderation'
holde ord 'to hold word', i.e. 'to keep one's word'
holde stand 'to hold stand', i.e. 'to stand firm'
tage del 'to take part'
vække opsigt 'to awake attention', i.e. 'to attract attention'

This account also explains why Danish verbs similar to *uraufführen* and the other verbs discussed in 3.3.1 above can undergo V2. In Danish, the following verbs belong to this class:

- (152) *genopblomstre* 'to re-up-blossom', i.e. 'to experience a renaissance'
genopblusse 'to re-up-kindle', i.e. 'for e.g. hostilities to break out again'
genopsætte 'to re-up-put', i.e. 'to put on a play again'

These may all undergo V2, even though without the prefix *gen-* 're-', they are impossible in V2 clauses unless the inner prefix/particle *op-* 'up' is left behind:

- (153) Da. a. I maj genopblussede stridighederne med fornyet styrke
 b. *I maj opblussede stridighederne gen med fornyet styrke
 c. *I maj gen- blussede stridighederne op med fornyet styrke
 d. *I maj blussede stridighederne genop med fornyet styrke
In May (re) (up)kindled hostilities-the (re) (up) with renewed force
(In May the hostilities broke out again with renewed force)
- (154) Da a. *I maj opblussede stridighederne med fornyet styrke
 b. I maj blussede stridighederne op med fornyet styrke
In May (up)kindled hostilities-the (up) with renewed force
(In May the hostilities broke out with renewed force)

The point here is similar to the one above, namely that the requirements for V* are violated already before the new verb with *gen-*, e.g. *genopblusse*, is formed, because V* (i.e. with a separable particle) does not allow the order particle-verb, but only verb-particle. In other words, *opblusse* has already been forced into being a V°, and only a V°, and the fact that prefixation of *gen-* requires *opblusse* to be a V° does not change anything. The crucial question is thus whether *genopblusse* is a possible verb or not, and not whether it occurs in one position or the other.

3.3.7 Conclusion

In this section, I have suggested an analysis of the Dutch and German verbs that cannot undergo V2, and also for why such verbs are not found in VO-languages like Danish. I suggested that such verbs are for various reasons forced to fulfill the requirements imposed both on complex verbs of the V° type (like non-separable particle verbs) and on complex verbs of the V* type (like separable particle verbs). This results in such verbs being

morphologically unexceptional, i.e. having a full set of forms, but syntactically peculiar, i.e. they can only occur in their base position, where no movement has taken place. Any kind of movement is incompatible with either the V° requirements or the V^* requirements.

Whereas I disagree with Haider (1993:62) and Koopman (1995) about the details of the morpho-syntactic analysis of the individual verbs, I agree with these two works about the consequences for the analysis of verb movement in German and Dutch (and presumably all other Germanic OV-languages except Yiddish). The reason why it is only possible for finite forms of these verbs to occur in clause-final position in embedded clauses, is that this position is the base-generated position, and thus no conflict can arise as to whether the prefix-like part must or must not be carried along under verb movement.

Thus, the fact that several Dutch, German, Swabian, and Swiss German verbs, not just one, behave in this way provides further support for the conclusion defended in this chapter, namely that the clause-final position of finite verbs in embedded clauses in these languages is the same position that non-finite verbs have in all clauses (presumably inside their own VP and definitely below I°). In other words, Dutch, German, Swabian, and Swiss German do not have V° -to- I° movement.

3.4 Expressions that have to c-command the verb

In this section, I will try to show that the view that all Germanic OV-languages except Yiddish (i.e. Dutch, Afrikaans, West Flemish, Frisian, German, Swabian, and the three Swiss German variants from Sankt Gallen, Zürich, and Bern) do not have V°-to-I° movement, is supported by the facts concerning certain expressions that have to c-command the main verb.

3.4.1 VO-languages

The following argument is based on Haider (1997a:121-123, 1997c:23-24). In English, it cannot be shown that an expression like *far more than* impose any particular conditions on the position of the main verb in sentences like

- (155) En. a. This far more than [_{VP} tripled the value]
b. This has far more than [_{VP} tripled the value]
b. This will far more than [_{VP} triple the value]

However, this is because there are independent constraints in English which makes sure that main verbs (as opposed to auxiliaries) only occur inside VP. In those VO-languages where main verbs may also occur in I° or in C°, it can be shown that the occurrence of an expression like *far more than* is incompatible with the main verb occurring in I° or C°, presumably because the verb has to be c-commanded by *far more than*.

In order to show this, we first have to consider the relevant examples without *far more than*, to see in which languages the verb may occur in V°, I°, and/or C°.

If the main verb is a participle, it remains in V°:⁶

- (156) a. Da. Dette har sandsynligvis tredoblet værdien
b. Ic. Þetta hefur sennilega þrefaldað verðið
c. Fr. Ceci en a probablement triplé la valeur
d. It. Questo ne ha probabilmente triplicato il valore
This NE has probably tripled the value

When the main verb is also the finite verb, the languages vary. Consider first main clauses: In Danish and Icelandic, the finite verb has to be in C° (due to V2), and in French and Italian, the finite verb has to be in I°. Both C° and I° precede the adverbial *rapidly*:⁷

- (157) a. Da. Dette tredoblede hurtigt værdien
b. Ic. Þetta þrefaldaði hratt verðið
c. Fr. Ceci en triplait rapidement la valeur
d. It. Questo ne triplicava velocemente il valore
This NE tripled rapidly the value

⁶Fr. *en* and It. *ne* are clitics which mean something like 'of it', i.e. in this case the value of something in particular.

⁷In French and Italian, (158c,d) and (160c,d), *rapidement/velocemente* may marginally precede the verb in I°, at least in the written language. If pronounced, this would require either a parenthetical intonation of the adverbial or a left dislocated intonation of both the subject and the adverbial.

- (158) a. Da. *Dette hurtigt tredoblede værdien
 b. Ic. *Þetta hratt brefaldaði verðið
 c. Fr. ??Ceci rapidement en triplait la valeur
 d. It. ??Questo velocemente ne triplicava il valore
 This rapidly NE tripled the value

Consider now embedded clauses with the main verb as the finite verb: In Danish, the finite verb must occur in V° (i.e. right of the adverbial *rapidly*), in Icelandic, French, and Italian the finite verb must occur in I° (i.e. left of the adverbial *rapidly*), see also section 1.1 above.

- (159) a. Da. *Fordi dette hurtigt tredoblede værdien, ...
 b. Ic. ?Af því að þetta hratt brefaldaði verðið, ...
 c. Fr. Parce que ceci en triplait rapidement la valeur, ...
 d. It. Poiché questo ne triplicava velocemente il valore, ...
 Because this NE tripled rapidly the value
- (160) a. Da. Fordi dette hurtigt tredoblede værdien, ...
 b. Ic. *Af því að þetta hratt brefaldaði verðið, ...
 c. Fr. ??Parce que ceci rapidement en triplait la valeur, ...
 d. It. ??Poiché questo velocemente ne triplicava il valore, ...
 Because this rapidly NE tripled the value

Let us now turn to what happens when the expression *far more than* is present. If the main verb is not finite, it stays inside VP in all languages, cf. (156) above. In this case it is always c-commanded by *far more than*:⁸

- (161) a. Da. Dette har langt mere end tredoblet værdien
 b. Ic. Þetta hefur miklu meira en brefaldað verðið
 c. Fr. Ceci en a beaucoup plus que triplé la valeur
 d. It. Questo ne ha molto più che triplicato il valore
 This NE has far more than tripled the value

If the main verb is finite, the situation changes. Consider first main clauses:

- (162) a. Da. *Dette tredoblede langt mere end værdien
 b. Ic. *Þetta brefaldaði miklu meira en verðið
 c. Fr. *Ceci en triplait beaucoup plus que la valeur
 d. It. *Questo ne triplicava molto più che il valore
 This NE tripled far more than the value

Although the verb movement here (V2 in Danish and Icelandic, V°-to-I° movement in French and Italian) is not impossible as such, cf. (157) above, (162a-d) is impossible because the main verb (in (162a,b) in C°, in (162c,d) in I°) ends up c-commanding *far more than*, where the opposite ought to be the case.

Consider now embedded clauses with a finite main verb:

⁸Notice that (162a-d) and (163a-d) are impossible with the intended interpretation, that the value more than tripled, but well-formed with a different interpretation, namely that it was more than the value that tripled. In the latter case, *far more than* is presumably situated much lower in the tree, inside the VP, so that it no longer c-commands V°, but is c-commanded by V°.

- (163) a. Da. *Fordi dette tredoblede langt mere end værdien, ...
 b. Ic. *Af því að þetta brefaldaði miklu meira en verðið, ...
 c. Fr. *Parce que ceci en triplait beaucoup plus que la valeur, ...
 d. It. *Poiché questo ne triplicava molto più che il valore, ...
Because this NE tripled far more than the value
- (164) a. Da. Fordi dette langt mere end tredoblede værdien, ...
 b. Ic. ??Af því að þetta miklu meira en brefaldaði verðið, ...
 c. Fr. *Parce que ceci beaucoup plus que en triplait la valeur, ...
 d. It. ??Poiché questo molto più che ne triplicava il valore, ...
Because this far more than NE tripled the value

In embedded clauses in Danish, the finite verb must occur in V° , in embedded clauses in the other three languages in I° . (163a-d) is thus ruled out by having the wrong c-command relations, and (163a) is also ruled out because the finite verb has left VP. (164a) has the verb in V° , which is well-formed both with respect to verb movement and with respect to c-command. (164b-d) either have the verb in V° where there should be V° -to- I° movement, or they have too much lexical material occurring between IP-spec and I° (i.e. too much to be left-adjoined to I° /incorporated into I°). In other words, in Icelandic, French and Italian, *far more than* cannot refer to a finite verb at all.

Summing up the situation in the VO-languages, only those cases are well-formed, (161) and (164a), that fulfill two different conditions: The finite verb must obey the requirements on finite verb movement (which may vary from language to language), and the adverbial expression *far more than* must c-command the main verb.

3.4.2 Yiddish

Yiddish is parallel to Icelandic, French, and Italian above. In main clauses, the main verb may either be non-finite, (165a), or finite, (166a), unless *far more than* is present, in which case the main verb must be non-finite, (165b), it cannot be finite, (166b):

- (165) Yi. a. Nor dem umzats hot der balebos demolt fartoplt, ...
Only the turnover has the boss then doubled, ...
(It was only the turnover that the boss doubled back then, not the profits)
- b. Nor dem umzats hot der balebos vayt mer vi fartoplt, ...
Only the turnover has the boss far more than doubled, ...
(It was only the turnover that the boss far more than doubled, not the profits)
- c. *Nor dem umzats vayt mer vi hot der balebos fartoplt, ...
Only the turnover far more than has the boss doubled, ...
- ... nisht dem revekh
 ... not the profits

- (166) Yi. a. Nor dem umzats fartoplt der balebos itst, nisht dem revekh
 Only the turnover doubles the boss now, not the profits
 (It is only the turnover that the boss is doubling now, not the profits)
- b. *Nor dem umzats fartoplt der balebos vayt mer vi, ...
 Only the turnover doubles the boss far more than, ...
- c. *Nor dem umzats vayt mer vi fartoplt der balebos, ...
 Only the turnover far more than doubles the boss, ...
- ... nisht dem revekh
 ... not the profits

Also just like Icelandic, French, and Italian in (163) and (164) above, Yiddish requires the main verb in an embedded clause with *far more than* to be non-finite:

- (167) Yi. Er hot gefregt ...
 He has asked ...
- ... tsi der balebos hot vayt mer vi fartoplt dem umzats
 ... if the boss has far more than doubled the turnover

If the finite verb is a main verb in an embedded clause with *far more than*, it is not well-formed. Either the verb is in the wrong position (it cannot have undergone V°-to-I° movement in (168a)), or the sentences has only the wrong interpretation, (168b) can only mean "he doubled far more than the turnover", not "he far more than doubled the turnover", cf. the footnote above about (162) and (163)):

- (168) Yi. a. *Er fregt tsi der balebos vayt mer vi fartoplt dem umzats
 He asks if the boss far more than doubles the turnover
- b. *Er fregt tsi der balebos fartoplt vayt mer vi dem umzats
 He asks if the boss doubles far more than the turnover

These data thus provide an additional indication that Yiddish has V°-to-I° movement.

3.4.3 Other OV-languages

Let us now turn to those OV-languages that have verb-final embedded clauses. The examples below are only from Dutch, Afrikaans, Frisian, German, and Sankt Gallen Swiss German, but I will take the results to be representative for all OV-languages that have verb-final embedded clauses.

Consider first the cases where there is no expression that has to c-command the main verb. The main verb may either be non-finite or finite. If the main verb is non-finite, it occurs clause-finally, presumably inside VP:⁹

⁹Notice that the verb *to triple* (used by Haider 1997a:121-123, 1997c:23-24) would have to be rendered by a complex expression in Afrikaans and Frisian, and it is therefore replaced by *to double* in these two languages.

- (169) a. Ge. Dies hat den Wert verdreifacht
 b. SG. Da hät de Wert verdrüfacht
 c. Du. Dit heeft de waarde verdrievoudigd
 This has the value tripled
 d. Af. Dit het die waarde verdubbel
 e. Fs. Dit hat de wearde ferdûbele
 This has the value doubled

If the main verb is finite¹⁰, it occurs in C° in main clauses (due to V2), (170), whereas it occurs clause-finally in embedded clauses, (171). The question then is whether this clause-final position is V° (as argued in the preceding sections) or somewhere else, e.g. I°.

- (170) a. Ge. Dies verdreifachte den Wert
 b. SG. Da verdrüfacht de Wert
 c. Du. Dit verdrievoudigde de waarde
 This tripled/-s the value
 d. Af. Dit verdubbel die waarde
 e. Fs. ?Dit ferdûbele de wearde
 This doubled/-s the value
- (171) a. Ge. Weil dies den Wert verdreifachte, ...
 b. SG. Wil da de Wert verdrüfacht, ...
 c. Du. Omdat dit de waarde verdrievoudigde, ...
 Because this the value tripled/-s, ...
 d. Af. Omdat dit die waarde verdubbel, ...
 e. Fs. Om't dit de wearde ferdûbele, ...
 Because this the value doubled/-s, ...

Consider now the cases with an expression like *more than just* that has to c-command the main verb. This does not present a problem if the main verb is non-finite and left inside VP:

- (172) a. Ge. Dies hat den Wert mehr als bloß verdreifacht
 b. SG. Da hät de Wert me als nu verdrüfacht
 c. Du. Dit heeft de waarde meer dan alleen maar verdrievoudigd
 This has the value more than just tripled
 d. Af. Dit het die waarde meer as net verdubbel
 e. Fs. Dit hat de wearde mear as allinne maar ferdûbele
 This has the value more than just doubled

However, if the main verb has to move to C°, the occurrence of *more than just* causes an insoluble conflict:

¹⁰Notice that the simple past is replaced by the simple present in Sankt Gallen Swiss German and in Afrikaans, as these two languages do not have a simple past (cf. both chapter 1 and 2.6.2 above).

- (173) a. Ge. *Dies verdreifachte den Wert mehr als bloß
 b. SG. *Da verdrüfacht de Wert me als nu
 c. Du. *Dit verdrievoudigde de waarde meer dan alleen maar
 This tripled/-s the value more than just
 d. Af. *Dit verdubbel die waarde meer as net
 e. Fs. *Dit ferdûbele de wearde mear as allinne maar
 This doubled/-s the value more than just

What is crucial here is that the occurrence of *more than just* does not give rise to an insoluble conflict when the finite main verb is clause-final in an embedded sentence:

- (174) a. Ge. Weil dies den Wert mehr als bloß verdreifachte, ...
 b. SG. Wil da de Wert me als nu verdrüfacht, ...
 c. Du. Omdat dit de waarde meer dan alleen maar verdrievoudigde, ...
 Because this the value more than just tripled/-s, ...
 d. Af. Omdat dit die waarde meer as net verdubbel, ...
 e. Fs. Om't dit de wearde mear as allinne maar ferdûbele, ...
 Because this the value more than just doubled/-s, ...

Therefore it must be the case that the finite verb in (174a-e) neither moves to C° nor to I°. Had the verb moved to I° or to C°, the result would have been ungrammaticality, as in (173a-e). This also means that the finite verb in (174a-e) does not undergo V°-to-I° movement, because we know from Icelandic, French, and Italian that V°-to-I° movement would disrupt the c-command relationship, cf. the ungrammaticality of (163b-d) above.

It would of course be possible to claim that e.g. German has V°-to-I° movement, i.e. that the finite verb in (174a) is in I°, but this would require that *mehr als bloß* would c-command I° in e.g. German, while this is not the case in Icelandic, French, and Italian, cf. again the ungrammaticality of (163b-d) above. It seems to me to be far less ad hoc to assume that German lacks V°-to-I° movement.

I therefore conclude (or rather: I therefore follow the conclusion in Haider 1997a:121-123, 1997c:23-24) that the data as in (174a-e) provide further support for the conclusion reached in the two previous sections, namely that the clause-final position of finite verbs in embedded clauses in German, Sankt Gallen Swiss German, Dutch, Afrikaans, and Frisian is the same position that non-finite verbs have in all clauses (which presumably is inside their own VP and definitely below I°).

3.5 Conclusion: Most OV-languages lack V°-to-I° movement

Like chapter 2 above, this chapter is part of establishing the typology of verb movement in the Germanic languages. Most of the typology was already set out in chapter 1 above, i.e. under which circumstances which Germanic languages showed which of the three following kinds of variation: whether the finite verb undergoes V2 or not, whether the finite verb undergoes V°-to-I° movement or not, whether the verb is base generated to the left (VO) or to the right (OV) of its complement.

A few aspects were left open in chapter 1, however, and the present chapter dealt with one of these aspects, namely with the question of whether the OV-languages apart from Yiddish, i.e. Afrikaans, Dutch, West Flemish, Frisian, German, Swabian, and the three Swiss German variants from Sankt Gallen, Zürich, and Bern, have V°-to-I° movement or not.

After the introduction in 3.1, this chapter presented three different arguments in favour of the view that that all these languages do not have V°-to-I° movement (except as part of V2, i.e. as part of V°-to-I°-to-C° movement).

In section 3.2, the same two-verb sequences were examined as in section 2.6 above, with the difference that now the focus was on their sequence when the higher of the two verbs was finite (and outside V2 contexts). The two sections, 2.6 and 3.2, taken together show that various factors influence the sequence of two verbs, e.g. the semantic verb class of the higher of the two verbs (durative, causative, modal, etc.), or the language in question, or also the question of IPP, but the two sections also show that whether the higher of the two verbs is finite or not hardly seems to play any role at all. The situation found across the nine languages and dialects is most easily accounted for if the position of the higher of the two verbs is the same when it is finite as when it is non-finite. Since V°-to-I° movement would apply obligatorily and exclusively to finite verbs, this entails that the nine languages do not have V°-to-I° movement.

Sections 3.3 and 3.4 were both based on foundations laid by Hubert Haider. In section 3.3, I suggested an analysis of the Dutch and German verbs that cannot undergo V2, and also for why such verbs are not found in VO-languages like Danish, namely that such verbs are forced to fulfill the requirements imposed both on complex verbs of the V° type (like non-separable particle verbs) and on complex verbs of the V* type (like separable particle verbs). This results in such verbs being morphologically unexceptional, i.e. having a full set of forms, but syntactically peculiar, i.e. they can only occur inside VP, where no movement has taken place. Whereas I thus disagreed with Haider (1993:62) and Koopman (1995) about the details of the morpho-syntactic analysis of the individual verbs, I agree with these two works about the consequences for the analysis of verb movement in German and Dutch (and presumably all other Germanic OV-languages except Yiddish). The reason why it is only possible for finite forms of these verbs to occur in clause-final position in embedded clauses is that this position is the base-generated position, and thus no conflict can arise as to whether the prefix-like part must or must not be carried along under verb movement.

Finally, section 3.4 discussed the fact that adverbial expressions like *far more than* or *more than just*, which must c-command the main verb, are impossible with finite main verbs in embedded clauses in those VO-languages which have V°-to-I° movement but possible in embedded clauses in those VO-languages which do not have V°-to-I° movement. The further fact that in the OV-languages apart from Yiddish (represented by

Dutch, Afrikaans, Frisian, German, and Sankt Gallen Swiss German), such adverbial expressions are impossible with finite main verbs in main clauses but possible with finite main verbs in embedded clauses, lends strong support to the view that these OV-languages do not have V° -to- I° movement.

The general conclusion of this chapter is therefore that at least as far as the data discussed above are concerned, an account of the nine OV-languages apart from Yiddish (Afrikaans, Dutch, West Flemish, Frisian, German, Swabian, and the three Swiss German variants from Sankt Gallen, Zürich, and Bern) as languages without V° -to- I° movement seems much more promising than an account in which some or all of them have V° -to- I° movement.

Part II

Accounting for the typology:

Optimality Theory and Germanic Verb Movement

Chapter 4. Introduction to Optimality Theory

If you should already be familiar with Optimality Theory (OT), this chapter may not tell you anything new, and you may therefore prefer to go directly to chapter 5.

4.1 Central ideas of Optimality Theory

Probably the major characteristic of Optimality Theory (cf. e.g. Prince & Smolensky 1993, Burzio 1995, Grimshaw 1997, Kager 1999, and the papers in Archangeli & Langendoen 1997, in Barbosa & al. 1998, in Legendre et al. 2000, and in Müller & Sternefeld 2001) is that constraints are taken to be relative ("soft") rather than absolute ("hard"):

- (1) a. **ABSOLUTE**: "If a sentence violates constraint C, it is ungrammatical"
- b. **RELATIVE**: "That a sentence violates constraint C may be bad, but not as bad as if it had violated constraint B, which again is less bad than if it would violate constraint A"

In other words: Although there is a price to be paid every time a constraint is violated, the price is not always the grammaticality of the sentence in question.

Violability is one of four ideas central to Optimality Theory (cited here from Grimshaw 1997:373):

- (2) a. **Constraints may be violated**
- b. **Constraints are ordered in a hierarchy**
A grammar is a particular ordering of constraints.
- c. **Constraints are universal**
In all languages, the same constraints apply, except that they are ordered differently from language to language. Language variation is variation in the constraint hierarchy.
- d. **Only the optimal candidate is grammatical**
All non-optimal candidates are ungrammatical. The optimal candidate of two is the one with the smallest violation of the highest constraint on which the two candidates differ.

The hierarchical ordering of constraints means that a violation of constraint A is more "expensive" than a violation of constraint B. If a particular candidate violates constraint A and another candidate violates constraint B, the second is less expensive and thus more optimal. If there are no other candidates, the candidate that violates only constraint B is optimal and therefore grammatical. If there is a candidate that violates neither A nor B but only e.g. a "cheaper" constraint Z, this candidate will be even less expensive, hence optimal and grammatical.

Notice that standard Optimality Theory simply predicts that the optimal candidate correspond to a grammatical sentence and all non-optimal candidates to ungrammatical sentences. There are no predictions of the kind "the less a non-optimal candidate differs from the optimal candidate, the less ill-formed is the corresponding sentence". For versions of Optimality Theory that (also) deals with gradient data, i.e. with degrees of grammaticality, see e.g. Hayes (2000), Keller (2000), (2001), and Müller (1999a). Below I will keep to the standard version, any candidate that is no optimal corresponds to an ungrammatical sentence.

In the following two subsections, I will illustrate the points in (1) and (2) with a non-linguistic and a linguistic example.

4.2 A non-linguistic example: the leap year rule

Consider the computation of leap years as a non-linguistic example of the benefit of being able to formulate violable constraints that conflict. The following formulation of the leap year rule shows how exceptions may be built into a rule in order to keep it non-violable:

- (3) Leap years are those years divisible by 4, EXCEPT centesimal years, which are common UNLESS divisible by 400.

(from the entry "Julian and Gregorian Calendar" in the electronic version of *The World Almanac and Book of Facts 1995*, Funk & Wagnalls, New York, emphasis mine)

Given a system of violable constraints of different priorities, we do not have to take (3) as one monolithic rule. Instead we can tease apart the three independent constraints that make up (3):

- (4) a. Years divisible by 4 have 366 days.
b. Years divisible by 100 have 365 days.
c. Years divisible by 400 have 366 days.

Furthermore, (3) also makes the following presupposition:

- (5) Years which do not have 366 days, have 365 days.

From an OT point of view, we can interpret this as the following four constraints, where each one overrides (i.e. "is ranked higher than") the former:

- (6) a. Years have 365 days.
b. Years divisible by 4 have 366 days.
c. Years divisible by 100 have 365 days.
d. Years divisible by 400 have 366 days.

Such constraints are arranged in a tableau like the following, where the higher ranking a constraint has, the further to the left it occurs. The "input" is a particular year, and the "candidates" are the different potential lengths of the year. This reflects that to be able to apply the rule in (3) one has to supply a year, and then the result will be the length of that particular year. ►► marks the optimal candidate (for technical reasons, it replaces the

pointing finger), * a constraint violation, and *! a fatal constraint violation (i.e. the constraint violation that caused a particular candidate to be less than optimal):

(7)	Input: 1999	Years divisible by 400 have 366 days	Years divisible by 100 have 365 days	Years divisible by 4 have 366 days	Years have 365 days
	a. 364 days				*!
	b. ▶▶365 days				
	c. 366 days				*!

Candidate (7b) wins, because it does not violate any constraints, it is not only optimal, it is perfect. Candidates (7a,c) lose, because they violate the constraint "Years have 365 days". The other constraints do not apply, 1999 is not divisible by 400, 100, or 4.

Consider now the year 1996 as input:

(8)	Input: 1996	Years divisible by 400 have 366 days	Years divisible by 100 have 365 days	Years divisible by 4 have 366 days	Years have 365 days
	a. 364 days			*!	*
	b. 365 days			*!	
	c. ▶▶366 days				*

Also here candidates (8a,c) violate the lowest ranked constraint "Years have 365 days". However, as candidate (8b) violates a higher ranked constraint, "Years divisible by 4 have 366 days", it is less optimal than candidate (8c). All three candidates (8a,b,c) violate at least one constraint, i.e. there is no perfect candidate. Nevertheless, there is a candidate which is better than the others, i.e. an optimal candidate. Here candidate (8c) is more optimal than (8b) because it does better on (i.e. it has less violations of) the highest constraint on which the two candidates differ, viz. "Years divisible by 4 have 366 days". The same is the case when (8c) is compared to (8a).

Consider now the year 1900 as input:

(9)	Input: 1900	Years divisible by 400 have 366 days	Years divisible by 100 have 365 days	Years divisible by 4 have 366 days	Years have 365 days
	a. 364 days		*!	*	*
	b. ▶▶365 days			*	
	c. 366 days		*!		*

As with the input "1996", candidates (9a,c) violate the lowest ranked constraint "Years have 365 days", and candidates (9a,b) violate the higher ranked constraint "Years divisible by 4 have 366 days". This is not relevant however, because as both candidate (9a) and candidate (9c) violate a higher ranked constraint, "Years divisible by 100 have 365 days", they are less optimal than candidate (9b), which does not violate this constraint.

Consider finally the year 2000 as input:

(10) Input: 2000	Years divisible by 400 have 366 days	Years divisible by 100 have 365 days	Years divisible by 4 have 366 days	Years have 365 days
a. 364 days	*!	*	*	*
b. 365 days	*!		*	
c. ►►366 days		*		*

Here only the highest ranked constraint is relevant: As both candidate (10a) and candidate (10b) violate the highest ranked constraint, "Years divisible by 400 have 366 days", they are less optimal than candidate (10c), which does not violate it.

Although this example is non-linguistic, it still illustrates two important points about OT: That constraints are violable and that the winner is the optimal candidate.

In order to illustrate a third point, namely that the ranking of the constraints may be crucial, consider the tableau for the input 2000 again. If we re-rank the two highest ranked constraints, the result changes:

(11)	INCORRECT RANKING !	Years divisible by 100 have 365 days	Years divisible by 400 have 366 days	Years divisible by 4 have 366 days	Years have 365 days
Input: 2000					
a. 364 days	*!	*	*	*	*
b. ►►365 days		*	*		
c. 366 days	*!				*

Here there could be no exceptions to the generalisation that years divisible by 100 have 365 days, and so we would incorrectly expect the year 2000 to have 365 days. If we formulate the leap year rule as in (6), it is important that the four constraints are ranked as in (7)-(10), and not as in (11).

This way of computing leap years thus illustrated three points about Optimality Theory: That constraints are violable, that the winner is the optimal candidate, and that constraints are ranked.

4.3 A linguistic example: V°-to-I° movement in Vikner (2000)

Consider as a linguistic example the way the differences concerning V°-to-I° movement (cf. chapter 1 above) in English and French were derived in Vikner (2000:432, (T14.4), 436, (T14.9)).

It was assumed that there were two different movements, namely either V°-to-I° movement, as in (12a)/(13a), or movement of the inflectional ending from I° to V°, as in (12b)/(13b).

(12)	English (& Danish)		Lx-Mv	Pr-Bd
a.	*... if she saw _i really v _i the film		*!	
b.	►► ... if she v _i really saw _i the film			*

(13)	French (& Icelandic)	Pr-Bd	Lx-Mv	
a.	►► ... si elle voyait _i vraiment v _i le film		*	
b.	*... si elle v _i vraiment voyait _i le film	*!		

The two relevant constraints were

- (14) a. Lx-Mv = **No Movement of a Lexical Head**: violated when a verb leaves V°.
- b. Pr-Bd = **Proper Binding**: violated when a trace (in I° here) c-commands its antecedent (in V° here).

This analysis can be paraphrased as follows: In English it is less bad for a trace to c-command its antecedent, i.e. to move something downward in the tree, than it is to move a lexical category, i.e. the main verb. In French, on the other hand, it is less bad to move the verb out of VP than it is to move something downward in the tree.

(12) and (13) illustrate the four points in (2):

Constraints are **violable**, (2a), cf. that both (12b) and (13a) violate a constraint and yet they are grammatical.

Constraints are **ordered** in a hierarchy, (2b), and they are **universal**, (2c), cf. that the same constraints are found in English and French, but in a different order of priority.

Finally, only the **optimal** version of a sentence is grammatical, (2d), cf. that both (12a) and (13b) are ungrammatical, because they are less optimal than their competitors (12b) and (13a). (12a) has more violations than (12b) of the highest ranking constraint on which they differ, namely Lx-Mv. (13b) has more violations than (13a) of the highest ranking constraint on which they differ, namely Pr-Bd.

Compared to the leap year case in the previous subsection, (12) and (13) thus illustrate two further points, namely that constraints are universal and that different grammars have the same constraints in different rankings.

Finally, as (12) and (13) deal with data which will also be discussed later (see chapter 5 below), they provide a basis for comparison between different accounts of the same phenomenon, V°-to-I° movement. The main reason why I chose to revise the analysis in (12) and (13) is that there is no link whatsoever to the strength of inflection. Icelandic and French might as well have had the ranking in (12) and English and Danish might as well have had the ranking in (13).

4.4 The candidates

The competing candidates are different realisations of the same input, or, if you like, different versions of the same sentence. "The *input* for a verbal extended projection is a lexical head plus its argument structure and an assignment of lexical heads to its arguments, plus a specification of the associated tense and aspect", Grimshaw (1997:375-376). For a more radical approach, in which it is argued that the input can be dispensed with, see e.g.

Heck et al. (2000).

A typical set of competing candidates, in this case for a Danish object question is the following:

(15)	Da.	a.	*Ib købte hvor mange bøger?	<i>Ib bought how many books?</i>
		b.	*Hvor mange bøger Ib købte?	<i>How many books Ib bought?</i>
		c.	Hvor mange bøger købte Ib?	<i>How many books bought Ib?</i>
		d.	*Ib gjorde købe hvor mange bøger?	<i>Ib did buy how many books?</i>
		e.	*Hvor mange bøger Ib gjorde købe?	<i>How many books Ib did buy?</i>
		f.	*Hvor mange bøger gjorde Ib købe?	<i>How many books did Ib buy?</i>
		g.	...	

Now it is up to the Optimality Theory linguist to figure out which constraints are relevant here and how they are ranked, so that only (15c) is optimal in Danish (and only (15f) is optimal in English).

In OT, the grammar is seen as having two main components, GEN (the generating component) and EVAL (the evaluation component). The candidates are generated by GEN and then evaluated by EVAL. In other words, what is illustrated by the OT tableaux is EVAL. GEN is much less of a departure from other variants of generative grammar: Constraints active here will be non-violable, as they constrain which candidates are generated, and thus potential candidates that violate a constraint in GEN will simply not be generated.

4.5 Optionality and ungrammaticality

Optionality (i.e. the grammaticality of two different and competing candidates) is possible in this theory, but only under certain circumstances.

4.5.1 Identical constraint profiles

One such set of circumstances is that two different competing structures have **exactly the same constraint profile** (i.e. they violate the same constraints to the same extent), and this constraint profile is the optimal constraint profile. In Vikner (2000: 435, (T14.8)), I use identical constraint profiles to account for the optionality of complementisers in English and mainland Scandinavian embedded clauses. Although also Grimshaw (1997) and many others use this, it has to be admitted that this kind of situation is extremely unlikely to obtain, as it is extremely unlikely that two competing structures violate all constraints to exactly the same extent.

4.5.2 Tied constraints

Another way of accounting for optionality is to posit **constraint ties** (see Müller 1999b for a detailed discussion of this and for further relevant references), i.e. saying that violating constraint A costs exactly the same as (is neither more nor less expensive than) violating constraint B. The notation is as follows: >> means "is ranked higher than" whereas <> means "is ranked the same as / is tied with". The major problem with constraint ties is that

the number of possible grammars, which already is not exactly small, increases enormously.

With two constraints, the number of possible grammars without constraint ties is 2 ($a \gg b, b \gg a$), with constraint ties it rises to 3 ($a \gg b, b \gg a, a \langle \rangle b$). With three constraints, the number of possible grammars without constraint ties is 6, whereas with constraint ties it rises to 13. With four constraints, the number of possible grammars without constraint ties is 24:

(16)

$a \gg b \gg c \gg d,$	$b \gg a \gg c \gg d,$	$c \gg a \gg b \gg d,$	$d \gg a \gg b \gg c,$
$a \gg b \gg d \gg c,$	$b \gg a \gg d \gg c,$	$c \gg a \gg d \gg b,$	$d \gg a \gg c \gg b,$
$a \gg c \gg b \gg d,$	$b \gg c \gg a \gg d,$	$c \gg b \gg a \gg d,$	$d \gg b \gg a \gg c,$
$a \gg c \gg d \gg b,$	$b \gg c \gg d \gg a,$	$c \gg b \gg d \gg a,$	$d \gg b \gg c \gg a,$
$a \gg d \gg b \gg c,$	$b \gg d \gg a \gg c,$	$c \gg d \gg a \gg b,$	$d \gg c \gg a \gg b,$
$a \gg d \gg c \gg b,$	$b \gg d \gg c \gg a,$	$c \gg d \gg b \gg a,$	$d \gg c \gg b \gg a$

whereas with constraint ties it rises to no less than 75:

(17)

$a \gg b \gg c \gg d,$	$a \langle \rangle b \gg c \gg d,$	$a \gg b \langle \rangle c \gg d,$	$a \gg b \gg c \langle \rangle d,$
$a \gg b \gg d \gg c,$	$a \langle \rangle b \gg d \gg c,$	$a \gg b \langle \rangle d \gg c,$	$a \gg c \gg b \langle \rangle d,$
$a \gg c \gg b \gg d,$	$a \langle \rangle c \gg b \gg d,$	$a \gg c \langle \rangle d \gg b,$	$a \gg d \gg b \langle \rangle c,$
$a \gg c \gg d \gg b,$	$a \langle \rangle c \gg d \gg b,$	$b \gg a \langle \rangle c \gg d,$	$b \gg a \gg c \langle \rangle d,$
$a \gg d \gg b \gg c,$	$a \langle \rangle d \gg b \gg c,$	$b \gg a \langle \rangle d \gg c,$	$b \gg c \gg a \langle \rangle d,$
$a \gg d \gg c \gg b,$	$a \langle \rangle d \gg c \gg b,$	$b \gg c \langle \rangle d \gg a,$	$b \gg d \gg a \langle \rangle c,$
$b \gg a \gg c \gg d,$	$b \langle \rangle c \gg a \gg d,$	$c \gg a \langle \rangle b \gg d,$	$c \gg a \gg b \langle \rangle d,$
$b \gg a \gg d \gg c,$	$b \langle \rangle c \gg d \gg a,$	$c \gg a \langle \rangle d \gg b,$	$c \gg b \gg a \langle \rangle d,$
$b \gg c \gg a \gg d,$	$b \langle \rangle d \gg a \gg c,$	$c \gg b \langle \rangle d \gg a,$	$c \gg d \gg a \langle \rangle b,$
$b \gg c \gg d \gg a,$	$b \langle \rangle d \gg c \gg a,$	$d \gg a \langle \rangle b \gg c,$	$d \gg a \gg b \langle \rangle c,$
$b \gg d \gg a \gg c,$	$c \langle \rangle d \gg a \gg b,$	$d \gg a \langle \rangle c \gg b,$	$d \gg b \gg a \langle \rangle c,$
$b \gg d \gg c \gg a,$	$c \langle \rangle d \gg b \gg a,$	$d \gg b \langle \rangle c \gg a,$	$d \gg c \gg a \langle \rangle b,$
$c \gg a \gg b \gg d,$			
$c \gg a \gg d \gg b,$			
$c \gg b \gg a \gg d,$			
$c \gg b \gg d \gg a,$	$a \langle \rangle b \langle \rangle c \gg d,$	$a \langle \rangle b \gg c \langle \rangle d,$	$a \gg b \langle \rangle c \langle \rangle d,$
$c \gg d \gg a \gg b,$	$a \langle \rangle b \langle \rangle d \gg c,$	$a \langle \rangle c \gg b \langle \rangle d,$	$b \gg a \langle \rangle c \langle \rangle d,$
$c \gg d \gg b \gg a,$	$a \langle \rangle c \langle \rangle d \gg b,$	$a \langle \rangle d \gg b \langle \rangle c,$	$c \gg a \langle \rangle b \langle \rangle d,$
$d \gg a \gg b \gg c,$	$b \langle \rangle c \langle \rangle d \gg a,$	$b \langle \rangle c \gg a \langle \rangle d,$	$d \gg a \langle \rangle b \langle \rangle c,$
$d \gg a \gg c \gg b,$		$b \langle \rangle d \gg a \langle \rangle c,$	
$d \gg b \gg a \gg c,$		$c \langle \rangle d \gg a \langle \rangle b,$	
$d \gg b \gg c \gg a,$			
$d \gg c \gg a \gg b,$			$a \langle \rangle b \langle \rangle c \langle \rangle d$
$d \gg c \gg b \gg a,$			

As grammars of natural languages are very likely to contain much more than four constraints, allowing constraints to be tied would make the number of possible grammars rise enormously, which then complicates correspondingly the task of the language-acquiring child (which is basically the task of ruling out all potential grammars except one).

4.5.3 Faithfulness

Yet another way of accounting for optionality is to exploit the interaction between two different types of constraints: **markedness** constraints and **faithfulness** constraints (see e.g. Kager 1999:9-10). Markedness constraints are constraints that penalise a particular situation

(e.g. syllables with a coda, or an ungoverned trace, or an empty X^0), whereas faithfulness constraints penalise disparity between input and output.

Consider the case of *if* and *whether*. In infinitives, (18), only *whether* is possible, whereas in finite clauses like (19), both may occur:

- (18) En. a. He doesn't know whether to go to the movies
 b. *He doesn't know if to go to the movies (Kayne 1991:665, (51), (52))
- (19) En. a. He doesn't know whether he should go to the movies
 b. He doesn't know if he should go to the movies
 (Kayne 1991:665, (53), (54))

We can account for the impossibility of (18b) by reference to (18a), i.e. by saying that there is a constraint that (18b) violates, but which (18a) does not violate. The constraint could be something like

(20) No *if* in infinitives

(a similar constraint might apply to the complementiser *that*). This is sometimes known as **neutralisation**, because the difference between *if* and *whether* is neutralised in infinitives.

This solution would of course work only if (18a) and (18b) compete with each other. And this again would mean that also (19a) and (19b) would compete with each other. And if they do, how come both (19a) and (19b) are grammatical?

One option is of course that (19a) and (19b) have exactly the same constraint profile, i.e. that they violate exactly the same constraints to exactly the same extent, cf. 4.5.1 above. It is, however, extremely unlikely that finite *if* and finite *whether* clauses have exactly the same constraint profile. The reason for this is that there are many differences between *if* and *whether* (in addition to (18)), even in finite clauses. The data below are based on Quirk et al. (1985:1053).

There are certain matrix expressions which show a preference for *whether* over *if*:

- (21) En. a. It is not irrelevant whether Denmark beats Germany
 b. ?It is not irrelevant if Denmark beats Germany
- (22) En. a. You have to justify whether your journey is really necessary
 b. ?*You have to justify if your journey is really necessary

Whereas both *if* and *whether* are possible if the embedded clause is in object position, only *whether* is possible when the clauses is in subject position:

- (23) En. a. It is not clear to me whether she likes the present
 b. It is not clear to me if she likes the present
- (24) En. a. Whether she likes the present is not clear to me
 b. ?*If she likes the present is not clear to me

Apposition clauses only allow *whether* (i.e. the embedded clause is an apposition to *the question*, not the complement of *the question*):

- (25) En. a. You have to answer my question, whether I can count on your vote
 b. ?*You have to answer my question, if I can count on your vote

Also subject complement clauses only allow *whether*:

- (26) En. a. My main problem now is whether I should ask for another loan
b. ?*My main problem now is if I should ask for another loan

Clauses which are the complement of a preposition only allow *whether*:

- (27) En. a. It all depends on whether Denmark beats Germany
b. ?*It all depends on if Denmark beats Germany

Finally, whereas both *if* and *whether* are possible if the embedded clause is followed by *or not*, only *whether* is possible when *or not* precedes the subject of the embedded clause:

- (28) En. a. He doesn't know whether he should go to the movies or not
b. He doesn't know if he should go to the movies or not
- (29) En. a. He doesn't know whether or not he should go to the movies
b. ?*He doesn't know if or not he should go to the movies

In other words: Because it is very unlikely that (finite) *if* and *whether* clauses have exactly the same constraint profile, and because we still want to account for the impossibility of (18b) by reference to (18a), i.e. by saying that there is a constraint which is violated by (18b), but not by (18a), we have to think of something else to ensure that (19a) and (19b) are both optimal¹.

If (19a) and (19b) cannot be optimal in the same competition, they have to be optimal in two different competitions. But if there are different competitions involved, i.e. one for *whether* and another one for *if*, we will need *whether* to win both the *whether*-competition and the *if*-competition, when the clause involved is infinitival, otherwise we could not prevent (18b) from being grammatical.

The idea is therefore to introduce a **faithfulness** constraint which will ensure that *if* wins the *if*-competition, and *whether* wins the *whether*-competition. Such a faithfulness constraint might be

- (30) Subordinating conjunctions present in the input must also be present in the output.

This would prevent *if* from winning the *whether*-competition, (19a), and *whether* from winning the *if*-competition, (19b). The difference between the two competitions would be whether their input includes *if* or *whether*:

¹Haegeman & Guéron (1999:176, 319) suggest that *whether* is in CP-spec whereas *if* is in C°. This is compatible with *whether* being a *wh*-element (*wh*-elements are typically XPs), and with *whether* not having a selectional preference for finite or infinitival sentences. Haegeman & Guéron (1999:176) take it that such preferences can only be expressed by a C° element, which to them is a selecting X°. However, of course we now have to explain why *if* and *whether* cannot cooccur (e.g. by saying that *if* requires an empty operator in its specifier position, cf. Vikner 1995a:123, Haegeman & Guéron 1999:180).

If this account is on the right track, it makes it (even) more likely that there are two different competitions involved in the various cases above, an *if*-competition and a *whether*-competition.

(31)	Input: <i>whether</i> + finite clause		(30) Faith	
a.▶▶	... <u>whether</u> he should go to the movies			= (19a)
b	*... <u>if</u> he should go to the movies		*!	= (19b)

(32)	Input: <i>if</i> + finite clause		(30) Faith	
a.	*... <u>whether</u> he should go to the movies		*!	= (19a)
b.▶▶	... <u>if</u> he should go to the movies			= (19b)

Of course all this only works if no higher ranked constraint intervenes. Such a higher ranked constraint could be the markedness constraint (20) above, i.e. "no *if* in infinitives". When (20) is ranked higher than the faithfulness constraint, the result would be the neutralisation case, namely that *whether* would win both the infinitival *if*-competition and the infinitival *whether*-competition:

(33)	Input: <i>whether</i> + infinitival clause	(20) Marked	(30) Faith	
a.▶▶	... <u>whether</u> to go to the movies			= (18a)
b	*... <u>if</u> to go to the movies	*!	*	= (18b)

(34)	Input: <i>if</i> + infinitival clause	(20) Marked	(30) Faith	
a.▶▶	... <u>whether</u> to go to the movies		*	= (18a)
b.	*... <u>if</u> to go to the movies	*!		= (18b)

4.5.4 Ungrammaticality

Notice that we have now also outlined a potential answer to the different question of **ungrammaticality**, i.e. how to account for sentences that seem not to have any well-formed versions (see e.g. Legendre et al. 1998:254).

The obvious problem for an optimality account here is that one version (candidate) of every sentence has to be the optimal one and hence grammatical. Given the above-mentioned distinction between markedness constraints and faithfulness constraints, the optimal output of a particular input, e.g. an infinitive question with *if*, may in some languages be a faithful candidate (e.g. in Italian) and in other languages a candidate that violates a faithfulness constraint (by not containing *if* or by being finite). In the latter case, the optimal candidate for a particular input (*if* + infinitive) may be identical to the optimal candidate for a different input, e.g. to *whether* + infinitive in English, (18a), or to a finite embedded question in Danish or German, which do not have infinitival embedded questions of the type in (18a), only finite embedded questions like (19).

4.6 Violability in Principles and Parameters Theory and Minimalism

That not all constraints are respected on the surface ("surface-true") makes it possible for constraints to conflict with each other. This again makes it possible to formulate more general (universal) constraints than is otherwise possible in generative grammar.

Grimshaw (1997:399) formulates it as follows: "Maximally general principles will inevitably conflict. The alternative is to formulate more specific principles which are designed never to conflict, and one price is generality. Only by allowing constraints to conflict can we avoid building the effects of every principle into all of the others that it potentially conflicts with."

Speas (1997:183) makes the same point: "The inviolability of the [...] principles is purchased at the price of complicating them". Speas then goes on to point out that even the principles of Principle and Parameter Theory are not inviolable:

(35) Principle	Essence	Hedge
Satisfy	All syntactic features must be satisfied ...	... overtly if they are 'strong' and covertly at Logical Form if they are weak.
Full Interpretation	There can be no superfluous symbols in a representation ...	... except symbols which delete before the interface level.
Extended Projection Principle	All clauses must have a subject ...	... except for languages which lack overt expletives.
Case Filter	An NP must have Case ...	... unless it is null.
Binding Principle A	An anaphor must be bound in its governing category ...	... unless it is one of a special class of anaphors which need not be bound.
Binding Principle B	A pronoun must be free in its governing category ...	... unless it occurs in an idiom like <i>lose her temper</i> .
Binding Principle C	A name must be free ...	... unless it is an epithet
X-bar Principles	Every category has a head, a specifier and a complement ...	... unless a given head takes no complement or has no features to check with its specifier.
Projection Principle	Lexical properties cannot be changed in the course of a derivation ...	... unless derivational morphology can take place in the syntax.

Empty Category Principle	A trace must be properly governed ...	... where "proper government" means government by a lexical head or a close enough antecedent.
Theta Criterion	All thematic roles must be assigned to an argument position, and all argument positions must receive a thematic role ...	... except that the agent of a passive may be absorbed by the verb, and the thematic roles of nouns need not be syntactically realised.
Subjacency	Movement cannot skip potential landing sites ...	... unless moving a "D-linked" <i>wh</i> -phrase. (Speas 1997:184, (6.24))

Instead of writing into each single principle the conditions under which it is violable (the "hedges" in (35)), we should pay more attention to violability and give it a more central role. The Minimalist programme (Chomsky 1995) pays more attention to violability than Principles and Parameters did, in so far as it has a whole group of principles which are violable, the "Economy considerations". However, also here it is written into each single principle (cf. the boldface parts below) when it must be violated in order for some other and more important principle not to be violated:

(36) **Economy Principles**

Least Effort	Make the fewest number of moves possible.
Procrastinate	Do not move overtly unless overt movement is forced.
Greed	Do not move X unless X itself has a feature that is satisfied via that movement.
Minimality	Movement must be to the closest possible landing site.
Minimize Chain Links	Long-distance dependencies must be as short as possible. (Speas 1997:185, (6.25))

Like Speas and other proponents of OT, I think that OT is simpler and more elegant, because it directly accounts for the interaction between violable constraints, and therefore makes it unnecessary to write the conditions into the individual constraints, and also because it allows more complicated types of interaction than the Minimalist framework does, even if certain implementations of Minimalism differ from Chomsky (1995) precisely in assigning a more central role to violability, see e.g. Bobaljik (1995:351).

Finally, it should be pointed out that the above references to violability of the constraints of the Principles and Parameters framework and of the Minimalist framework should only be taken to show that even these frameworks have to allow violability on a fairly large scale. I do not mean to suggest that OT absolutely has to incorporate violable versions of principles suggested in these frameworks.

Grimshaw (1998:12) makes this point very strongly: "Early work in OT syntax has often followed the strategy of taking existing constraints and examining the issue of whether they are violable (e.g. Grimshaw, Müller, Vikner, etc.). This strategy, while often useful, can also be dangerous. It is highly unlikely that, while pursuing theories of inviolable principles, researchers have found the very constraints that a theory of violability must posit. The very commitment of OT to general and primitive constraints is inconsistent with inviolability, and for this reason, relatively standard works on linguistic principles can be a

source of OT syntactic constraints only of the least interesting kind. Many of the constraints proposed in the OT syntax literature will require significant further analysis."

While I agree with this in principle, I think that it is worth remembering that Principles and Parameters Theory and Minimalism also strive for generality. Thus, although Optimality Theory linguists should of course try to see if OT allows even higher generality, it should not be counted as a strong argument against a formulation of a particular constraint that it had/has a similar formulation in Principles and Parameters Theory or in Minimalism.

Chapter 5. Finite main verbs

We now have what we need to begin the Optimality Theory analysis. The basic data to be accounted for were given in chapter 1, and two more subtle points were cleared up in chapters 2 and 3. Finally, chapter 4 introduced the analytic tools of Optimality Theory.

The relevant constraints will be introduced in section 5.1, divided into two groups: Constraints related to richness of inflection, 5.1.1, and constraints related to directionality, 5.1.2. In section 5.2, the derivation of embedded clauses (i.e. of non-V2 clauses) is discussed, a construction where the languages vary very much. In section 5.4, the derivation of V2 constructions is discussed, a construction where the difference between the languages is hidden by V2.

Section 5.3 discusses typological issues, and compares the predictions made with predictions made in an analysis with only non-violable constraints. It is also discussed whether there is a "missing" language (i.e. a language type predicted to exist for which no instantiations are known), and if so, whether this is a serious problem and what might be done about it.

Finally, section 5.5 contains the conclusion.

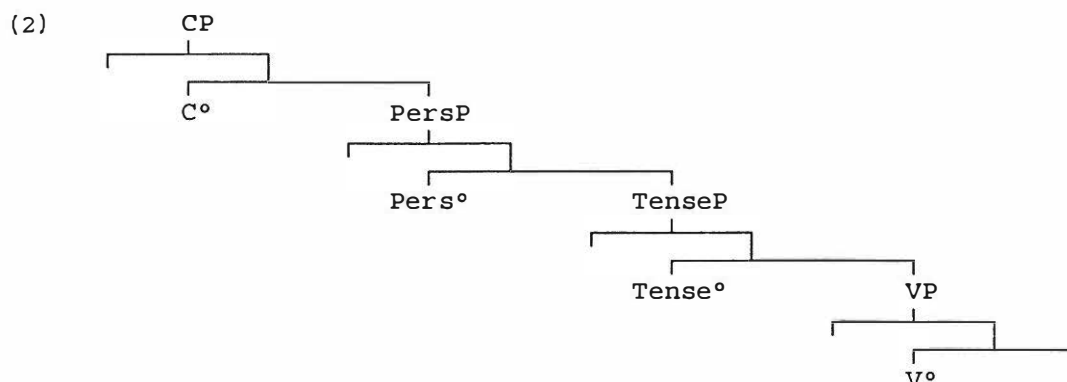
5.1 Constraints

5.1.1 Constraints related to richness of inflection

The first type of constraints to be discussed are those related to richness of inflection, i.e. the ones responsible for the partial link between V° -to- I° movement and strength of inflection, as discussed in chapters 1 and 3 above.

I will assume an internal structure of a finite verb as in (1), which reflects a basic clause structure as in (2) (which is equivalent to a standard clause structure as suggested by e.g. Belletti 1990: 28, (7), with "person" replacing "agreement"):

(1) [[[verb stem] tense affix] person affix]



I assume that Pers° and Tense° together correspond to what I referred to as I° in chapters 1-3 above. I will continue to assume that medial adverbials are adjoined to VP. This means that whereas it can be told (from its position relative to a medial adverbial) whether a verb is in V° or in $\text{Tense}^\circ/\text{Pers}^\circ$, it has no empirical consequences whether a verb is in Tense° or in Pers° . I shall therefore continue to refer to I° rather than to $\text{Tense}^\circ/\text{Pers}^\circ$ in

connection with discussion of data.

What seems to count (at least for the VO-languages, cf. chapter 1) is not whether or not a feature is marked but whether or not it is **distinctively** marked. An inflectional feature is distinctively marked if it is possible to obtain a different form by varying the feature in question (e.g. person) with respect to the X° that it attaches to (e.g. Tense $^\circ$) irrespective of the actual value of the latter. In other words, inflection for person is distinctive with respect to inflection for tense if regardless of which tense is chosen, a different verb form may be obtained by changing only the feature specification for person.

This formulation of distinctiveness forms part of three constraints in the OT account to be outlined below. Two of these constraints deal with morphological realisation, whereas the third one is of a more syntactic nature:

- (3) **Pers-Not-Dist = Features for person are not distinctively marked**
A subcase of a more general constraint "features are not distinctively marked", which again is a subcase of "linguistic expressions should contain as little material as possible".
- (4) **Pers-Dist = Features for person are distinctively marked**
A subcase of a more general constraint "features are distinctively marked", which again is a subcase of "linguistic expressions should convey as much information as possible".
- (5) **Check-Dist-Pers = Distinctively marked features for person are checked**
If a (phonetically realised) head is distinctively marked for the verbal feature Person, then its chain must include both Pers $^\circ$ and V $^\circ$. In other words, heads distinctively marked for the verbal feature Person must be verbs that move into or through Pers $^\circ$.

Reference is made to "the verbal feature Person", not to "agreement" (i.e. both person and number), cf. that unlike person, number is not a purely verbal feature (Vikner 1997:199).

Strictly speaking, it might be more accurate to refer to checking in the sense of (5) as "overt checking", to make it clear that also verbs which are not checked in the sense of (5), i.e. verbs which do not undergo V $^\circ$ -to-I $^\circ$ movement, are not allowed to have just any inflection for person or tense. I shall assume that Pers $^\circ$ /Tense $^\circ$ obligatorily license the closest inflectional morphemes of the relevant type that they dominate or c-command. In other words, GEN will only generate candidates where a head realising the right person features (or the trace of such a head) is in Pers $^\circ$ or c-commanded by Pers $^\circ$. In section 6.3 below, which deals with negation and *do*-insertion, this obligatory (but not necessarily overt) licensing will be seen as a kind of head-chain.

In principle, eight different constraint profiles should be possible with three constraints if we only distinguish between whether a constraint is violated or not (actually there are many more than eight possibilities if different degrees of violation are distinguished, but I am disregarding this for ease of exposition). In this case, however, five of these eight profiles are impossible, leaving only three possibilities, namely (6a): strong (i.e. distinctively marked) features which are checked, (6b): strong features which are not checked, and (6c): weak features (i.e. features which are not distinctively marked).

(6)	Pers Dist	Pers Not Dist	Check Dist Pers
POSSIBLE:			
a. strong features which are checked		*	
b. strong features which are not checked		*	*
c. weak features	*		
IMPOSSIBLE:			
* d. weak features which violate checking	*		*
* e. features both weak and strong			
* f. features both weak and strong			*
* g. features neither weak nor strong	*	*	
* h. features neither weak nor strong	*	*	*

The other possibilities either require that non-distinctive ("weak") features violate checking, which is impossible, as the checking constraint, (5), only refers to distinctive ("strong") features, or they require that features are either both distinctive and non-distinctive or neither distinctive or non-distinctive, both of which are also impossible.

By positing both **Pers-Not-Dist** and **Pers-Dist**, this analysis is compatible with the view that constraints from different modules should not interact directly. In other words, constraints from different modules should not be able to rerank, cf. that all that is needed is that the morphological constraint **Pers-Dist** is reranked with respect to **Pers-Not-Dist**, not with respect to any of the syntactic constraints. This amounts to saying that the syntax has to work with what the morphology (or the lexicon) provides. See also e.g. Müller (1997a), who suggests not only that there is such compartmentalisation, but also that there is inherent ranking between some components: salience (semantics/pragmatics) > > prosody/stress > > segmental phonology. Assuming that it is not the individual morphological and syntactic constraints that are ranked with respect to each other, but all of morphology and all of syntax that is ranked, we have the following two options:

- (7) a. Morphology > > Syntax \approx "If there is rich morphology, then move the verb."
b. Syntax > > Morphology \approx "If the verb moves, then make the morphology rich."

I take (7b) to be impossible: The language-acquiring child has to lexically acquire the inflectional morphology of her native language morpheme by morpheme, she cannot simply deduce the existence of "rich" morphology. If morphological richness could be caused by such an inference, we would expect the inflectional morphemes to vary much more from speaker to speaker than they actually do. Furthermore, under (7b), loss of V^o-to-I^o movement should be a potential cause of loss of inflectional morphology. This would predict that much more abrupt losses to be possible than what you might call "normal erosion". However, none of the Germanic languages which have lost V^o-to-I^o movement show any such abrupt losses of inflectional morphology.

Hence the only viable alternatives to (7a) would seem to be either no connection at all between V^o-to-I^o movement and verbal inflectional morphology or only a very limited connection between them.

No connection between the two at all is advocated e.g. by Sprouse (1998) and Alexiadou & Fanselow (2000). This view would mean that the descriptive generalisations in chapter 1 would be a complete coincidence.

A very limited connection between the two is advocated by Bobaljik (2000:14).

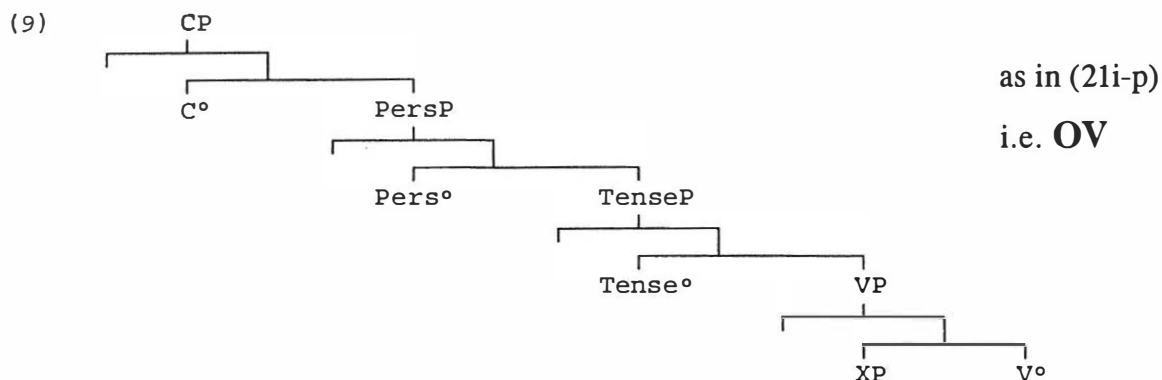
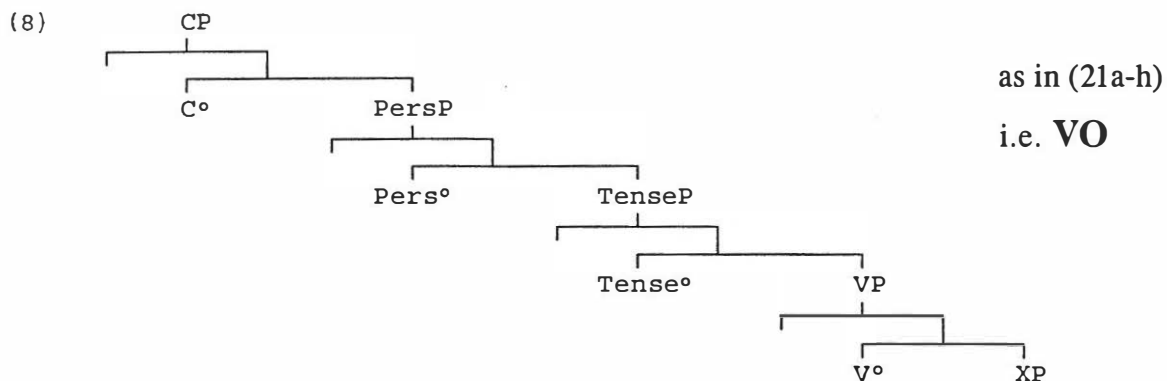
Following Thráinsson (1996:262) and Bobaljik & Thráinsson (1998:38), he says that V°-to-I° movement languages have two functional X°s, e.g. Tense° and Agr°, whereas non-V°-to-I° movement languages only have one functional X°, i.e. I°. It only follows that rich morphology entails V°-to-I° movement, but not that languages with poor morphology have no V°-to-I° movement. This is crucially based on the existence of languages which have poor inflection and nevertheless V°-to-I° movement. However, as discussed in section 1.1.3 above (and in Vikner 1995b:25, 1999:127), such languages would seem not to have been found yet.

5.1.2 Constraints related to directionality

The second type of constraints to be discussed are those related to directionality, i.e. the ones responsible for the difference between OV- and VO-languages, as discussed in chapter 2 above.

I shall follow Grimshaw (1999, 2000) in replacing Stay by Head-Left and Head-Right. I shall furthermore attempt to use Head-Left and Head-Right to derive the VO/OV difference (cf. e.g. Zepter 2000a,b).

I will assume that only a **lexical X°** (i.e. V°, P°, N°, Adj°) can be right OR left of its XP-sister. **Functional X°s** on the other hand are universally left of their XP-sisters (as suggested e.g. in Kiparsky 1996:169). Contrary to Grimshaw (1999, 2000) and Zepter (2000a,b), I will also assume that specifiers are always left of their X'-sister and that adjoined XPs are always left of their XP-sister. The only possible source of variation in the underlying structures is thus the order of lexical heads and their complements:



The approach taken here is not as fixed as Kayne's (1994) *Linear Correspondence Axiom* (LCA), where all X°s precede their XP-sisters. It is directly based on Haider's (1997b:15, 2000:47) *Branching Constraint*, which is very closely related to the *Basic Branching Condition* (BBC) in Haider & Rosengren (1998:48) and to the *Binary Branching Conjecture* in Haider (1993:28). Haider (2000:47): "Projection-internal branching nodes on the (extended) projection line follow their sister node. ... What the BC is to capture is the rigid right-branching structure internal to (functionally extended) projections of a lexical head. For the V projection, for instance, this is the V projection proper (as the lexical projection) plus its functional extensions up to CP". A complement is not a "projection-internal branching" node, as it is not internal, but sits at the top of a "functionally extended projection", and therefore the BC says nothing about the ordering of heads and their complements. All branching nodes which are not at the top of a functionally extended projection are restricted by the BC, they must follow their sisters, and therefore such sisters must all be on a left branch, be they adjuncts (both to XP and to X°), specifiers or functional heads. For further comparison between the BC and the LCA, see Haider (2000:50-64).

A final functional head (e.g. a complementiser that follows a clause rather than precedes it) would thus have to be the result of its XP-sister (e.g. IP) having moved to its specifier (e.g. CP-spec), cf. Kayne (1994:52-54), see also Uriagereka (1998:210) for binding data to support this assumption for Japanese. This goes against e.g. Bayer (1999) on final C°s in South Asian languages or Corver (1997) who argues that the Dutch AdjP contains two functional heads (Deg°, Q°) which follow their sisters rather than precede them. Haider (2000:49) provides a way out of this potential problem by saying that only those functional XPs into whose X° the verb (or rather the lexical X°) moves are part of the extended projection line. This would make it possible to have a C° on the right when the verb does not move into it. I do not wish to follow this because this would also not restrict the positions of Pers° and Tense° in languages without V°-to-I° movement.

This is also the reason why a constraint to the effect that all links in a chain must (c-command and) precede the next lower link, like Zepter's (2000a) *Antecedent-X°-Left*, would not suffice, as I also want functional heads which are **not** part of an X°-chain to be left of their XP-sisters.

When examined more closely, the variation found in directionality turns out to be much more constrained than might have been expected. Given four lexical categories, V°, P°, N°, and Adj°, sixteen combinations are possible in theory, since each of these four categories may take its complement either to the left or to the right, independently of the other three categories. However, the combinations actually attested are much fewer (see also Haider 1993:39-43):

(10) **Variation found in base order of lexical X° and their complements:**

N°	P°	V°	Adj°	
left	left	left	left	E.g. English, ...
left	left	RIGHT	RIGHT	E.g. German, ...
RIGHT	RIGHT	RIGHT	RIGHT	E.g. Turkish, ...

The "English type" of languages also includes all the Scandinavian and all the Romance languages.

As argued in chapter 2 above, the "German type" of languages also includes all other continental Germanic languages, e.g. Yiddish, Dutch, Afrikaans, West Flemish, Frisian, Swabian, and the three Swiss German variants from Sankt Gallen, Zürich, and Bern. It is then an open question whether a sentential complement in these languages is extraposed or unexpectedly base-generated to the right of the matrix verbs (see e.g. Haider 1997a and references there). It would also be expected that Adj° is to the right in these languages, as argued by Haider & Rosengren (1998:27) and in section 2.5 above, contra e.g. Webelhuth (1992:75) and Corver (1997:338).

Finally, the "Turkish type" of languages presumably includes a number of different languages, e.g. Basque, Bengali, Hindi, Japanese, Kannada, Korean, Latin, and Quechua.

I propose to derive the (limited) variation in (10) above by assuming three relevant constraints, **X° -Left**, **Pred-right**, and **X° -Right**, which are based on Grimshaw's (1999, 2000) **Head-Left** and **Head-Right**. If it is assumed that the constraints in (11)-(13) apply to phonetically realised heads and their traces, the typology in (14) is predicted:

- (11) **X° -Left** violated by any head which is right of its XP-sister
- (12) **Pred-right** violated by any V° or Adj° which is left of its XP-sister
- (13) **X° -Right** violated by any head which is left of its XP-sister

Although there are six possible rankings of these constraints, there are actually only three different possible outcomes, corresponding to the three patterns in (10) above:

- (14) a. X° -Left > > Pred-right > > X° -Right → left: $\text{N}^\circ/\text{P}^\circ/\text{V}^\circ/\text{Adj}^\circ$
- b. X° -Left > > X° -Right > > Pred-right → left: $\text{N}^\circ/\text{P}^\circ/\text{V}^\circ/\text{Adj}^\circ$
- c. Pred-right > > X° -Left > > X° -Right → left: $\text{N}^\circ/\text{P}^\circ$ AND right: $\text{V}^\circ/\text{Adj}^\circ$
- d. Pred-right > > X° -Right > > X° -Left → right: $\text{N}^\circ/\text{P}^\circ/\text{V}^\circ/\text{Adj}^\circ$
- e. X° -Right > > X° -Left > > Pred-right → right: $\text{N}^\circ/\text{P}^\circ/\text{V}^\circ/\text{Adj}^\circ$
- f. X° -Right > > Pred-right > > X° -Left → right: $\text{N}^\circ/\text{P}^\circ/\text{V}^\circ/\text{Adj}^\circ$

It might seem counterintuitive also to have traces count for alignment constraints like the ones in (11)-(13), but cf. that e.g. Chomsky (1993:35 = 1995:202) and Pesetsky (1997:142, 1998:360) consider a trace to be an unpronounced copy of the moved constituent.

By **Pred-right**, I understand a constraint **predicate- X° -Right**, which only applies to chains whose highest link is phonetically realised and which include a V° or a Adj° . It thus does not apply e.g. to a(n auxiliary) verb that is not inserted under V° (nor does it apply to nouns or prepositions).

I am here following Chomsky (1981:41) who suggests that verbs and adjectives have a lexical feature in common, viz. [+V], and that this feature may be taken to stand for "predicate". Van Riemsdijk & Williams (1986:42) refers to the property shared by the two [+V] categories as "predicative". Radford (1997:63-65) lists the following data, based on an observation in Stowell (1981:57, n17), as an argument in favour of verbs and adjectives forming a natural class:

- (15)
- | | |
|------------------|--|
| a. Verbs: | <i>undo, untie, unfold, unpack</i> |
| b. Adjectives: | <i>unafraid, unfriendly, unmanly, unkind</i> |
| c. Nouns: | <i>*unfear, *unfriend, *unwoman, *unconvention</i> |
| d. Prepositions: | <i>*uninside, *unby, *unon, *unfrom</i> |

Similarly, it is observed in Fanselow & Felix (1987:68) that verbs and adjectives have in common that they may be modified by an adverbial. (Admittedly verbs and adjectives do not form a natural class in Jackendoff 1977:31, and Chomsky 1970:199 also explicitly argues against verbs and adjectives forming a natural class.)

By positing a possible mirror image constraint **Non-Predicate-X°-Left** (or **[-V]-X°-Left**), the distinction mentioned above and discussed in chapter 6 below (between verbs inserted under V° and verbs inserted under a functional X°) could not be made, because no verbs, whether inserted under V° or not, would ever violate such a constraint.

In (46) in section 5.4 below, I will introduce a further constraint, **Obligatory Heads**, which is violated by every completely empty X° (as opposed to an X° containing a trace). This constraint also plays a role in determining where X°s may be.

The situation with respect to the positioning of heads can now be summarised as follows:

- (16) A functional head may
- be radically empty, in which case it violates **Obligatory Heads**, cf. (46) below.
 - contain only a feature, e.g. Pers° and Tense°, but no phonetic material, in which case it violates none of **Obligatory Heads**, **Pred-Right**, **X°-Right**, **X°-Left**.
 - contain phonetic material (or a trace thereof), in which case it violates **X°-Right** and possibly also **Pred-Right**. (GEN: non-lexical heads are left).
- (17) A lexical head must
- not be radically empty (GEN, due to the definition of a lexical head).
 - not contain only a feature (GEN, due to the definition of a lexical head).
 - contain phonetic material (or a trace thereof), in which case it violates either **X°-Left** or **X°-Right** and potentially also **Pred-Right**.

Compared to Grimshaw (1997) and to Vikner (2000), the two constraints **Stay** and **No-Lexical-Movement** are no longer necessary.

Because non-lexical heads (i.e. all possible landing site heads) are always to the left of their XP-sister (GEN forces all non-lexical heads to be on the left), every step of every movement of a verb or an adjective causes an additional violation of **Pred-Right** and **X°-Right**, but no further violations of **X°-Left**. **Pred-right** and **X°-Right** thus function in a way comparable to the earlier constraint **Stay**.

Because non-lexical heads (i.e. all possible landing site heads) are always to the left of their XP-sister (GEN forces all non-lexical heads to be on the left), every step of every movement of a verb inserted directly under a functional head causes an additional violation of **X°-Right**, but not one of **Pred-Right**: Only chains which include a V° or an Adj° count for **Pred-Right**. **Pred-Right** thus only penalises the movement of lexical verbs, comparable to the earlier constraint **No-Lexical-Movement**.

5.2 Embedded clauses: V°-to-I° movement and VO vs. OV

The first actual examples to be considered in this chapter are embedded clauses (of a kind where main clause word order is not possible), e.g. embedded questions:

- (18) a. En. ... if she really saw the film VO, -V→I
 b. Da. ... om hun virkelig så filmen VO, -V→I
 c. Fa. ... um hon virkuliga sá filmin VO, -V→I
- (19) a. Ic. ... hvort hún sá áreiðanlega myndina VO, +V→I
 b. Fr. ... si elle voyait en effet le film VO, +V→I
 c. Yi. ... oyb zi zet take dem film OV, +V→I
 ... if she saw really the film
- (20) a. Af. ... of sy die rolprent werklik sien OV, -V→I
 b. Du. ... of ze de film werkelijk zag OV, -V→I
 c. Fs. ... oft se de film echt wol seach OV, -V→I
 d. Ge. ... ob sie den Film tatsächlich sah OV, -V→I
 ... if she the film really saw

Note that what is important here is that the main verb is also the finite verb, i.e. that no auxiliary is needed. Therefore it is not relevant for the argumentation that the tense of the English example has to be past rather than present (Kamp & Reyle 1993:537ff, Vikner & Vikner 1997:280ff and references there), or that the Yiddish and Afrikaans examples have to have present tense rather than past (like Swabian and Swiss German, Yiddish and Afrikaans have no simple past, cf. both chapter 1 and 2.6.2 above).

Consider now the derivation of (18)-(20):

- (21) non-V2, finite main verb
- e.g. ... if she really saw the film (18a)
 e.g. ... om hun virkelig så filmen (18b)
 e.g. ... um hon virkuliga sá filmin (18c)

English/Danish/ Faroese: e C°P°T° [VP]	Pers Not Dist	Pers Dist	Chck Dist Pers	X° Left	Pred Right	X° Right	
◀ a. e e V DP +dist	*!		*		*	*	(??)
b. e V t DP +dist	*!		*		**	**	
◀ c. V t t DP +dist	*!				***	***	(Icelandic/French)
d. V t t t DP +dist	*!				****	****	
▶▶ e. e e V DP -dist		*			*	*	(English/Dan./Far.)
f. e V t DP -dist		*			**!	**	
g. V t t DP -dist		*			**!*	***	
h. V t t t DP -dist		*			**!***	****	
◀ i. e e DP V +dist	*!		*	*			(Frisian/German)
j. e V DP t +dist	*!		*	*	*	*	
◀ k. V t DP t +dist	*!			*	**	**	(Yiddish)
l. V t t DP t +dist	*!			*	***	***	
◀ m. e e DP V -dist		*		*!			(Afrikaans/Dutch)
n. e V DP t -dist		*		*!	*	*	
o. V t DP t -dist		*		*!	**	**	
p. V t t DP t -dist		*		*!	***	***	

The candidates are arranged according to three properties:

Firstly, verbs precede their complements in (21a-h), and follow their complements in (21i-p)¹.

Secondly, the finite verb is distinctively marked for person in (21a-d, i-l), but not in (21e-h, m-p).

Thirdly, the finite verb occurs in V° in (21a,e,i,m), in $Tense^\circ$ in (21b,f,j,n), in $Person^\circ$ in (21c,g,k,o), and in C° in (21d,h,l,p).

The candidate with a $\triangleright\triangleright$ in (21), i.e. (21e), is the **optimal** one.

The candidates with a \triangleleft in (21), i.e. (21a,c,i,k,m), are **potential winners**, i.e. constraint rankings are possible under which each of these would be optimal.

The candidates which do not have any \triangleleft or \triangleright in (21), i.e. (21b,d,f,g,h,j,l,n,o,p), are "**eternal losers**", they could never win regardless of how the constraints were ranked. For each of these losers, there is at least one potential winner which will always be more optimal, regardless of the ranking of the constraints. For e.g. (21b), this potential winner is (21a). Technically speaking, (21a) "**harmonically bounds**" (21b), e.g. it is because of (21a) that (21b) can never be the optimal candidate, (21a) will always be more harmonic, i.e. more optimal, than (21b).

In the tableaux below for the same case in the different languages, (21')-(26), it is thus only necessary to consider those six candidates which are not harmonically bounded. This does not mean that the rest of the candidates are completely uninteresting, cf. e.g. that the fact that all candidates with the finite verb in $Tense^\circ$, (21b,f,j,n), are harmonically bounded (by (21a,e,i,m) respectively) accounts for why the finite verb does not occur in $Tense^\circ$ in any of the languages under consideration: Nothing is gained by moving the verb from V° only to $Tense^\circ$, it is always more optimal not to move the verb at all.

The comparative tableaux, (21')-(26) below, are all abbreviated versions of (21), with different rankings. In (21')-(26), the "eternal losers" have been filtered out, and the candidates have been kept constant, i.e. candidate (21e) = (21'e) = (22e) = ... = (26e). For an overview of the ranking variations in (21')-(26), see (31) below.

(21') non-V2, finite main verb

e.g. ... *if she really saw the film* (18a)
e.g. ... *om hun virkelig så filmen* (18b)
e.g. ... *um hon virkuliga så filmin* (18c)

English/Danish/ Faroese: e $C^\circ P^\circ T^\circ$ [VP]	Pers Not Dist	Pers Dist	Chck Dist Pers	X° Left	Pred Right	X° Right
\triangleleft a. e e V DP +dist	*!		*		*	*
\triangleleft c. V t t DP +dist	*!				***	***
$\triangleright\triangleright$ e. e e V DP -dist		*			*	*
\triangleleft i. e e DP V +dist	*!		*	*		
\triangleleft k. V t DP t +dist	*!			*	**	**
\triangleleft m. e e DP V -dist		*		*!		

English, Danish and Faroese are VO-languages without V° -to- I° movement. The absence of V° -to- I° movement is derived by having **Pers-Not-Dist** being ranked above **Pers-Dist**, cf. (6c) in section 5.1.1 above. The VO-property is derived by having **X° -Left** outrank both **Pred-Right** and **X° -Right**, cf. (14a,b) in section 5.1.2 above.

¹Note that the definite object has undergone scrambling in (20), cf. section 2.2.2 above and Haider & Rosengren (1998) and references there.

Consider now what happens when only one minor change is made, compared to (21)/(21'): Reversing the ranking of **Pers-Not-Dist** and **Pers-Dist**.

- (22) non-V2, finite main verb
- e.g. ... *hvort hún sæi áreiðanlega myndina* (19a)
e.g. ... *si elle voyait en effet le film* (19b)

Icelandic/French: c		Pers Dist	Pers Not Dist	Chck Dist Pers	X° Left	Pred Right	X° Right
C°P°T° [VP]							
◀ a.	e e V DP +dist		*	*!		*	*
▶▶ c.	V t t DP +dist		*			***	***
◀ e.	e e V DP -dist	*!				*	*
◀ i.	e e DP V +dist		*	*!	*		
◀ k.	V t DP t +dist		*		*!	**	**
◀ m.	e e DP V -dist	*!			*		

French and Icelandic are VO-languages with V°-to-I° movement. The presence of V°-to-I° movement is derived by having **Pers-Dist** being ranked above **Pers-Not-Dist**, cf. (6a) in section 5.1.1 above. This only works because **Check-Dist-Person** is not outranked by **Pred-Right**, cf. (25) below. Finally, as in English, Danish and Faroese above, the VO-property is derived by having **X°-Left** outrank both **Pred-Right** and **X°-Right**, cf. (14a,b) in section 5.1.2 above.

Consider now what happens when a different minor change is made, compared to (21)/(21'): Reversing the ranking of **X°-Left** and **Pred-Right**.

- (23) non-V2, finite main verb
- e.g. ... *of sy die rolprent werklik sien* (20a)
e.g. ... *of ze de film werkelijk zag* (20b)

Afrikaans/Dutch: m		Pers Not Dist	Pers Dist	Chck Dist Pers	Pred Right	X° Left	X° Right
C°P°T° [VP]							
◀ a.	e e V DP +dist	*!		*	*		*
◀ c.	V t t DP +dist	*!			***		***
◀ e.	e e V DP -dist		*		*!		*
◀ i.	e e DP V +dist	*!		*		*	
◀ k.	V t DP t +dist	*!			**	*	**
▶▶ m.	e e DP V -dist		*			*	

Afrikaans and Dutch are OV-languages without V°-to-I° movement. As in English, Danish and Faroese above, the absence of V°-to-I° movement is derived by having **Pers-Not-Dist** being ranked above **Pers-Dist**, cf. (6c) in section 5.1.1 above. The OV-property (for only verbs and adjectives) is derived by having **Pred-Right** outrank **X°-Left** which again outranks **X°-Right**, cf. (14c) in section 5.1.2 above.

Consider now what happens when both of the two minor changes from above apply at once: Compared to (21) and (21'), the following tableau has reversed both the ranking of **Pers-Not-Dist** and **Pers-Dist** and the ranking of **X°-Left** and **Pred-Right**:

(24) non-V2, finite main verb

e.g. ... *oyb zi zet take dem film* (19c)

Yiddish: k	Pers Dist	Pers Not Dist	Chck Dist Pers	Pred Right	X° Left	X° Right
C°P°T° [VP]						
◀ a. e e V DP +dist		*	*!	*		*
◀ c. V t t DP +dist		*		***!		***
◀ e. e e V DP -dist	*!			*		*
◀ i. e e DP V +dist		*	*!		*	
▶▶ k. V t DP t +dist		*		**	*	**
◀ m. e e DP V -dist	*!				*	

Yiddish is an OV-language with V°-to-I° movement. The presence of V°-to-I° movement is derived by having **Pers-Dist** being ranked above **Pers-Not-Dist**, cf. (6a) in section 5.1.1 above. The OV-property (for only verbs and adjectives) is derived by having **Pred-Right** outrank **X°-Left** which again outranks **X°-Right**, cf. (14c) in section 5.1.2 above.

So far we have derived four language types by applying either none of the two independent rerankings seen so far, or applying one of them, or the other one of them, or both of them. This would be sufficient if we only had four language types to account for, and if we had some independent support for these two possible rerankings being the only possible ones.

However, there are other kind of possible rerankings, and one is having **Pred-Right** outrank not only **X°-Left** and **X°-Right** but also **Check-Dist-Person**. This is what we see in the following tableau of German and Frisian:

(25) non-V2, finite main verb

e.g. ... *oft se de film echt wol seach* (20c)

e.g. ... *ob sie den Film tatsächlich sah* (20d)

German/Frisian: i	Pers Dist	Pers Not Dist	Pred Right	Chck Dist Pers	X° Left	X° Right
C°P°T° [VP]						
◀ a. e e V DP +dist		*	*!	*		*
◀ c. V t t DP +dist		*	*!***			***
◀ e. e e V DP -dist	*!		*			*
▶▶ i. e e DP V +dist		*		*	*	
◀ k. V t DP t +dist		*	*!*		*	**
◀ m. e e DP V -dist	*!				*	

German and Frisian are OV-languages without V°-to-I° movement, but as opposed to Dutch and Afrikaans, they do have distinctive inflection for person, which is why **Pers-Dist** is ranked above **Pers-Not-Dist**. Nevertheless there is no V°-to-I° movement, because **Pred-Right** outranks not only **X°-Left** and **X°-Right** but also **Check-Dist-Person**, which means that it is more important to stop even predicative heads from moving into functional heads (which would incur **Pred-Right** violations, because universally, functional heads are on the left) than it is to check distinct inflection for person, cf. (6b) in section 5.1.1 above. The ranking of the three lower constraints is irrelevant.

Notice that I kept **Pers-Dist** ranked above **Pers-Not-Dist** in (25). If this were to be reversed, the rest of the ordering in (25) would derive exactly the same sentences as (23) above, i.e. as in Dutch and Afrikaans.

The last possible optimal candidate, (21a) = (21'a) = (22a) = ... = (26a), is optimal if a different reranking is made, such that **X°-Left** outranks **Pred-Right**, which again outranks **Check-Dist-Person**. (If **Check-Dist-Person** were to outrank **Pred-Right**,

the result would be (26c), just as in (22) above).

(26) non-V2, finite main verb (Ic./Fr. morphology with Da./En. syntax)

UNATTESTED: a	Pers Dist	Pers Not Dist	X° Left	Pred Right	Chck Dist Pers	X° Right
C°P°T° [VP]						
►►a. e e V DP +dist		*		*	*	*
◄ c. V t t DP +dist		*		***!		***
◄ e. e e V DP -dist	*!			*		*
◄ i. e e DP V +dist		*	*!		*	
◄ k. V t DP t +dist		*	*!	**		**
◄ m. e e DP V -dist	*!		*			

This language type, which is not attested within the Germanic and Romance languages, would be a VO-language without V°-to-I° movement, and as opposed to English, Danish and Faroese, it would have distinctive inflection for person.

In the discussion above, three direct consequences of pairwise rankings have become clear.

The first corollary is that whether a language has distinctive inflection for person or not depends on the ranking of the two morphological constraints:

- (27) a. Pers-Not-Dist >> Pers-Dist → Non-distinctive inflectional morphology
b. Pers-Dist >> Pers-Not-Dist → Distinctive inflectional morphology

Secondly, whether or not distinctive inflection for person leads to V°-to-I° movement or not depends on how high **Check-Dist-Person** is ranked:

- (28) a. Pred-Right >> Check → no V°-to-I° movement (regardless of verbal inflection)
b. Check >> Pred-Right → V°-to-I° movement (iff rich verbal inflection)

Finally, whether a language has the basic order VO or OV depends on how **X°-Left** is ranked with respect to the two head-right constraints, **Pred-Right** and **X°-Right**:

- (29) a. Pred-Right >> X°-Left → OV
b. X°-Left >> Pred-Right → VO

If **Pred-Right** in (29) were replaced by **X°-Right**, it would only have any consequences in (29a), and such consequences would not concern the data discussed here, but only the syntax of nouns and prepositions (which could be initial/left with **Pred-Right** in (29) if **X°-Left** outranks **X°-Right**, but which would have to be final/right with **X°-Right** replacing **Pred-Right** in (29a), cf. (14c,d)).

The reason why the interaction of these three binary choices does not result in 8 languages (2³) is that **Check-Dist-Person** can only have an effect in half of the cases, namely only if verbal inflectional morphology is "rich", i.e. distinctive for person. In the following section, a potential further reduction from six to five or four possible languages is discussed.

5.3 Typologies

5.3.1 Four or six different types?

Six candidates are potential winners in (21)-(26). However, only five of these are actually attested, one would seem not to exist:

- (30) a: **NOT ATTESTED** (Icelandic/French morphology with English/Danish syntax)
 c: French, Icelandic
 e: English, Danish, Faroese (& Norwegian, Swedish)
 i: German, Frisian (& Swabian, Swiss German, West Flemish)
 k: Yiddish
 m: Dutch, Afrikaans

Six different rankings that would derive the respective candidates in (21)-(26) and (30) are the following (as mentioned in the previous section, some of the candidates would also be optimal under other rankings):

(31)									
<u>P°T° [VP]</u>									
a. e e V DP +dist	Pers Dist	Pers Not Dist			X° Left	Pred Right	Chck Dist Pers	X° Right	not attested, (26)
<div> <div></div> <div> <div></div> <div></div> </div> </div>									
c. V t t DP +dist	Pers Dist	Pers Not Dist		Chck Dist Pers	X° Left	Pred Right		X° Right	French/Icelandic, (22)
<div> <div></div> <div> <div></div> <div></div> </div> </div>									
e. e e V DP -dist		Pers Not Dist	Pers Dist	Chck Dist Pers	X° Left	Pred Right		X° Right	English/Danish/Faroese, (21)/(21')
<div> <div></div> <div> <div></div> <div></div> </div> </div>									
<u>P°T°</u> <u>V°</u>									
m. e e DP V -dist		Pers Not Dist	Pers Dist	Chck Dist Pers	Pred Right	X° Left		X° Right	Dutch/Afrikaans, (23)
<div> <div></div> <div> <div></div> <div></div> </div> </div>									
k. V t DP t +dist	Pers Dist	Pers Not Dist		Chck Dist Pers	Pred Right	X° Left		X° Right	Yiddish, (24)
<div> <div></div> <div> <div></div> <div></div> </div> </div>									
i. e e DP V +dist	Pers Dist	Pers Not Dist		Pred Right	Chck Dist Pers	X° Left		X° Right	German/Frisian, (25)

This clearly shows that in an OT framework like the present, six different language types are predicted, each of the following three (\approx (6a-c)) in a VO- and an OV-version:

all lack V°-to-I° movement.

Hence I prefer to look for an alternative way of dealing with the potential problem of the "missing" language.

One is to find a way of ruling out the constraint ranking that gives rise to the missing language, i.e. (31a), and this might be possible by an appeal to the mechanisms of constraint conjunction, as discussed in 5.3.3 below.

Another way of dealing with this problem is to say that although this kind of language is not found within Germanic and Romance, it may be found outside these two language families. In 5.3.4, I will discuss the possibility that one of the Slavic languages is an example of (31a).

Finally, even if it should turn out that there is no language spoken which corresponds to (26a)/(30a)/(31a), this would not necessarily be a disaster. Overgeneration (the prediction that a type of language exists that we do not know any examples of) is much preferable to undergeneration (the prediction that a type of language does not exist that we do know examples of). The end of 5.3.1. above argued that whereas the present OT analysis might overgenerate, an analysis in terms of non-violable generalisations would either undergenerate or lose the direct relation between strength of features and morphological richness. Also, it has to be kept in mind, that it is the task of linguistics to account for all possible human languages, including those who no longer exist, and those which do not exist yet, and so a certain amount of overgeneration with respect to those languages which have been described and analysed is actually desirable.

5.3.3 Constraint conjunction

As (26a)/(30a)/(31a) is the only potential winning candidate that violates both **Check** and **Pred-Right**, cf. (26a), one way of ruling it out is by using a mechanism originally suggested by Smolensky (1995, 1997): "Local constraint conjunction", cf. also Kager (1999:392-400). If a constraint would exist that is a conjunction between **Check** and **Pred-Right**, then (26a) would violate it, but the other five potential winning candidates, (26c,e,i,k,m), would not, cf. (34) below. A candidate only violates a conjoined constraint when it violates both of the constraints that make up the conjoined constraint.

Smolensky (1995:2,4) and Ito & Mester (1999:5) assume that a conjoined constraint must be ranked above the two constraints that it is composed of. If this is so, such a new conjoined constraint, **Check & Pred-Right**, would make it impossible for (26a)/(34a) to ever win, as it will lose out to (26c)/(34c) or (26e)/(34e), as long as **Check & Pred-Right** has to be ranked above **Pred-Right** and **X°-Right**, in which case the ranking in (31a)/(34) would lead to the same result as (31b), i.e. to the word order in Icelandic and French:

(34) non-V2, finite main verb, with local conjunction

"same" ranking as (26)

(Fr./Ic. morphology with En./Da. syntax)

NEW
▼

The unattested (a) cannot possibly win C°P°T° [VP]	Pers Dist	Pers Not Dist	X° Left	Chck & Pred	Pred Right	Chck Dist Pers	X° Right
a. e e V DP +dist		*		*!	*	*	*
►►c. V t t DP +dist		*			***		***
◄ e. e e V DP -dist	*!				*		*
◄ i. e e DP V +dist		*	*!			*	
◄ k. V t DP t +dist		*	*!		**		**
◄ m. e e DP V -dist	*!		*				

▲
NEW

As can be seen from (34), ruling out (34a) universally requires not only that **Check & Pred-Right** be ranked higher than **Pred-Right**, but also that **Check & Pred-Right** be ranked higher than **X°-Right**. The latter can be achieved in a parallel fashion to the former, if it is assumed that **Pred-Right** itself be seen as the result of a constraint conjunction, viz. one between **No-Predicate-X°** and **X°-Right**. This would impose the following partial rankings universally: **Check & Pred-Right** > > **Pred-Right** > > **X°-Right**. If the existence of conjoined constraints in UG has to be assumed anyway (i.e. to get **Check & Pred-Right**), then the additional assumption that **Pred-Right** itself is a conjoined constraint would not seem to be particularly counterintuitive.

However, in my view it remains an open question whether a conjoined constraint by definition has to be ranked above the two constraints that it is composed of (as assumed e.g. by Smolensky 1995:2,4 and Ito & Mester 1999:5), or whether it only has to be ranked above the two constraints in order to have any effect. If the latter were the case, then ranking a conjoined constraint lower than one of the two constraints that it is composed of would effectively be a way of "switching it off". In order to universally rule out (34a), the latter would have to be impossible. The ranking of the conjunction above the two constraints would have to be the only one possible.

Furthermore, UG would have to define exactly which conjoined constraints exist and which do not exist. Conjoined constraints could not just be options that one grammar may exploit and another one not exploit. Crowhurst & Hewitt (1997:5), e.g., advocate the latter view, whereas Smolensky (p.c.) is open to both options. In other words, to rule out (26a)/(30a)/(31a), UG must contain not only the constraints **Check** and **Pred-Right** but also the constraint **Check & Pred-Right**, and the conjunction must be ranked above the other two constraints universally.

What the conjoined constraint **Check & Pred-Right** says is: Having a real verb/adjective in (and/or moving a real verb/adjective into) a head-initial position is particularly bad in sentences where **Check** is violated.

Avoiding a violation of **Check** necessarily forces a violation of **Pred-Right**, and so the conjunction says that violating **Pred-Right** without achieving a satisfaction of **Check** is "not just not very smart, it is really stupid".

What is the domain of application of **Check & Pred-Right**? The analysis only requires that both **Check** and **Pred-Right** are violated within the same clause (the minimal IP/PersP). The domain should crucially not be limited to cases where the same verb has to cause the two violations, as this would not be fulfilled in *do*-insertion cases (where *do*

violates **Check** and the real verb violates **Pred-Right**).

5.3.4 Is the missing language found among the Slavic languages?

Instead of appealing to constraint conjunction to rule out the ranking that is not instantiated, it could also be that it is not desirable to rule out the "missing" language type at all. Such a language may actually exist, even if not within Germanic and Romance. It has often been suggested to me that one of the Slavic languages may instantiate (31a), i.e. be a language with rich inflection (like French and Icelandic), but without V^o -to- I^o movement (like English and Danish). This may be so, but it is not easy to establish. Below I will demonstrate what the difficulties are with respect to Russian and Polish.

The first question is whether Polish and Russian have rich inflection in the sense of chapter 1 (person distinctions in every tense). Compare the following to the paradigms in 1.1.2 and 1.2.1 above:

(35) *hear*, infinitive, imperatives, participles, gerunds, present and past tense:

	Polish	Russian
Infinitive	słyszeć	slyšat'
Present		
1 st singular	ja słyszę	ja slyšu
2 nd singular	ty słyszysz	ty slyšiš'
3 rd singular	on słyszy	on slyšit
1 st plural	my słyszymy	my slyšim
2 nd plural	wy słyszycie	vy slyšite
3 rd plural	oni słyszą	oni slyšat
Past masculine		
1 st singular	ja słyszałem	ja slyšal
2 nd singular	ty słyszałeś	ty slyšal
3 rd singular	on słyszał	on slyšal
1 st plural	my słyszeliśmy	my slyšali
2 nd plural	wy słyszeliście	vy slyšali
3 rd plural	oni słyszeli	oni slyšali
Past feminine		
1 st singular	ja słyszałam	ja slyšala
2 nd singular	ty słyszałaś	ty slyšala
3 rd singular	ona słyszała	ona slyšala
1 st plural	my słyszałyśmy	my slyšali
2 nd plural	wy słyszałyście	vy slyšali
3 rd plural	one słyszały	oni slyšali
Past neuter		
3 rd singular	ono słyszało	ono slyšalo
3 rd plural	one słyszały	oni slyšali

The Slavic languages have the unique feature that the past tense is inflected for gender, because it has developed from what was historically a participle.

Although the past tense forms in all the Slavic languages are thus heavily inflected, in Russian the past tense is inflected for number and for gender but not for person. As

pointed out by Rohrbacher (1999:152, n21), it could therefore be claimed that Russian does not have distinctive inflection for person in all tenses, because person is clearly not distinctive in the past tense. This however presupposes that what I have called the past tense in (35) above is actually a tense, and this is not completely clear.

In Polish, on the other hand, the past tense is inflected for number, for gender and for person, and so Polish would seem to have distinctive inflection for person in all tenses. However, the Polish past tense forms present a different problem, because it is not for sure that the inflection for person in the Polish past tense actually is an inflectional ending of the verb. It could also be taken to be an independent morpheme which have to cliticise, because it may also cliticise to a different element, e.g. to the subject pronoun:

- (36) Po. a. (My) wyjechali^{my} rano
 (We) left.PAST.1PL in the morning
- b. My^{my} wyjechali rano
 We.1PL left.PAST in the morning (Bielec 1998:49)

This is not possible with the inflection for person in the present tense, this inflection has to occur at the end of the finite verb. In other words, as for the morphology (i.e. the ranking of **Pers-Dist** and **Pers-Not-Dist**), Polish seems to be a better bet than Russian for being an example of the missing language which instantiates (31a), even if it is not unproblematic.

Let us now turn to the syntax. That Russian does not have V°-to-I° movement can be seen by comparing the following to the examples in 1.1.1 above:

- (37) Ru. Oni sprosili ...
 They asked ...
- a. ... kogda ona I° na samom dele V° smotrela ètot fil'm
 b. *... kogda ona smotrela na samom dele ètot fil'm
 ... when she (watched) actually (watched) this film

It has to be admitted, however, that the Russian data are less robust than the Germanic and Romance data as discussed above, e.g. in chapter 1. This can be seen from the fact that if the finite verb is an auxiliary verb, the V°-to-I° movement option, (38b) is only degraded compared to the option without V°-to-I° movement, (38a), rather than ungrammatical as (37b) above:

- (38) Ru. Oni sprosili ...
 They asked ...
- a. ... kogda ona I° na samom dele V° budet smotret' ètot fil'm
 b. ?... kogda ona budet na samom dele smotret' ètot fil'm
 ... when she (will) actually (will) watch this film

This impression is supported by the following data from Benedicto (1994) cited by Rohrbacher (1999):

- (39) Ru. a. Anna I° bystro V° čitaet recepty
 b. *?Anna čitaet bystro recepty
 Anna (reads) quickly (reads) recipes
 (Rohrbacher 1999:150, (vi), based on Benedicto 1994:5, (14))

- (40) Ru. a. Studenty I° vse V° čitajut Vojnu i Mir
 b. *Studenty čitajut vse Vojnu i Mir
 Students (read) all (read) War and Peace
 (Rohrbacher 1999:150, (vii), based on Benedicto 1994:5, (16))

Russian may thus be taken, somewhat tentatively, not to have V°-to-I° movement. Polish, on the other hand, would seem to have optional V°-to-I° movement, as both options are possible (see Trutkowski 2000, who accounts for the situation by having a tie between the two constraints that determine that English has no V°-to-I° movement and that French has V°-to-I° movement):

- (41) Po. a. ... że Janek I° często V° je pomidory
 b. ... że Janek je często pomidory
 ... that Janek (eats) often (eats) tomatoes (Trutkowski 2000)

- (42) Po. a. Janek I° często V° będzie czytał ten magazyn
 b. Janek będzie często czytał ten magazyn
 Janek (will) often (will) read this magazine (Trutkowski 2000)

It could of course be that the position of sentential adverbials is not a reliable indicator of V°-to-I° movement in Polish, cf. that the adverbial *often* may even occur between the infinitive and the object:

- (43) Po. Janek będzie czytał często ten magazyn
 Janek will read often this magazine (Trutkowski 2000)

According to Trutkowski (2000), this is not just true for the time adverbial *often* but also for e.g. *prawdopodobnie* 'probably', *moim zdaniem* 'in my opinion', and *mimo wszystko* 'after all'.

This does not hold for Russian, the adverbial is impossible between a non-finite verb and the object (unless the adverbial receives contrastive stress):

- (44) Ru. ??Oni sprosili kogda ona budet smotret' na samom dele étot fil'm
 They asked when she will watch actually this film

Summing up: As for the morphology, Polish seems to be the better candidate for a language defined by the ranking in (26a)/(30a)/(31a), but with respect to the syntax, Russian seems to be the better candidate. And both are far from completely convincing.

5.4 V2 clauses

A complete analysis must also take into account what happens in those main clauses which differ from embedded clauses, i.e. it must account for cases where the verb moves to C°:²

- (45)
- | | | | | | | |
|----|-----|-------------------|-----------------|------------|---------------|---|
| a. | Da. | Hvad for en film | <u>så</u> | hun | egentlig | ? |
| b. | Fa. | Hvat fyri film | <u>sá</u> | hon | egentliga | ? |
| c. | Ic. | Hvaða mynd | <u>sá</u> | hún | eiginlega | ? |
| d. | Fr. | Quel film | <u>voyait-</u> | elle | vraiment | ? |
| e. | Yi. | Voser film | <u>zet</u> | zi | eygntlekh | ? |
| f. | Af. | Watter rolprent | <u>sien</u> | sy | eintlik | ? |
| g. | Du. | Welke film | <u>zag</u> | ze | eigenlijk | ? |
| h. | Fs. | Hokfoar film | <u>seach</u> | se | eins | ? |
| i. | Ge. | Welchen Film | <u>sah</u> | sie | eigentlich | ? |
| | | <i>Which film</i> | <i>sees/saw</i> | <i>she</i> | <i>really</i> | ? |

As in Vikner (2000), I am here adopting a version of Grimshaw's (1997) account of Verb Second (V2). As discussed in Vikner (2000) and in chapter 7 below, the languages under discussion vary with respect to whether only *wh*-elements or also other kinds of operators (i.e. elements that undergo topicalisation/fronting) have to move into CP-spec. I shall disregard this difference for the moment, as all the languages have some amount of V2. Once an element has to move to CP-spec, the existence of a new C° is forced, due to X-bar-structure (which is part of GEN). This new C° is completely empty, i.e. it is not the realisation of a feature (as opposed to e.g. Pers° or Tense°). If it is not filled by phonetic material, it violates **Obl-Head**:

- (46) **Obligatory heads**,
violated by every completely empty X°
(cf. Grimshaw 1997:377, Haider 1988:101)

I take **Obl-Head** to be ranked above the other syntactic constraint discussed so far in all the languages under discussion. This almost amounts to taking **Obl-Head** to be unviolable (cf. the discussion of the unviolability of the constraint that a verb assigns its thematic roles inside VP in 6.2.4 below), as suggested e.g. in Bakovic (1998:38). I will nevertheless continue to take **Obl-Head** to be violable, cf. that it is violated in embedded *wh*-questions (Grimshaw 1997:393-396).

²English will be left out of this discussion, for reasons of exposition. The further constraints necessary to account for the English data will be introduced in chapter 6 below.

(47)

NEW
▼

Pers Dist	Pers Not Dist		Obl Head				X° Left	Pred Rght	Chck Dist Pers	X° Rght	not attested

↓

Pers Dist	Pers Not Dist		Obl Head		Chck Dist Pers		X° Left	Pred Rght		X° Rght	French/ Icelandic

↓

	Pers Not Dist	Pers Dist	Obl Head		Chck Dist Pers		X° Left	Pred Rght		X° Rght	English/ Danish/ Faroese

↓

	Pers Not Dist	Pers Dist	Obl Head		Chck Dist Pers	Pred Rght	X° Left			X° Rght	Dutch/ Afrikaans

↓

Pers Dist	Pers Not Dist		Obl Head		Chck Dist Pers	Pred Rght	X° Left			X° Rght	Yiddish

↓

Pers Dist	Pers Not Dist		Obl Head	Pred Rght	Chck Dist Pers		X° Left			X° Rght	German/ Frisian

▲
NEW

In (48) and in this and the following chapter in general, I will only consider candidates where the V2 conditions are fulfilled and the *wh*-XP has moved to CP-spec (see chapter 7 below for further details and discussion of other kinds of candidates). When the V2 conditions are fulfilled, only movement of the finite verb to C° avoids a violation of **Obl-Head**:

(48) V2, finite main verb

e.g. *Hvad for en film så hun egentlig?* (45a)

e.g. *Hvat fyri film sá hon egentliga?* (45b)

Danish/Faroese: h	Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Right	X° Right	
C°P°T° [VP]								
◀ a. e e V DP +dist	*!		*	*		*	*	(*ObHd)
b. e V t DP +dist	*!		*	*		**	**	
◀ c. V t t DP +dist	*!		*			***	***	(*ObHd)
◀ d. V t t t DP +dist	*!					****	****	(Ic./Fr.)
◀ e. e e V DP -dist		*	*!			*	*	(*ObHd)
f. e V t DP -dist		*	*!			**	**	
g. V t t DP -dist		*	*!			***	***	
▶▶h. V t t t DP -dist		*				****	****	(Da./Fa.)
◀ i. e e DP V +dist	*!		*	*	*			(*ObHd)
j. e V DP t +dist	*!		*	*	*	*	*	
◀ k. V t DP t +dist	*!		*		*	**	**	(*ObHd)
◀ l. V t t DP t +dist	*!				*	***	***	(Yi/Fs/Ge)
◀ m. e e DP V -dist		*	*!		*			(*ObHd)
n. e V DP t -dist		*	*!		*	*	*	
o. V t DP t -dist		*	*!		*	**	**	
◀ p. V t t DP t -dist		*			*!	***	***	(Af./Du.)

The following tableaux omit not only all candidates which are harmonically bounded, but also those potential winners, (48a,c,e,i,k,m), which violate **Obligatory-heads**.

(48') V2, finite main verb

e.g. *Hvad for en film så hun egentlig?* (45a)

e.g. *Hvat fyri film sá hon egentliga?* (45b)

Danish/Faroese: h	Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Right	X° Right
C°P°T° [VP]							
◀ d. V t t t DP +dist	*!					****	****
▶▶h. V t t t DP -dist		*				****	****
◀ l. V t t DP t +dist	*!				*	***	***
◀ p. V t t DP t -dist		*			*!	***	***

The only difference between Danish and Faroese in (48') above and Icelandic and French in (49) below is whether **Pers-Not-Dist** outranks **Pers-Dist** or vice versa. In this case, this difference only has a consequence for the form of the verb, and not for the syntax of the clause, as (48'd) and (49d) and (48'h) and (49h) have the same word order. The crucial difference between Danish/Faroese and Icelandic/French in embedded clauses (see section 5.2 above) was that **Check-Dist-Pers** forced verb movement only in languages with distinctive inflection. Here this difference is irrelevant, as verb movement is forced by **Obl-Head** which is ranked higher than **Check-Dist-Pers**.

(49) V2, finite main verb

e.g. *Hvaða mynd sá hún eiginlega?* (45c)
e.g. *Quel film voyait-elle vraiment?* (45d)

Icelandic/French: d	Pers Dist	Pers Not Dist	Obl Head	Chck Dist Pers	X° Left	Pred Right	X° Right
C°P°T° [VP]							
►►d. V t t t DP +dist		*				****	****
◄ h. V t t t DP -dist	*!					****	****
◄ l. V t t DP t +dist		*			*!	***	***
◄ p. V t t DP t -dist	*!				*	***	***

Compare now the situation in OV-languages. Also here, verb movement is forced by the high ranking of **Obl-Head**. The different ranking between **X°-Left** and **Pred-Right** still derives the difference between VO (where **X°-Left** outranks **Pred-Right**) and OV (where **Pred-Right** outranks **X°-Left**), but if the main verb is also the finite verb, the VO/OV difference is masked, i.e. it is a question of whether the lowest trace of the verb is to the left or the right of the object. If the finite verb is an auxiliary, this difference becomes crucial (see section 6.2 below).

(50) V2, finite main verb

e.g. *Voser film zet zi eygntlekh?* (45e)

Yiddish: l	Pers Dist	Pers Not Dist	Obl Head	Chck Dist Pers	Pred Right	X° Left	X° Right
C°P°T° [VP]							
◄ d. V t t t DP +dist		*			****!		****
◄ h. V t t t DP -dist	*!				****		****
►►l. V t t DP t +dist		*			***	*	***
◄ p. V t t DP t -dist	*!				***	*	***

The only difference between Yiddish and Frisian/German is the ranking of **Check-Dist-Person** and **Pred-Right**, but again the high ranking of **Obl-Head** keeps this from making a difference to the verbal syntax.

(51) V2, finite main verb

e.g. *Hokfoar film seach se eins?* (45h)
e.g. *Welchen Film sah sie eigentlich?* (45i)

Frisian/German: l	Pers Dist	Pers Not Dist	Obl Head	Pred Right	Chck Dist Pers	X° Left	X° Right
C°P°T° [VP]							
◄ d. V t t t DP +dist		*		****!			****
◄ h. V t t t DP -dist	*!			****			****
►►l. V t t DP t +dist		*		***		*	***
◄ p. V t t DP t -dist	*!			***		*	***

The only difference between Yiddish/Frisian/German and Afrikaans/Dutch is whether **Pers-Not-Dist** outranks **Pers-Dist** or vice versa. Here, this difference only has a consequence for the form of the verb, and not for the syntax of the clause, as the optimal candidates have the same word order. As above, this is because verb movement is forced by the ranking of **Obl-Head** which is ranked higher than **Check-Dist-Pers**.

e.g. *Watter rolprent sien sy eintlik?* (45f)

e.g. *Welke film zag ze eigenlijk?* (45g)

(52) V2, finite main verb

Afrikaans/Dutch: p	Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	Pred Right	X° Left	X° Right
C°P°T° [VP]							
◀ d. V t t t DP +dist	*!				****		****
◀ h. V t t t DP -dist		*			****		****
◀ l. V t t DP t +dist	*!				***	*	***
▶▶p. V t t DP t -dist		*			***	*!	***

In other words, in this section the only discernible effect of the different rankings is whether inflection is distinctive or not. All other differences, including VO/OV are hidden by the high ranking of **Obl-Head**. This is completely consistent with the fact that superficially speaking all the languages have the same word order in (45). This section has thus shown that the differences between embedded clauses across the Germanic languages and their neutralisation in V2 constructions can be derived within the present framework.

5.5 Conclusions

In this chapter, it was argued that it is possible to formulate checking as a constraint, making possible an account of the link between verbal inflectional morphology and V° -to- I° movement, as argued for by the non-OT-studies Rohrbacher (1994, 1999) and Vilner (1997).

By formulating checking as a violable constraint, an inclusion of all the OV-languages into the above accounts is made possible. It was argued that this would not be possible if violability of constraints was impossible, because although German has more verbal inflection than French and Yiddish, there is no V° -to- I° movement in German (as argued in chapter 3 above), whereas there is V° -to- I° movement in French and Yiddish.

The analysis also made it possible to see Yiddish as an OV-language (as argued in chapter 2 above), without undermining the findings of Rohrbacher (1994, 1999) and Vilner (1997). It was shown that it was possible to derive the VO/OV-difference with violable constraints, and that the constraints crucial for the VO/OV-difference also had other effects, namely the minimising both of structure and of movement.

The typological predictions were discussed, and two different ways were discussed of dealing with the fact that one out of the six predicted language types (w.r.t. the word order in embedded clauses) was not attested within Germanic and Romance. One was an appeal to the mechanism of constraint conjunctions which would exclude the sixth language type, so that exactly five different language types would be predicted. Another way of dealing with the problem was to assume that languages of the sixth type might actually be possible. It was furthermore shown what problems occur when this language is sought within the Slavic languages.

Finally, it was shown how the difference between embedded clauses and V2 clauses could be derived by means of the constraint **Obl-Head**.

In the following chapters it will be shown that the derivation of the V2 effects by means of a violable **Obl-Head** constraint is also compatible with the facts concerning *do*-insertion in both questions and negated clauses, and with the particular unusual properties of the English auxiliary system.

Chapter 6. The differences between finite main verbs and finite auxiliary verbs

This chapter will discuss a number of issues in the syntax of finite auxiliary verbs and finite main verbs. After the discussion of the syntax of finite main verbs in chapter 5 above, it is now possible to see in which contexts in which languages the syntax of finite auxiliary verbs differ from this. It will be shown below that such differences are found only in English, and that they are related to *do*-insertion in V2 clauses, in negative clauses, and in emphatic clauses.

Section 6.1. will discuss light *do* in V2 constructions in English and what it corresponds to in the other languages. Section 6.2 will discuss auxiliaries and their special syntax in English and also why auxiliary syntax does not differ from the syntax of other verbs in the other languages. Section 6.3 continues the discussion of light *do* in English and what it corresponds to in the other languages, focussing on *do*-insertion in negative clauses. The chapter ends with a general conclusion in section 6.4.

Finally, a word of warning: Even though a separate chapter on auxiliaries is necessary only because of English, this chapter still presents a very simplified description of the situation concerning negation, auxiliaries and modals in English, cf. e.g. Cormack & Smith (1998, 2000a,b).

6.1 Insertion of "light" verb *do* in English

In this section on light *do* in English and what it corresponds to in the other languages, only *do*-insertion in V2 constructions are discussed, cf. (2a) below. Insertion of *do* in negative clauses will be discussed in section 6.3 further below.

In 6.1.1, the new constraint and its ranking is discussed. In 6.1.2 the derivation of V2 constructions is given, and in 6.1.3 the derivation of embedded clauses (i.e. of non-V2 clauses). 6.1.4 is the conclusion.

6.1.1 Introduction

The following difference between English and all the other languages was set aside in section 5.4 above: In all the other languages, the finite verb in a V2 context may be a main verb, (2), repeated from section 5.4 above. In the same context, English inserts the "light" verb *do*, (1), rather than move a finite main verb. *Do* in (1) is "light" in the sense of appearing to make no contribution to the interpretation of the sentence, cf. e.g. Grimshaw & Mester (1988:205).

- (1) En. Which film did she actually see?

- (2)
- | | | | | | |
|--------|-------------------|-----------------|------------|---------------|---|
| a. Da. | Hvad for en film | <u>sá</u> | hun | egentlig | ? |
| b. Fa. | Hvat fyri film | <u>sá</u> | hon | egentliga | ? |
| c. Ic. | Hvaða mynd | <u>sá</u> | hún | eiginlega | ? |
| d. Fr. | Quel film | <u>voyait-</u> | elle | vraiment | ? |
| e. Yi. | Voser film | <u>zet</u> | zi | eygntlekh | ? |
| f. Af. | Watter rolprent | <u>sien</u> | sy | eintlik | ? |
| g. Du. | Welke film | <u>zag</u> | ze | eigenlijk | ? |
| h. Fs. | Hokfoar film | <u>seach</u> | se | eins | ? |
| i. Ge. | Welchen Film | <u>sah</u> | sie | eigentlich | ? |
| | <i>Which film</i> | <i>sees/saw</i> | <i>she</i> | <i>really</i> | ? |

I shall take the structure of (1) and (2a) to be the following, cf. (6bg,bd) below:

- (3)
- | | | | | | | | | | | |
|--------|---------------------------------|-------------------------|-----------|----------------|----------------|----------|----------------|------------------|-----------|--|
| | | | <u>C°</u> | | <u>Pers°</u> | | <u>Tns°</u> | | <u>V°</u> | |
| a. En. | [Which film] _j | <u>did</u> _i | she | t _i | t _i | actually | <u>see</u> | t _j ? | | |
| b. Da. | [Hvad for en film] _j | <u>sá</u> _i | hun | t _i | t _i | egentlig | t _i | t _j ? | | |

The structure of (2b-d) is identical to (3b), cf. (6bd,ad) below, and the structure of (2e-i) is also like (3b) with the one difference that the trace of the object precedes the rightmost trace of the verb rather than follows it, cf. (6cd,dd) below.

In order to be able to include the English data, i.e. (1) and (3a), into the account as presented in the previous chapter, I will have to extend the set of candidates, in such a way that the possibility is taken into consideration of inserting a light *do* directly under a functional head (e.g. Tense°), as an alternative to first inserting the main verb under V° and then moving it to a functional head. These new candidates, i.e. candidates with *do* inserted outside VP, do extremely well on **Pred-Right**, because only elements inserted under V° (or under Adj°) count as predicate heads in the sense of **Pred-Right**. **Pred-right** thus only penalises the movement of lexical verbs (comparable to the earlier constraint **No-Lexical-Movement** in Grimshaw 1997:386, which I also used in Vikner 2000).

The reason why only English and not all languages inserts light *do* above the main verbs is the existence and the ranking of the following constraint:

- (4) **V-in-V°**
 violated by every verb which is not inserted under V°

V-in-V° is ranked below **Pred-Right** in English, but above it in the other languages. **V-in-V°** is thus what distinguishes English from Danish, Faroese, Norwegian and Swedish:

(5)

▼
NEW

Pers Dist	Pers Not Dist		Obl Head	V in V°			X° Left	Pred Right	Chck Dist Pers		X° Right	not attested
			----- ----- -----									

Pers Dist	Pers Not Dist		Obl Head	V in V°		Chck Dist Pers	X° Left	Pred Right			X° Right	French/Icelandic
			----- ----- -----									

	Pers Not Dist	Pers Dist	Obl Head			Chck Dist Pers	X° Left	Pred Right		V in V°	X° Right	English
			----- ----- -----									

	Pers Not Dist	Pers Dist	Obl Head	V in V°		Chck Dist Pers	X° Left	Pred Right			X° Right	Danish/Faroese
			----- ----- -----									

	Pers Not Dist	Pers Dist	Obl Head	V in V°		Chck Dist Pers	Pred Right	X° Left			X° Right	Dutch/Afrikaans
			----- ----- -----									

Pers Dist	Pers Not Dist		Obl Head	V in V°		Chck Dist Pers	Pred Right	X° Left			X° Right	Yiddish
			----- ----- -----									

Pers Dist	Pers Not Dist		Obl Head	V in V°	Pred Right	Chck Dist Pers		X° Left			X° Right	German/Frisian
			----- ----- -----									

▲
NEW

The main difference between the tableaux in section 5.2 above and the tableaux in this section, e.g. (6) below, is the addition of candidates where a form of *do* is inserted under Tense°, (6ae-ag, be-bg, ce-cg, de-dg).

As stated above, *do* inserted outside V° cannot violate **Pred-Right**, because only elements inserted under V° (or under Adj°) count as predicate heads in the sense of **Pred-Right**. Given that I otherwise (e.g. in all the other languages) take even e.g. auxiliary verbs and the verb *be* to be predicate heads, allowing *do* to not be a predicate head is of course bending the rules somewhat, but this bending of the rules has a price, namely a violation of **V-in-V°**, as it amounts to the disregarding of some of the features of the verb *do*.

That insertion under Tense° leads to the disregarding of some of *do*'s features can also be seen in that this insertion does not lead to TenseP turning into a VP, although TenseP in some sense has a verb as a head.

There is yet another indication that inserting *do* outside VP (i.e. using *do* as a light verb) amounts to disregarding some of its feature content. I would like to repeat a suggestion made in Vikner (2000:456), namely that **V-in-V°** be seen as a gradient constraint, following Grimshaw's (1997:386-387) suggestion for her constraint **FI** (Full Interpretation). This would mean that **V-in-V°** would be violated to a lesser extent by light *do* than by light *divulge* or light *domesticate*: Light *do*, light *divulge*, and light *domesticate*

would all violate **V-in-V°** because (some of) their lexical/categorial properties would be ignored if they were not inserted under V°. However, the violation incurred by light *do* would be smaller than the violations incurred by other verbs, because *do* has fewer lexical/categorial properties than other verbs, and so when *do* is used as a light verb, there are fewer lexical/categorial properties which have to be ignored.

Finally, two further kinds of candidates could actually also have been included in the tableaux below: Those where a form of *do* is inserted either under Pers° or under C°.

I take it that there is **no insertion directly under Pers°**: If a form of *do* were inserted under Pers°, it should be inflected for person (and maybe also number), but the main verb would be inflected for tense. I assume that there is a constraint which is violated if the finite inflection (tense, person, number, ...) is broken up. Such a constraint will be ranked high in all the languages considered here, and this kind of candidates will therefore not be considered further. In other languages, such a constraint may be ranked much lower, cf. e.g. Finnish, where person and number may be expressed on one head and tense on a different head, e.g. in negated clauses (Karlsson 2000:175).

I also take it that there is **no insertion directly under C°**: If a form of *do* were inserted under C°, it would be uninflected, and the main verb would be finite. This would not break up the finite inflection, and it is therefore not ruled out by the constraint sketched in the previous paragraph. I would like to suggest that this is ruled out for a different reason, namely that it is less optimal to insert the verb *do* under C°, as this would violate **V-in-V°**, whereas insertion under C° of functional elements like the complementiser *that* (or *if*, or *while*, ...) would not violate **V-in-V°**. The question is then why it is not more optimal to insert *that* directly under C° rather than to insert *do* e.g. under Tense° and then move it to C°. I would like to suggest that insertion of e.g. *that* under C° in main clause questions violates a different constraint. It has often been noticed that if a clause contains a complementiser, then this complementiser must be the first (i.e. the leftmost) constituent of the clause. This was the basis of the so-called "Doubly Filled Comp Filter" in Chomsky & Lasnik (1977) and also of the violable constraint "Left-Edge(CP)" in Pesetsky (1997:156, 1998:341, 351). The exact nature of this constraint (which is implicitly assumed in most recent treatments of V2) will however have to be left for future research at this point.

6.1.2 Light *do* and V2 clauses

In V2 constructions, where **Obl-Head** forces movement to C°, *do*-insertion will take place when **Pred-Right** is ranked higher than **V-in-V°**: **Pred-Right** prefers insertion of light *do* to movement of the main verb, whereas **V-in-V°** prefers movement of the main verb to insertion of light *do*.

In embedded (non-V2) clauses, where **Obl-Head** does not force movement to C°, the situation is entirely different, cf. the discussion of (15) below.

The "DP" in the candidates below marks the base position of the object, not its surface position (which is CP-spec). The details of the *wh*-movement of the object will be discussed in chapter 7 below.

(6) V2, finite main verb

e.g. *Which film did she actually see?* (1)

English: bg	Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Right	V in V°	X° Right	
C° P° T° [VP]									
◀ aa e e V DP +dist	*!		*	*		*		*	*ObHd
ab e V t DP +dist	*!		*	*		**		**	
◀ ac V t t DP +dist	*!		*			***		***	*ObHd
◀ ad V t t t DP +dist	*!					****		****	Ic/Fr
ae e do V DP +dist	*!		*	*		*	*	**	
af do t V DP +dist	*!		*	*		*	*	***	
◀ ag do t t V DP +dist	*!			*		*	*	****	??
◀ ba e e V DP -dist		*	*!			*		*	*ObHd
bb e V t DP -dist		*	*!			**		**	
bc V t t DP -dist		*	*!			***		***	
◀ bd V t t t DP -dist		*				***!***		****	Da/Fa
be e do V DP -dist		*	*!			*	*	**	
bf do t V DP -dist		*	*!			*	*	***	
▶▶bg do t t V DP -dist		*				*	*	****	En
C° P° T° [VP]	Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Right	V in V°	X° Right	
◀ ca e e DP V +dist	*!		*	*	*				*ObHd
cb e V DP t +dist	*!		*	*	*	*		*	
◀ cc V t DP t +dist	*!		*		*	**		**	*ObHd
◀ cd V t t DP t +dist	*!				*	***		***	Yi/Fs/Ge
ce e do DP V +dist	*!		*	*	*		*	*	
cf do t DP V +dist	*!		*	*	*		*	**	
◀ cg do t t DP V +dist	*!			*	*		*	***	??
◀ da e e DP V -dist		*	*!		*				*ObHd
db e V DP t -dist		*	*!		*	*		*	
dc V t DP t -dist		*	*!		*	**		**	
◀ dd V t t DP t -dist		*			*!	***		***	Af/Du
de e do DP V -dist		*	*!		*		*	*	
df do t DP V -dist		*	*!		*		*	**	
◀ dg do t t DP V -dist		*			*!		*	***	??

In the following tableaux for the same case in the different languages, only candidates which are not harmonically bounded and which do not violate **Obl-Head** are considered.

(6') V2, finite main verb

e.g. *Which film did she actually see?* (1)

English: bg	Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Right	V in V°	X° Right
C° P° T° [VP]								
◀ ad V t t t DP +dist	*!					****		****
◀ ag do t t V DP +dist	*!			*		*	*	****
◀ bd V t t t DP -dist		*				**!***		****
▶▶bg do t t V DP -dist		*				*	*	****
◀ cd V t t DP t +dist	*!				*	***		***
◀ cg do t t DP V +dist	*!			*	*		*	***
◀ dd V t t DP t -dist		*			*!	***		***
◀ dg do t t DP V -dist		*			*!		*	***

A comparison between the English tableau in (6') above and the Danish and Faroese one in (7) below shows that the crucial difference is the ranking of **V-in-V°**. In English, it is ranked so low as not to matter here, and so inserting *do* (and violating **V-in-V°**) is

preferable to the extra violations of **Pred-Right** that it would cost to move the main verb all the way to C°. In Danish and Faroese (and in all the other tableaux in this subsection) *do*-insertion is not an interesting option, because inserting a verb outside VP (and violating **V-in-V°**) is more expensive than any number of movements of a verb inserted under V° (i.e. any number of violations of **Pred-Right**).

(7) V2, finite main verb

e.g. *Hvad for en film så hun egentlig?* (2a)

e.g. *Hvat fyri film sá hon egentliga?* (2b)

Danish/Faroese: bd	Pers Not Dist	Pers Dist	Obl Head	V in V°	Chck Dist Pers	X° Left	Pred Rght	X° Rght
C° P°T° [VP]								
◀ ad V t t t DP +dist	*!						****	****
◀ ag do t t V DP +dist	*!			*	*		*	****
▶▶ bd V t t t DP -dist		*					****	****
◀ bg do t t V DP -dist		*		*!			*	****
◀ cd V t t DP t +dist	*!					*	***	***
◀ cg do t t DP V +dist	*!			*	*	*		***
◀ dd V t t DP t -dist		*				*!	***	***
◀ dg do t t DP V -dist		*		*!		*		***

As for the differences between the tableaux in (7)-(11), nothing has changed compared to 5.4 above, all the differences in word order disappear because of the high ranking of **Obl-Head**.

(8) V2, finite main verb

e.g. *Watter rolprent sien sy eintlik?* (2f)

e.g. *Welke film zag ze eigenlijk?* (2g)

Afrikaans/Dutch: dd	Pers Not Dist	Pers Dist	Obl Head	V in V°	Chck Dist Pers	Pred Rght	X° Left	X° Rght
C° P°T° [VP]								
◀ ad V t t t DP +dist	*!					****		****
◀ ag do t t V DP +dist	*!			*	*	*		****
◀ bd V t t t DP -dist		*				****!		****
◀ bg do t t V DP -dist		*		*!		*		****
◀ cd V t t DP t +dist	*!					***	*	***
◀ cg do t t DP V +dist	*!			*	*		*	***
▶▶ dd V t t DP t -dist		*				***	*	***
◀ dg do t t DP V -dist		*		*!			*	***

(9) V2, finite main verb

e.g. *Hvaða mynd sá hún eiginlega?* (2c)

e.g. *Quel film voyait-elle vraiment?* (2d)

Icelandic/French: ad	Pers Dist	Pers Not Dist	Obl Head	V in V°	Chck Dist Pers	X° Left	Pred Rght	X° Rght
C° P°T° [VP]								
▶▶ ad V t t t DP +dist		*					****	****
◀ ag do t t V DP +dist		*		*!	*		*	****
◀ bd V t t t DP -dist	*!						****	****
◀ bg do t t V DP -dist	*!			*			*	****
◀ cd V t t DP t +dist		*				*!	***	***
◀ cg do t t DP V +dist		*		*!	*	*		***
◀ dd V t t DP t -dist	*!					*	***	***
◀ dg do t t DP V -dist	*!			*		*		***

(10) V2, finite main verb

e.g. *Voser film zet zi eygentlekh?* (2e)

Yiddish: cd	Pers Dist	Pers Not Dist	Obl Head	V in V°	Chck Dist Pers	Pred Rght	X° Left	X° Rght
C° P°T° [VP]								
◀ ad V t t t DP +dist		*				****!		****
◀ ag do t t V DP +dist		*		*!	*	*		****
◀ bd V t t t DP -dist	*!					****		****
◀ bg do t t V DP -dist	*!			*		*		****
▶▶cd V t t DP t +dist		*				***	*	***
◀ cg do t t DP V +dist		*		*!	*		*	***
◀ dd V t t DP t -dist	*!					***	*	***
◀ dg do t t DP V -dist	*!			*			*	***

(11) V2, finite main verb

e.g. *Hokfoar film seach se eins?* (2h)

e.g. *Welchen Film sah sie eigentlich?* (2i)

Frisian/German: cd	Pers Dist	Pers Not Dist	Obl Head	V in V°	Pred Rght	Chck Dist Pers	X° Left	X° Rght
C° P°T° [VP]								
◀ ad V t t t DP +dist		*			****!			****
◀ ag do t t V DP +dist		*		*!	*	*		****
◀ bd V t t t DP -dist	*!				****			****
◀ bg do t t V DP -dist	*!			*	*			****
▶▶cd V t t DP t +dist		*			***		*	***
◀ cg do t t DP V +dist		*		*!		*	*	***
◀ dd V t t DP t -dist	*!				***		*	***
◀ dg do t t DP V -dist	*!			*			*	***

As was shown above, even when harmonically bounded candidates as well as those six potential winning candidates that violate **Obl-Head**, (6aa,ac,ba,ca,cc,da), are filtered out, there were still eight potential winning candidates left:

Five of these are actually found: (6ad) in Icelandic and French, (6bd) in Danish and Faroese, (6bg) in English, (6cd) both in Yiddish and in Frisian and German, and (6dd) in Afrikaans and Dutch.

The other three are (6ag, cg, dg), which all have a finite form of *do* in C°, like the English (6bg).

Both (6ag) - *do*-insertion, rich inflection, and VO - and (6cg) - *do*-insertion, rich inflection, and OV - would no longer be potential winners if we assume a conjoined constraint of the type discussed in 5.3.3 above: In order to be more optimal than (6ad), (6ag) would need (**X°-Left** and) **Pred-Right** to outrank all other syntactic constraints, but if there was a conjoined constraint **Check & Pred-Right**, it would outrank **Pred-Right**, and this conjoined constraint would be violated only by (6ag), not by (6ad). Therefore (6ag) could never be more optimal than (6ad). Exactly the same holds for (6cg), if there was such a conjoined constraint, it could never be more optimal than (6cd).

6.1.3 Light *do* and embedded clauses

Consider now the embedded context again, where no languages have insertion of light *do* (data repeated from section 5.2 above):

- (12) a. En. ... if she really saw the film
 b. Da. ... om hun virkelig så filmen
 c. Fa. ... um hon virkuliga sá filmin
- (13) a. Ic. ... hvort hún sá áreiðanlega myndina
 b. Fr. ... si elle voyait en effet le film
 c. Yi. ... oyb zi zet take dem film
 ... if she *sees/saw* really the film
- (14) a. Af. ... of sy die rolprent werklik sien
 b. Du. ... of ze de film werkelijk zag
 c. Fs. ... oft se de film echt wol seach
 d. Ge. ... ob sie den Film tatsächlich sah
 ... if she the film really *sees/saw*

The previous section showed under which circumstances *do*-insertion will apply in V2 constructions, where **Obl-Head** forces movement to C° , namely when **Pred-Right** outranks **V-in- V°** : **Pred-Right** prefers insertion of light *do* to movement of the main verb, whereas **V-in- V°** prefers movement of the main verb to insertion of light *do*.

In embedded (non-V2) clauses, where the need to avoid a violation of **Obl-Head** does not force movement to C° , the situation is entirely different:

In languages without distinctive person morphology, having a finite main verb in V° is now no more expensive than *do* (each incurs one violation of **Pred-Right**, cf. (15ba) vs. (15be)), and having a finite main verb has the advantage of not also violating **V-in- V°** .

In languages with distinctive person morphology, **Check** will not only prevent leaving a finite main verb in V° , but also rule out having *do* inserted, as *do*-insertion will always lead to a violation of **Check** (which requires that a verb inserted under V° is moved to $Pers^\circ$).

(15) non-V2, finite main verb

e.g. ... if she really saw the film (12a)

English: ba	Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Right	V in V°	X° Right	
C° P° T° [VP]	Dist								
◀ aa e e V DP +dist	*!			*		*		*	??
ab e V t DP +dist	*!			*		**		**	
◀ ac V t t DP +dist	*!					***		***	Ic/Fr
ad V t t t DP +dist	*!					****		****	
ae e do V DP +dist	*!			*		*	*	**	
af do t V DP +dist	*!			*		*	*	***	
ag do t t V DP +dist	*!			*		*	*	****	
▶▶ ba e e V DP -dist		*				*		*	En/Da/Fa
bb e V t DP -dist		*				***!		**	
bc V t t DP -dist		*				***!*		***	
bd V t t t DP -dist		*				***!***		****	
be e do V DP -dist		*				*	*!	**	
bf do t V DP -dist		*				*	*!	***	
bg do t t V DP -dist		*				*	*!	****	
C° P° T° [VP]	Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Right	V in V°	X° Right	
◀ ca e e DP V +dist	*!			*	*				Fs/Ge
cb e V DP t +dist	*!			*	*	*		*	
◀ cc V t DP t +dist	*!				*	**		**	Yi
cd V t t DP t +dist	*!				*	***		***	
ce e do DP V +dist	*!			*	*		*	*	
cf do t DP V +dist	*!			*	*		*	**	
cg do t t DP V +dist	*!			*	*		*	***	
◀ da e e DP V -dist		*			*!				Af/Du
db e V DP t -dist		*			*!	*		*	
dc V t DP t -dist		*			*!	**		**	
dd V t t DP t -dist		*			*!	***		***	
de e do DP V -dist		*			*!		*	*	
df do t DP V -dist		*			*!		*	**	
dg do t t DP V -dist		*			*!		*	***	

In the following tableaux for the same case in the different languages, only candidates which are not harmonically bounded are considered. Compared to the discussion of the same data in section 5.2 above, the candidates which were not discussed there (i.e. the ones with *do*-insertion) are all harmonically bounded because they all violate **V-in-V°**. Consider (15ae,af,ag), which are harmonically bounded by (15aa): None of the three could ever be more optimal than (15aa), regardless of the constraint ranking. Whenever (15aa) violates a constraint, (15ae-ag) violate the same constraint either to the same or to a higher degree. Similarly, (15be-bg) are harmonically bounded by (15ba), (15ce-cg) by (15ca), and finally, (15de-dg) by (15da).

As the "new" candidates are all eternal losers, the tableaux below are completely parallel to those in 5.2 above, with the exception of the presence of the constraint **V-in-V°**, which is however not violated by any of the relevant candidates:

(15') non-V2, finite main verb

e.g. ... *if she really saw the film* (12a)

English: ba	Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Rght	V in V°	X° Rght
C°P°T° [VP]								
◀ aa e e V DP +dist	*!			*		*		*
◀ ac V t t DP +dist	*!					***		***
▶▶ba e e V DP -dist		*				*		*
◀ ca e e DP V +dist	*!			*	*			
◀ cc V t DP t +dist	*!				*	**		**
◀ da e e DP V -dist		*			*!			

(16) non-V2, finite main verb

e.g. ... *om hun virkelig så filmen* (12b)

e.g. ... *um hon virkuliga sá filmín* (12c)

Danish/Faroese: ba	Pers Not Dist	Pers Dist	Obl Head	V in V°	Chck Dist Pers	X° Left	Pred Rght	X° Rght
C°P°T° [VP]								
◀ aa e e V DP +dist	*!				*		*	*
◀ ac V t t DP +dist	*!						***	***
▶▶ba e e V DP -dist		*					*	*
◀ ca e e DP V +dist	*!				*	*		
◀ cc V t DP t +dist	*!					*	**	**
◀ da e e DP V -dist		*				*!		

(17) non-V2, finite main verb

e.g. ... *of sy die rolprent werklik sien* (14a)

e.g. ... *of ze de film werklik zag* (14b)

Afrikaans/Dutch: da	Pers Not Dist	Pers Dist	Obl Head	V in V°	Chck Dist Pers	Pred Rght	X° Left	X° Rght
C°P°T° [VP]								
◀ aa e e V DP +dist	*!				*	*		*
◀ ac V t t DP +dist	*!					***		***
◀ ba e e V DP -dist		*				*!		*
◀ ca e e DP V +dist	*!				*		*	
◀ cc V t DP t +dist	*!					**	*	**
▶▶da e e DP V -dist		*					*	

(18) non-V2, finite main verb

e.g. ... *si elle voyait en effet le film* (13a)

e.g. ... *hvort hún sá áreiðanlega myndina* (13b)

Icelandic/French: ac	Pers Dist	Pers Not Dist	Obl Head	V in V°	Chck Dist Pers	X° Left	Pred Rght	X° Rght
C°P°T° [VP]								
◀ aa e e V DP +dist		*			*!		*	*
▶▶ac V t t DP +dist		*					***	***
◀ ba e e V DP -dist	*!						*	*
◀ ca e e DP V +dist		*			*!	*		
◀ cc V t DP t +dist		*				*!	**	**
◀ da e e DP V -dist	*!					*		

(19) non-V2, finite main verb

e.g. ... *oyb zi zet take dem film* (13c)

Yiddish: cc	Pers Dist	Pers Not Dist	Obl Head	V in V°	Chck Dist Pers	Pred Rght	X° Left	X° Rght
C°P°T° [VP]								
◀ aa e e V DP +dist		*			*!	*		*
◀ ac V t t DP +dist		*				***!		***
◀ ba e e V DP -dist	*!					*		*
◀ ca e e DP V +dist		*			*!		*	
▶▶cc V t DP t +dist		*				**	*	**
◀ da e e DP V -dist	*!						*	

(20) non-V2, finite main verb

e.g. ... *oft se de film echt wol seach* (14c)

e.g. ... *ob sie den Film tatsächlich sah* (14d)

Frisian/German: ca	Pers Dist	Pers Not Dist	Obl Head	V in V°	Pred Rght	Chck Dist Pers	X° Left	X° Rght
C°P°T° [VP]								
◀ aa e e V DP +dist		*			*!	*		*
◀ ac V t t DP +dist		*			*! **			***
◀ ba e e V DP -dist	*!				*			*
▶▶ca e e DP V +dist		*				*	*	
◀ cc V t DP t +dist		*			*! *		*	**
◀ da e e DP V -dist	*!						*	

When harmonically bounded candidates are filtered out, six potential winning candidates remain. Five of these are attested, and the potential non-existence of the sixth, (15aa), was discussed in 5.3 above: If it does not exist, a conjoined constraint **Check & Pred-Right** might account for this (5.3.3), and if it does exist, Russian or Polish might be a case in point (5.3.4).

6.1.4 Conclusion

In this section, 6.1, it was shown how *do*-insertion in English main clause questions can be accounted for by means of a constraint on inserting verbs outside VP, and how this has no adverse effects for the analysis of embedded clauses. Here nothing is gained by inserting *do*, and so it is not possible.

In those cases where it might seem that light *do* is possible in an embedded clause, e.g. *I swear that she DID see the film*, there is something to be gained by this insertion, but this will only be discussed after the sentential negation has been discussed, in 6.3.3. below.

The analysis presented here rests on the assumption that the basic differences between English and the other languages lie in the ranking of constraints and not in the vocabulary. As stated by Grimshaw (1997:388), it is not the case that English has two verbs *do* (a main verb *do* and a light verb *do*) and the other languages only have one each (namely a main verb *do*). One problem with such a view is that it would lead us to expect that languages either have or do not have light *do*. This is not the case: Although e.g. Danish, Icelandic, French and German do not have *do*-insertion the way English does, they all have a so-called "verbum vicarium", i.e. a verb that substitutes for other verbs under certain circumstances. Furthermore, these verbs are the straightforward translations of *do*: Danish *gøre*, Icelandic *gera*, French *faire*, German *tun*.

- (21) a. En. Hold the pencil as I do (it)
b. Da. Hold blyanten ligesom jeg gør
c. Ic. Haltu á blýantinum eins og ég geri
d. Fr. Tiens le crayon comme je le fais
e. Ge. Halte den Bleistift wie ich es tue

In other words, this difference between the languages is purely syntactic, not lexical.

6.2 The special status of auxiliaries in English

This section discusses auxiliaries and their special syntax in English and also why auxiliary syntax is unexceptional in the other languages.

The introduction is in 6.2.1. In 6.2.2 the derivation of embedded clauses (i.e. of non-V2 clauses) is discussed, where the unique English situation is clearly visible, and in 6.2.3 the derivation of V2 constructions is discussed, where the difference between the languages is hidden by V2.

The following three subsections discuss more general properties, which also follow from the analysis. 6.2.4 discusses why main verbs are never inserted outside VP, 6.2.5 shows why English auxiliaries do not allow *do*-insertion, and 6.2.6 why mixed directionality is not possible, i.e. why it is not possible in one language to have some verbs having their complements to the right and others their complements to the left. The conclusion comes in 6.2.7.

6.2.1 Introduction

There is a further difference between English and all the other VO-languages: Whereas English finite main verbs occur in V°, i.e. following the sentential adverbial (as do all finite verbs in Danish, Faroese, Norwegian and Swedish), English finite auxiliaries occur in I°, i.e. preceding the sentential adverbial (as do all finite verbs in French, Icelandic and Yiddish).

- (22) a. En. ... if she has really seen the film
b. Ic. ... hvort hún hafi áreiðanlega séð myndina
c. Fr. ... si elle a en effet vu le film
d. Yi. ... oyb zi hot take gezen dem film
- (23) a. Da. ... om hun virkelig har set filmen
b. Fa. ... um hon virkuliga hefur sæð filmin
... if she really has seen film-the
- (24) a. Af. ... of sy die rolprent werklik gesien het
b. Du. ... of ze de film werkelijk gezien heeft
c. Fs. ... oft se de film echt wol sjoen hat
d. Ge. ... ob sie den Film tatsächlich gesehen hat
... if she the film really seen has

(Note that the definite object in (22d) has undergone extraposition, cf. section 2.2.1 above and references there, and that the definite object in (24) has undergone scrambling, cf. section 2.2.2 above, Haider & Rosengren (1998), and references there.)

In order to capture this distributional difference, which is parallel to the one between e.g. all Icelandic verbs on one hand (they are in I°, like the English auxiliaries) and all Danish verbs on the other (they are in V°, like the English main verbs), inside one and the same language, the means used in chapter 5 above, reranking of constraints, is not available: Constraint ranking is language-specific, not construction-specific.

The solution to be suggested here (which is an attempt to derive the analysis stipulated in Grimshaw 1997:382, see also Emonds 1994:157-164) is that English finite auxiliaries (including light *do* and the modal verbs) are inserted directly under Tense° (as suggested for modal verbs by Pollock 1989:398), in contrast to English main verbs and

non-finite auxiliaries and also in contrast to both main and auxiliary verbs in all the other languages under discussion, all of which are inserted under V°.

These results are all obtained with the constraints already in place, without introducing any further constraints. In other words, *do*-insertion in English and the particular position of auxiliaries in English are derived from one and the same mechanism. Any language is therefore expected to have both *do*-insertion and the difference in positions of finite auxiliary and finite main verbs, or neither of these two, but not one without the other.

I shall take the structure of (22c,a) and (23a) to be the following, cf. (31ac,be,ba) below:

(25)		<u>C°</u>	<u>Pers°</u>	<u>Tns°</u>		<u>V°</u>	<u>V°</u>			
a.	Fr.	...	si elle	a _i	t _i	en effet	t _i	vu	le	film
b.	En.	...	if she	<u>has</u>		really		seen	the	film
c.	Da.	...	om hun			virkelig	<u>har</u>	set		filmen

The structure of (22b) is like the one in (25a) and the structure of (23b) is like the one in (25c). With the difference that order inside the VPs is OV instead of VO, the structure of (22d) corresponds to (25a) and the structure of (24a-d) to (25c).

As discussed in 5.1.1, I assume that it has no empirical consequences whether a verb is in Tense° or in Pers°, contra Pollock (1989:397) and Belletti (1990:31). I agree with these two works that medial adverbs occur between Tense° and V°, but I disagree with their taking sentential negation to occur between Pers° and Tense°. Like e.g. Abeillé & Godard (1994), I will assume that both sentential negation and medial sentential adverbials must be adjoined to the highest VP, and that if they are adjoined elsewhere, they will have a different scope. In my opinion, the French infinitival data discussed by Pollock (1989:397) and Belletti (1990:31) will need a more detailed analysis, perhaps in the vein of Cinque (1999). Cf. also the problem posed for Pollock's and Belletti's analyses by the following:

- (26) En. a. *They can't probably find their way here
 b. They probably can't find their way here (Quirk et al. 1985:494)

If sentential negation precedes Tense° and sentential adverbials follow it, then (26a) should be grammatical and (26b) should not.

The analysis in (25a,b) will also account for why the medial adverbial follows the finite auxiliary even if there are three or more verbs in a clause:

- (27) En. a. I don't know why she would actually have seen the film
 b. ?I don't know why she would have actually seen the film

The order in (27b) is not impossible, but in so far as it is possible, it has a contrastive reading, different from the sentential adverbial interpretation of *actually* in (27a), cf. e.g. Quirk et al. (1985:495). The reason is that for *actually* to have scope over the whole clause (and not just over a VP), it must be to the left of (and possibly left-adjoined to) the highest VP. If, as was assumed in 6.1.1. above, insertion of verbs directly under Pers° or C° is impossible, then there is only one point of insertion to the left of the medial adverbial position, namely Tense°, and therefore it is only possible to have one verb to the left of this adverb.

In 6.1.1 above, it was suggested, following Grimshaw (1997:386-387) and also Vikner (2000:456), that the reason why the light verb used e.g. in V2 clauses was *do* rather

than other verbs was that with *do*, fewer lexical/categorical properties would have to be ignored than with other verbs, because *do* has fewer such properties to begin with. Therefore there has to be a difference between *do*-insertion and insertion of e.g. *have*. When *have* (or *be* or a modal verb) is inserted under Tense°, it still makes a semantic contribution to the clause, even if it does not assign a thematic role. When *do* is inserted under Tense°, it makes no semantic contribution to the clause at all. This also provides an answer to the question of why the optimal version of a clause with auxiliary *have*, e.g. (28a) is not a version where *do* simply replaces *have*, i.e. (28b):¹

- (28]) En. a. ... that she has seen the film
 b. *... that she does see the film
 c. *... that she does have seen the film

It is not possible to leave out *have*, because this would make it into a different competition, namely one for the optimal version of e.g. ... *that she sees the film*. The relevant *do*-insertion version of the clause in (28a) is therefore the one in (28c), and in 6.2.5 below it will be discussed why such candidates never win.

The account given in section 6.1 above correctly predicts that light *do* only occurs as a finite verb because non-finite *do* would require insertion under V°, and there would be no advantage of *do*-insertion (i.e. *She will see the film* will never be less optimal than *She will do see the film*). This does not carry over to the verbs discussed in this section, they may be used also in non-finite forms, because whereas with light *do*, the choice is between inserting *do* outside VP or not inserting it at all, the choice with an auxiliary verb like *have* is between inserting it outside or inside VP. Not inserting it is not an option, as discussed above². This again predicts that auxiliary verbs may occur in non-finite forms and that when this happens, they will have been inserted under V°. That this is compatible with the data can be seen from the fact that non-finite *have* and *be* are possible, and only to the right of the sentential adverbial:

- (29]) En. a. She will unfortunately have seen the film
 b. ??She will have unfortunately seen the film
- (30]) En. a. He will probably be criticised
 b. ??He will be probably criticised

¹For a discussion of circumstances under which (28b) would be well-formed, i.e. with emphatic stress on *does*, see section 6.3.3 below.

²Linking the limitation of light *do* to finite forms to its not contributing to the semantics of the sentence unfortunately means that this analysis has nothing to say about other verbs that can only occur in finite forms (see also Quirk et al. 1985:141):

- (i) En. a. She can clean her car tonight
 b. *She has could clean her car all week
- (ii) En. a. He was to be offered a second chance
 b. *He has been to be offered a second chance
- (iii) En. a. She has got to pass the exam
 b. *She will have got to pass the exam

6.2.2 Auxiliaries and embedded clauses

In the tableaux below, the possibility is taken into consideration of inserting an auxiliary directly under Tense°, rather than under its own V°. As this will require one maximal projection less than if the auxiliary had been inserted under a V°, because the auxiliary will not need its own VP, such candidates do better on **X°-Right**. Furthermore, as with insertion of light *do* outside VP, such candidates do extremely well on **Pred-Right** because the auxiliary does not count as a predicate X°, as it was not inserted under V° (nor under Adj°).

As pointed out by Grimshaw (1999), this means that there is no need for a special constraint which minimises structure, because **Pred-Right/X°-Right** now do the work previously done by e.g. **Economy of VPs**, i.e. "the less VPs, the better", Vikner (2000:438), compare (31be) to e.g. (31bb) below.

The reason why only English and not all languages inserts auxiliaries higher than main verbs is the same as the reason why only English inserts light *do* above the main verbs, namely the existence of and the ranking of **V-in-V°** ("verbs occur or have a trace in V°"). As argued in section 6.1 above, this constraint is ranked below **Pred-Right** in English, but above it in the other languages, compare (31be) to (31ba):

(31) non-V2, finite auxiliary

e.g. ... *if she has really seen the film* (22a)

English: be C°P°T°V° V°	Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Rght	V in V°	X° Right	
◀ aa e e V [V DP] +dist	*!			*		**		**	??
ab e V t [V DP] +dist	*!			*		***		***	
◀ ac V t t [V DP] +dist	*!					****		****	Ic/Fr
ad V t t t [V DP] +dist	*!					*****		*****	
◀ ae e V [V DP] +dist	*!			*		*	*	**	??
af V t [V DP] +dist	*!			*		*	*	***	
ag V t t [V DP] +dist	*!			*		*	*	****	
◀ ba e e V [V DP] -dist		*				**!		**	Da/Fa
bb e V t [V DP] -dist		*				**!*		***	
bc V t t [V DP] -dist		*				**!**		****	
bd V t t t [V DP] -dist		*				**!***		*****	
▶▶be e V [V DP] -dist		*				*	*	**	En
bf V t [V DP] -dist		*				*	*	***!	
bg v t t [V DP] -dist		*				*	*	***!*	

(continued on the next page)

(continued from the previous page)

C°P°T° V° V°		Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Rght	V in V°	X° Right	
◀ ca	e e [DP V] V +dist	*!			*	**				Fs/Ge
cb	e V [DP V] t +dist	*!			*	**	*		*	
◀ cc	V t [DP V] t +dist	*!				**	**		**	Yi
cd	V t t [DP V] t +dist	*!				**	***		***	
◀ ce	e V [DP V] +dist	*!			*	*		*	*	??
cf	V t [DP V] +dist	*!			*	*		*	**	
cg	V t t [DP V] +dist	*!			*	*		*	***	
◀ da	e e [DP V] V -dist		*			*!*				Af/Du
db	e V [DP V] t -dist		*			*!*	*		*	
dc	V t [DP V] t -dist		*			*!*	**		**	
dd	V t t [DP V] t -dist		*			*!*	***		***	
◀ de	e V [DP V] -dist		*			*!		*	*	??
df	V t [DP V] -dist		*			*!		*	**	
dg	V t t [DP V] -dist		*			*!		*	***	

In the following tableaux for the same case in the different languages, only candidates which are not harmonically bounded are considered.

As discussed in 6.2.1 above, the finite auxiliary in English is predicted to be in Tense°, whereas it is in Pers° in Icelandic and French and Yiddish, although this may not have any empirical consequences. This difference is caused by (31be) harmonically bounding (31bf), predicting it to be impossible for the finite auxiliary to be in Pers°, nothing would be gained by moving the auxiliary from Tense° to Pers°, and something would be lost (extra violations of X°-Right).

(31') non-V2, finite auxiliary

e.g. ... if she has really seen the film (22a)

English: be		Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Rght	V in V°	X° Right
C°P°T°V° V°									
◀ aa	e e V [V DP] +dist	*!			*		**		**
◀ ac	V t t [V DP] +dist	*!					****		****
◀ ae	e V [V DP] +dist	*!			*		*	*	**
◀ ba	e e V [V DP] -dist		*				**!		**
▶▶be	e V [V DP] -dist		*				*	*	**
◀ ca	e e [DP V] V +dist	*!			*	**			
◀ cc	V t [DP V] t +dist	*!				**	**		**
◀ ce	e V [DP V] +dist	*!			*	*		*	*
◀ da	e e [DP V] V -dist		*			*!*			
◀ de	e V [DP V] -dist		*			*!		*	*

As stated above, the existence of and the ranking of V-in-V° ("verbs occur or have a trace in V°") has two different consequences: That English but none of the other languages inserts auxiliaries higher than main verbs, and and that English but none of the other languages inserts light *do* above the main verbs. This exploits that **Pred-Right** is not only violated when a verb inserted under V° moves, but in a VO-language it is also violated everytime a verb is inserted under V° itself. In English it is thus more important not to violate **Pred-Right** (to have as few verbs as possible inserted under V° and to move such verbs as little as possible) than it is not to violate **V-in-V°** (i.e. only to insert verbs under V°).

Whereas with finite main verbs this leads to the insertion of *do*, it does not lead to *do*-insertion here, as discussed in 6.2.5 below, basically because it is even more optimal to insert the auxiliary itself outside VP. As for why this is not an option with finite main verbs, i.e. why finite main verbs cannot be inserted outside VP, see 6.2.4 below.

In the other languages under discussion, it is more important not to violate **V-in-V°** (i.e. only to insert verbs under V°) than it is not to violate **Pred-Right** (to have as few verbs as possible inserted under V° in VO-languages and to move such verbs as little as possible) and/or **X°-Left** (to have as few verbs as possible inserted under V° in OV-languages and to move into functional heads as little as possible). Therefore auxiliary verbs are inserted under V° and are predicted to behave exactly as finite main verbs do, at least as far as verb movement is concerned:

(32) non-V2, finite auxiliary

e.g. ... *om hun virkelig har set filmen* (23a)

e.g. ... *um hon virkuliga hefur sæð filmin* (23b)

Danish/Faroese: ba						Pers Not Dist	Pers Dist	Obl Head	V in V°	Chck Dist Pers	X° Left	Pred Rght	X° Rght
C°P°T°V° V°													
◀ aa	e e	V	[V DP]	+dist		*!				*		**	**
◀ ac	V t	t	[V DP]	+dist		*!						****	****
◀ ae	e V		[V DP]	+dist		*!			*	*		*	**
▶▶ba	e e	V	[V DP]	-dist			*					**	**
◀ be	e V		[V DP]	-dist			*		*!			*	**
◀ ca	e e	[DP V]	V	+dist		*!				*	**		
◀ cc	V t	[DP V]	t	+dist		*!					**	**	**
◀ ce	e V	[DP V]		+dist		*!			*	*	*		*
◀ da	e e	[DP V]	V	-dist			*				*!*		
◀ de	e V	[DP V]		-dist			*		*!		*		*

Once **V-in-V°** is given a high ranking in all languages except English, the possibility of inserting verbs outside VP disappears, and the differences between the other languages can be derived as before, cf. the following corollaries, repeated from section 5.2 above:

- (33) a. Pers-Not-Dist >> Pers-Dist → Non-distinctive inflectional morphology
b. Pers-Dist >> Pers-Not-Dist → Distinctive inflectional morphology

- (34) a. Pred-Right >> Check → no V°-to-I° movement (regardless of verbal inflection)
b. Check >> Pred-Right → V°-to-I° movement (iff rich verbal inflection)

- (35) a. Pred-Right >> X°-Left → OV
b. X°-Left >> Pred-Right → VO

English, Danish, and Faroese are all a/b/b and Afrikaans and Dutch are a/b/a. These two groups could also have been taken instead to be a/a/b and a/a/a, respectively: If there is no distinctive verbal morphology for person, i.e. if the choice in (33) is (33a), it will not matter whether the choice in (34) is (34a) or (34b), neither of the two options will lead to V°-to-I° movement.

(36) non-V2, finite auxiliary

e.g. ... *of sy die rolprent werklik gesien het* (24a)

e.g. ... *of ze werklik de film gezien heeft* (24b)

Afrikaans/Dutch: da		Pers Not Dist	Pers Dist	Obl Head	V in V°	Chck Dist Pers	Pred Rght	X° Left	X° Rght
C°P°T°V° V°									
◀	aa	e e V [V DP]	+dist	*!		*	**		**
◀	ac	V t t [V DP]	+dist	*!			****		****
◀	ae	e V [V DP]	+dist	*!	*	*	*		**
◀	ba	e e V [V DP]	-dist		*		*!*		**
◀	be	e V [V DP]	-dist		*!		*		**
◀	ca	e e [DP V] V	+dist	*!		*		**	
◀	cc	V t [DP V] t	+dist	*!			**	**	**
◀	ce	e V [DP V]	+dist	*!	*	*		*	*
▶▶	da	e e [DP V] V	-dist		*			**	
◀	de	e V [DP V]	-dist		*!			*	*

Icelandic and French, Yiddish, and Frisian and German represent three of the remaining four possible combinations: b/b/b, b/b/a and b/a/a respectively.

(37) non-V2, finite auxiliary

e.g. ... *hvort hún hafi áreiðanlega séð myndina* (22b)

e.g. ... *si elle a en effet vu le film* (22c)

Icelandic/French: ac		Pers Dist	Pers Not Dist	Obl Head	V in V°	Chck Dist Pers	X° Left	Pred Rght	X° Rght
C°P°T°V° V°									
◀	aa	e e V [V DP]	+dist		*	*!		**	**
▶▶	ac	V t t [V DP]	+dist		*			****	****
◀	ae	e V [V DP]	+dist		*!	*		*	**
◀	ba	e e V [V DP]	-dist	*!				**	**
◀	be	e V [V DP]	-dist	*!	*			*	**
◀	ca	e e [DP V] V	+dist		*	*!	**		
◀	cc	V t [DP V] t	+dist		*		*!*	**	**
◀	ce	e V [DP V]	+dist		*!	*	*		*
◀	da	e e [DP V] V	-dist	*!			**		
◀	de	e V [DP V]	-dist	*!	*		*		*

(38) non-V2, finite auxiliary

e.g. ... *oyb zi hot take gezien dem film* (22d)

Yiddish: cc		Pers Dist	Pers Not Dist	Obl Head	V in V°	Chck Dist Pers	Pred Rght	X° Left	X° Rght
C°P°T°V° V°									
◀	aa	e e V [V DP]	+dist		*	*!	**		**
◀	ac	V t t [V DP]	+dist		*		****!		****
◀	ae	e V [V DP]	+dist		*!	*	*		**
◀	ba	e e V [V DP]	-dist	*!			**		**
◀	be	e V [V DP]	-dist	*!	*		*		**
◀	ca	e e [DP V] V	+dist		*	*!		**	
▶▶	cc	V t [DP V] t	+dist		*		**	**	**
◀	ce	e V [DP V]	+dist		*!	*		*	*
◀	da	e e [DP V] V	-dist	*!			**		
◀	de	e V [DP V]	-dist	*!	*		*	*	*

(39) non-V2, finite auxiliary

e.g. ... *oft se de film echt wol sjoen hat* (24c)
e.g. ... *ob sie den Film tatsächlich gesehen hat* (24d)

Frisian/German: ca C°p°T° [VP [VP]]	Pers Dist	Pers Not Dist	Obl Head	V in V°	Pred Rght	Chck Dist Pers	X° Left	X° Rght
◀ aa e e V [V DP] +dist		*			*!*	*		**
◀ ac V t t [V DP] +dist		*			*!***			****
◀ ae e V [V DP] +dist		*		*!	*	*		**
◀ ba e e V [V DP] -dist	*!				**			**
◀ be e V [V DP] -dist	*!			*	*			**
▶▶ca e e [DP V] V +dist		*				*	**	
◀ cc V t [DP V] t +dist		*			*!*		**	**
◀ ce e V [DP V] +dist		*		*!		*	*	*
◀ da e e [DP V] V -dist	*!						**	
◀ de e V [DP V] -dist	*!			*			*	*

When harmonically bounded candidates are filtered out, there are ten potential winning candidates left.

Six of these are actually found: (31ac) in Icelandic and French, (31ba) in Danish and Faroese, (31be) in English, (31ca) in Frisian and German, (31cc) in Yiddish, and (31da) in Afrikaans and Dutch.

Two potential winners, (31aa,ae), would no longer be potential winners if we assume a conjoined constraint of the type discussed in 5.3.3 above:

In order to be more optimal than (31ac), (31ae) would need (**X°-Left** and) **Pred-Right** to outrank all other syntactic constraints (and (31aa) would need **Pred-Right** to outrank all other syntactic constraints except **V-in-V°**), but if there was a conjoined constraint **Check & Pred-Right**, it would outrank **Pred-Right**, and this conjoined constraint would be violated only by (31aa,ae), not by (31ac). Therefore, if there was a conjoined constraint **Check & Pred-Right**, (31aa,ae) could never be more optimal than (31ac).

Also potential winners: (31ce, de), OV-languages with auxiliary insertion under Tense°, cf. that the only unattested language type in 6.1.2 (given the suggested constraint conjunction) was an OV-language with *do*-insertion.

6.2.3 Auxiliaries and V2 clauses

This section will show that also with auxiliaries in a V2 context, the system delivers the desired results. What has to be derived here is that whereas English differs from the other languages both concerning V2 sentences with no auxiliaries (*do*-insertion) and non-V2 sentences with auxiliaries (finite auxiliaries occur higher than finite main verbs), English V2 sentences with auxiliaries are actually completely parallel to those found in the other languages:

- (40) a. En. Which film has she actually seen ?
 b. Da. Hvad for en film har hun egentlig set ?
 c. Fa. Hvat fyri film hevur hon egentliga sæð ?
 d. Ic. Hvaða mynd hefur hún eiginlega séð ?
 e. Fr. Quel film a-t- elle vraiment vu ?
 f. Yi. Voser film hot zi eygntlekh gezen ?
 g. Af. Watter rolprent het sy eintlik gesien ?
 h. Du. Welke film heeft ze eigenlijk gezien ?
 i. Fs. Hokfoar film hat se eins sjoen ?
 j. Ge. Welchen Film hat sie eigentlich gesehen?

The actual position of the finite auxiliary is here an effect of **Obl-Head**, and therefore it has no empirical consequences whether the auxiliary has been inserted under V° or under $Tense^{\circ}$.

As in the V2 constructions discussed earlier, the only visible differences are related to distinctive vs. non-distinctive person morphology and to VO vs. OV. The former is a question of whether **Pers-Not-Dist** is ranked higher or lower than **Pers-Dist**, the latter is a question of whether **X[°]-Left** outranks both **Pred-Right** and **X[°]-Right** or not. As there are thus relatively few empirical differences to be derived, it is perhaps not so surprising that it is possible to derive the data in a way compatible with the rankings already suggested for the respective languages.

(41) V2, finite auxiliary

e.g. *Which film has she actually seen?* (40a)

English: bg		Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X [°] Left	Pred Right	V in V [°]	X [°] Right	
C [°] P [°] T [°] V [°] V [°]										
◀ aa e e V [V DP] +dist	*!		*	*		**		**		*ObHd
ab e V t [V DP] +dist	*!		*	*		***		***		
◀ ac V t t [V DP] +dist	*!		*			****		****		*ObHd
◀ ad V t t t [V DP] +dist	*!					*****		*****		Ic/Fr
◀ ae e V [V DP] +dist	*!		*	*		*	*	**		*ObHd
af V t [V DP] +dist	*!		*	*		*	*	***		
◀ ag V t t [V DP] +dist	*!			*		*	*	****		??
◀ ba e e V [V DP] -dist		*	*!			**		**		*ObHd
bb e V t [V DP] -dist		*	*!			***		***		
bc V t t [V DP] -dist		*	*!			****		****		
◀ bd V t t t [V DP] -dist		*				***!***		*****		Da/Fa
◀ be e V [V DP] -dist		*	*!			*	*	**		*ObHd
bf V t [V DP] -dist		*	*!			*	*	***		
▶▶bg V t t [V DP] -dist		*				*	*	****		En

(continued on the next page)

(continued from the previous page)

	Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Right	V in V°	X° Right	
C°P°T°V° V°									
◀ ca e e [DP V] V +dist	*!		*	*	**				*ObHd
cb e V [DP V] t +dist	*!		*	*	**	*		*	
◀ cc V t [DP V] t +dist	*!		*		**	**		**	*ObHd
◀ cd V t t [DP V] t +dist	*!				**	***		***	Yi/Fs/Ge
◀ ce e V [DP V] +dist	*!		*	*	*		*	*	*ObHd
cf V t [DP V] +dist	*!		*	*	*		*	**	
◀ cg V t t [DP V] +dist	*!			*	*		*	***	??
◀ da e e [DP V] V -dist		*	*!		*!*				*ObHd
db e V [DP V] t -dist		*	*!		*!*	*		*	
dc V t [DP V] t -dist		*	*!		*!*	**		**	
◀ dd V t t [DP V] t -dist		*			*!*	***		***	Af/Du
◀ de e V [DP V] -dist		*	*!		*!		*	*	*ObHd
df V t [DP V] -dist		*	*!		*!		*	**	
◀ dg V t t [DP V] -dist		*			*!		*	***	??

In the following tableaux for the same case in the different languages, only those eight candidates which are not harmonically bounded and which do not violate **Obl-Head** are considered.

(41') V2, finite auxiliary

e.g. *Which film has she actually seen?* (40a)

English: bg	Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Right	V in V°	X° Right
C°P°T°V° V°								
◀ ad V t t t [V DP] +dist	*!					*****		*****
◀ ag V t t [V DP] +dist	*!			*		*	*	****
◀ bd V t t t [V DP] -dist		*				***!***		*****
▶▶bg V t t [V DP] -dist		*				*	*	****
◀ cd V t t [DP V] t +dist	*!				**	***		***
◀ cg V t t [DP V] +dist	*!			*	*		*	***
◀ dd V t t [DP V] t -dist		*			*!*	***		***
◀ dg V t t [DP V] -dist		*			*!		*	***

(42) V2, finite auxiliary

e.g. *Hvad for en film har hun egentlig set?* (40b)e.g. *Hvat fyrri film hevur hon egentliga sæð?* (40c)

Danish/Faroese: bd	Pers Not Dist	Pers Dist	Obl Head	V in V°	Chck Dist Pers	X° Left	Pred Right	X° Right
C°P°T°V° V°								
◀ ad V t t t [V DP] +dist	*!						*****	*****
◀ ag V t t [V DP] +dist	*!			*	*		*	****
▶▶bd V t t t [V DP] -dist		*					*****	*****
◀ bg V t t [V DP] -dist		*		*!			*	****
◀ cd V t t [DP V] t +dist	*!					**	***	***
◀ cg V t t [DP V] +dist	*!			*	*	*		***
◀ dd V t t [DP V] t -dist		*				*!*	***	***
◀ dg V t t [DP V] -dist		*		*!		*		***

(43) V2, finite auxiliary

e.g. *Watter rolprent het sy eintlik gesien?* (40g)

e.g. *Welke film heeft ze eigenlijk gezien?* (40h)

Afrikaans/Dutch: dd	Pers Not Dist	Pers Dist	Obl Head	V in V°	Chck Dist Pers	Pred Rght	X° Left	X° Right
C°P°T°V° V°	Dist							
◀ ad V t t t [V DP] +dist	*!					*****		*****
◀ ag V t t [V DP] +dist	*!			*	*	*		****
◀ bd V t t t [V DP] -dist		*				*****!	*	*****
◀ bg V t t [V DP] -dist		*		*!		*		****
◀ cd V t t [DP V] t +dist	*!					***	**	***
◀ cg V t t [DP V] +dist	*!			*	*		*	***
▶▶dd V t t [DP V] t -dist		*				***	**	***
◀ dg V t t [DP V] -dist		*		*!			*	***

(44) V2, finite auxiliary

e.g. *Hvaða mynd hefur hún eiginlega séð?* (40c)

e.g. *Quel film a-t-elle vraiment vu?* (40d)

Icelandic/French: ad	Pers Dist	Pers Not Dist	Obl Head	V in V°	Chck Dist Pers	X° Left	Pred Rght	X° Right
C°P°T°V° V°								
▶▶ad V t t t [V DP] +dist		*					*****	*****
◀ ag V t t [V DP] +dist		*		*!	*		*	****
◀ bd V t t t [V DP] -dist	*!						*****	*****
◀ bg V t t [V DP] -dist	*!			*			*	****
◀ cd V t t [DP V] t +dist		*				*!*	***	***
◀ cg V t t [DP V] +dist		*		*!	*	*		***
◀ dd V t t [DP V] t -dist	*!					**	***	***
◀ dg V t t [DP V] -dist	*!			*		*		***

(45) V2, finite auxiliary

e.g. *Voser film hot zi eygentlekh gezen?* (40f)

Yiddish: cd	Pers Dist	Pers Not Dist	Obl Head	V in V°	Chck Dist Pers	Pred Rght	X° Left	X° Right
C°P°T°V° V°								
◀ ad V t t t [V DP] +dist		*				*****!	*	*****
◀ ag V t t [V DP] +dist		*		*!	*	*		****
◀ bd V t t t [V DP] -dist	*!					*****		*****
◀ bg V t t [V DP] -dist	*!			*		*		****
▶▶cd V t t [DP V] t +dist		*				***	**	***
◀ cg V t t [DP V] +dist		*		*!	*		*	***
◀ dd V t t [DP V] t -dist	*!					***	**	***
◀ dg V t t [DP V] -dist	*!			*			*	***

(46) V2, finite auxiliary

e.g. *Hokfoar film hat se eins sjoen?* (40i)

e.g. *Welchen Film hat sie eigentlich gesehen?* (40j)

Frisian/German: cd	Pers Dist	Pers Not Dist	Obl Head	V in V°	Pred Rght	Chck Dist Pers	X° Left	X° Right
C°P°T°V° V°								
◀ ad V t t t [V DP] +dist		*			*****!	*		*****
◀ ag V t t [V DP] +dist		*		*!	*	*		****
◀ bd V t t t [V DP] -dist	*!				*****			*****
◀ bg V t t [V DP] -dist	*!			*	*			****
▶▶cd V t t [DP V] t +dist		*			***		**	***
◀ cg V t t [DP V] +dist		*		*!		*	*	***
◀ dd V t t [DP V] t -dist	*!				***		**	***
◀ dg V t t [DP V] -dist	*!			*			*	***

As was shown above, even when harmonically bounded candidates as well as those potential winning candidates that violate **Obl-Head**, (41aa,ac,ba,ca,cc,da), are filtered out, there were still eight potential winning candidates left.

Five of these are actually found: (41ad) in Icelandic and French, (41bd) in Danish and Faroese, (41bg) in English, (41cd) both in Yiddish and in Frisian and German, and (41dd) in Afrikaans and Dutch.

One potential winner, (41ag) would no longer be a potential winner if we assume a conjoined constraint of the type discussed in section 5.3.3 above: In order to be more optimal than (41ad), (41ag) would need (**X°-Left** and) **Pred-Right** or **X°-Right** to outrank all other syntactic constraints, but if there was a conjoined constraint **Check & Pred-Right**, it would outrank both **Pred-Right** and **X°-Right**, and this conjoined constraint would be violated only by (41ag), not by (41ad). Therefore if there was a conjoined constraint **Check & Pred-Right**, (41ag) could never be more optimal than (41ad).

Also potential winners: (41cg, dg), OV-languages with auxiliary insertion under Tense°, cf. that (given the suggested constraint conjunction) the only unattested language types in 6.2.2 were also OV-languages with auxiliary insertion under Tense° and the only unattested language type in 6.1.2 was an OV-language with *do*-insertion.

6.2.4 Main verbs are never inserted outside VP

As shown above, it is less expensive to insert an English auxiliary under Tense° than to insert it under V°, cf. that (31be) is more optimal than (31ba), because insertion under Tense° does not violate **Pred-Right**, whereas insertion under a (left) V° does. The same of course goes for English main verbs, if they could be inserted under Tense° rather than a (left) V°, this would also reduce the number of violations of **Pred-Right**. This means that something else must prevent insertion of main verbs under Tense°, because English finite main verbs are inserted under V°. This can be seen from the fact that they occur in V°, i.e. following the sentential adverbial, like all finite verbs in Danish and Faroese (and Norwegian and Swedish).

As I suggested in Vikner (2000:442), I will assume that it is part of GEN both that thematic roles have to be assigned inside lexical projections and that arguments must be assigned thematic roles (the latter is part of Chomsky's Theta-Criterion, 1981:36, (4)). This would mean that candidates cannot be generated that have a main verb inserted outside VP, because this verb would not be able to assign its thematic roles, and therefore the arguments

of the verb would not receive any thematic roles.

A reason for linking the verb difference (both with respect to the point of insertion and the possibility of *do*-support, as discussed in 6.2.5 below) to thematic roles may be found in the following data.

There is a difference between auxiliary *have* and *do*, (47) and (49), and main verb *have* and *do*, (48) and (50): The finite auxiliaries, but not the finite main verbs, occur in C° (i.e. to the left of the subject) and in I° (i.e. to the left of negation, to the left of a sentence adverbial, to the left of a subject quantifier, in tag questions, and in VP-ellipses, Scholten 1988:3-7). As the distinction between Pers° and Tense° introduced in chapter 5 above is mainly theoretically, not empirically, motivated, I will ignore this distinction in the data below and only refer to V° and I°.

(47) **Auxiliary verb *do* (C° and I°)**

- | | | <u>C°</u> | <u>I°</u> | <u>V°</u> | |
|--------|---|-----------|-------------------|-----------|---------------|
| En. a. | * | | He did not | <u>do</u> | see the film |
| b. | | | He <u>did</u> not | | see the film |
| c. | | | | <u>do</u> | see the film? |
| d. | | | <u>Did</u> he | | see the film? |

(48) **Main verb *do* (V°)**

- | | | <u>C°</u> | <u>I°</u> | | <u>V°</u> | |
|--------|---|-----------|-------------------|----------|------------|-------------|
| En. a. | | | He | actually | <u>did</u> | the dishes |
| b. | * | | He <u>did</u> | actually | | the dishes |
| c. | | | He did not | | <u>do</u> | the dishes |
| d. | * | | He <u>did</u> not | | | the dishes |
| e. | | | Did he | | <u>do</u> | the dishes? |
| f. | | | <u>Did</u> he | | | the dishes? |

(49) **Auxiliary verb *have* (C° and I°)**

- | | | <u>C°</u> | <u>I°</u> | | <u>V°</u> | |
|--------|---|-----------|--------------------|----------|-------------|----------------|
| En. a. | ? | | She | actually | <u>had</u> | seen the film |
| b. | | | She <u>had</u> | actually | | seen the film |
| c. | * | | She did not | | <u>have</u> | seen the film |
| d. | | | She <u>had</u> not | | | seen the film |
| e. | | | *Did she | | <u>have</u> | seen the film? |
| f. | | | <u>Had</u> she | | | seen the film? |

(50) Main verb *have*³(V°)

	C°	I°	V°	
En. a.		They	actually <u>had</u>	a fight
b. *		They <u>had</u>	actually	a fight
c.		They did not	<u>have</u>	a fight
d. *		They <u>had</u> not		a fight
f.		Did they	<u>have</u>	a fight?
g.		* <u>Had</u> they		a fight?

There are no such differences between finite auxiliary *be*, (51), and finite main verb *be*, (52), both occur in C° or I°.

³The examples in (50) employ what Quirk et al. (1985:776) call the "dynamic" main verb *have*. With the stative main verb *have* (i.e. possessive *have*) British English tends to use the expression *have got* under V2 and in negative clauses, rather than *do*-insertion, at least in the present tense:

(i) Stative main verb *have* (V°)

	C°	I°	V°	
En. a.		She	actually <u>has</u>	a car
b. *		She <u>has</u>	actually	a car
c.		She has	actually got	a car
d.		She does not	<u>have</u>	a car
e. *		She <u>has</u> not		a car
f.		She has not	got	a car
g.		Does she	<u>have</u>	a car?
h.		* <u>Has</u> she		a car?
j.		Has she	got	a car?

Quirk et al. (1985:131, 132) call examples like (ib,e,h) "traditional British English", but "now somewhat uncommon" and "more formal", and they call examples like (ic,f,j) "informal British English".

Although I take (ib,e,h) to be impossible in the standard variant of (British) English which I focus on here wherever I use the label "English", I have to admit that examples like (ib,e,h) with possessive *have* were possible in British English at least until the beginning of the 20th century, cf. also Kroch (1989:207):

- (ii) En. a. You have not a pistol, have you?
 b. Have you a pistol, Watson?

(both 1890 Arthur Conan Doyle, *The Sign of Four*, chapters 7 and 10)

In so far as possessive *have* assigns thematic roles (e.g. possessor, possessee), the analysis suggested in this chapter will incorrectly predict examples like (iia,b) to have become impossible in the 16th century, about 400 years too early.

Notice that it will not help to take possessive *have* not to assign any thematic roles (which is more or less what is suggested e.g. in Pollock 1989:388 and references there), because this would put it in the same group as auxiliary *have* and main verb *be* and make the incorrect prediction that now (ia,d,g) should be impossible. (ia,d,g) represent the only option in American English, and are also "common in British English" (Quirk et al. 1985:131, 132), especially in the past tense.

(51) **Auxiliary verb *be* (C° and I°)**

		C°		I°		V°	
En. a.	?		He		actually	<u>was</u>	working
b.			He	<u>was</u>	actually		working
c.	*		He	did not		<u>be</u>	working
d.			He	<u>was</u>	not		working
e.			*Did he			<u>be</u>	working?
f.			<u>Was</u> he				working?

(52) **Main verb *be* (C° and I°)**

		C°		I°		V°	
En. a.	?		She		actually	<u>was</u>	there
b.			She	<u>was</u>	actually		there
c.	*		She	did not		<u>be</u>	there
d.			She	<u>was</u>	not		there
e.			*Did she			<u>be</u>	there?
f.			<u>Was</u> she				there?

Roberts (1985:30), and later also Scholten (1988:160) and Pollock (1989:385), suggested that only verbs that do not assign theta-roles may be inserted under I°. This gives the right prediction concerning main verb *be*, which presumably does not assign a theta-role (in e.g. "*John is intelligent*", if there is a thematic role here at all, it is presumably assigned by *intelligent*, cf. 2.5.5 above), as opposed to main verb *have* and *do*, but like auxiliary *have*, *be* and *do*.

This is captured here by having GEN make sure that all verbs that assign theta-roles are generated in V°.

In the other languages under discussion, insertion of any verb outside VP, be it main verb, auxiliary, or light *do*, is never optimal anyway, because of the high ranking of V-in-V°:

Assuming that it is part of GEN that thematic roles have to be assigned inside lexical projections and that every argument must be assigned a thematic role, the interaction between GEN, **Pred-Right**, and **V-in-V°** makes three predictions (where "thematic verbs" means verbs that assign one or more thematic roles):

- (53) a. Either **NO verbs** (most languages) or **ONLY non-thematic verbs** (only English) are inserted outside VP - making it possible for finite thematic and finite non-thematic verbs to have different syntax.
(Thematic verbs are never inserted outside VP.)
- b. Either **NO verbs** (most languages) or **ONLY thematic verbs** (only English) have *do*-support when verb movement to C° takes place.
(Non-thematic verbs never have *do*-support when verb movement to C° takes place.)
- c. Either **NO verbs** (most languages) or **ONLY thematic verbs** (only English) have *do*-support with negation.
(Non-thematic verbs never have *do*-support with negation.)

The second of the two options (in all three cases) is achieved by having **Pred-Right** ranked above **V-in-V°**, and this is what happens in English, whereas the first of the two options (in all three cases) is achieved by having **V-in-V°** ranked above **Pred-Right**, and this is what happens in all the other languages discussed above. The first case, insertion inside VP or outside (above) it, is the topic of the present section, 6.2, the second case, *do*-support with movement to C°, was discussed in section 6.1 above, and the third case, *do*-support with negation, will be discussed in the following section, 6.3, where it will also be shown that what counts for this third case is not actually the ranking between **V-in-V°** and **Pred-Right**, but between **V-in-V°** and a new constraint, **HMC**. The typology that results from (53) will be further discussed in 6.3.7 below.

6.2.5 English auxiliaries do not allow *do*-insertion

English auxiliaries (as opposed to English main verbs, but like auxiliaries and main verbs in all the other languages discussed) never allow *do*-insertion. This also follows from the ranking already assumed above in the following way:

Comparing *do*-insertion to insertion of an auxiliary under Tense°, the number of **V-in-V°** violations is the same (it does not matter whether it is triggered by insertion of *do* or of an auxiliary under Tense°) and the number of **Pred-Right** violations goes up (if *do* is inserted under Tense°, then the auxiliary in question must be inserted in the infinitive form under a V°, which means that both the main verb and the auxiliary are inserted under V°, and thus both violate **Pred-Right**).

This means that I assume that auxiliary *have* does make a contribution to the interpretation of the clause, although it does not assign any thematic roles (otherwise it would have to be inserted under V°).

In other words, insertion of light *do* in clauses with auxiliaries is always harmonically bounded by insertion of an auxiliary directly under Tense°. I will first show this with an embedded clause, (22a), which is analysed as (54a), repeated from (31be) above. (54b-d) are such *do*-insertion cases with *do* inserted under a functional head and the auxiliary in the infinitive (e.g. (54b): ... *if she does really have seen the film*), and they are all harmonically bounded by (54a). Similarly, if *do* was inserted under its own V°, (54f-i), all cases would be harmonically bounded by (54e), which is actually the candidate that wins in Danish and Faroese, repeated from (31ba) above:

(54) non-V2 e.g. ... *if she has really seen the film* (22a)

English: be						Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Rght	V in V°	X° Right	
C°	P°	T°	V°	V°	V°									
▶▶a.	e	V			[V DP]		*				*	*	**	En
b.	e	do			[V [V DP]]		*				**!	*	***	
c.	do	t			[V [V DP]]		*				**!	*	****	
d.	do	t	t		[V [V DP]]		*				**!	*	*****	
◀e.	e	e	V		[V DP]		*				**!		**	Da/Fa
f.	e	e	do		[V [V DP]]		*				**!*		***	
g.	e	do	t		[V [V DP]]		*				**!*		****	
h.	do	t	t		[V [V DP]]		*				**!*		*****	
i.	do	t	t	t	[V [V DP]]		*				**!*		*****	

However, given that *do*-insertion is never possible in non-negative embedded clauses, let us also consider what happens in a V2-context, (40a), which is analysed as (55a), repeated from (41bg). (55b) is a *do*-insertion case with *do* inserted under a functional head and the auxiliary in the infinitive (*Which film does she really have seen?*), and it is harmonically bounded by (55a). Similarly, if *do* was inserted under its own V°, (55d), it would be harmonically bounded by (55c), which is actually the candidate that wins in Danish and Faroese, repeated from (41bd):

(55) V2, finite auxiliary

e.g. *Which film has she actually seen?* (40a)

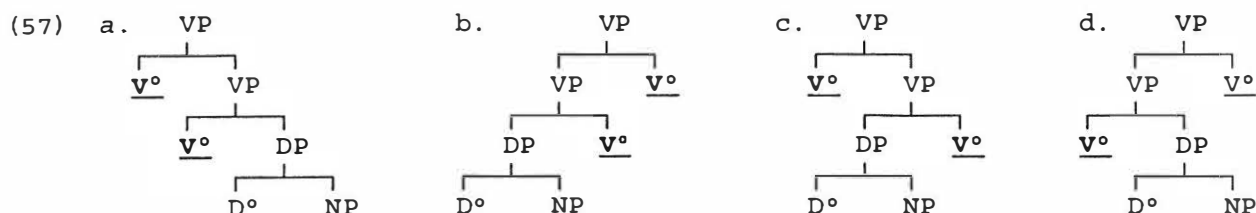
English: bg	Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Right	V in V°	X° Right	
C° p°T°V° V°									
►►a. V t t [V DP]		*				*	*	****	En
b. do t t [V [V DP]]		*				***!	*	*****	
◄c. V t t t [V DP]		*				***!****		*****	Da/Fa
d. do t t t [V [V DP]]		*				***!*****		*****	

Again we see that *do*-insertion has a price, and although this price in this case is that the number of **Pred-Right** violations goes up (with *do* inserted under Tense°, the auxiliary must be inserted under a V°, which means that now both the main verb and the auxiliary violate **Pred-Right**). As nothing is gained by inserting *do*, but a price has to be paid, *do*-insertion is not possible.

6.2.6 Mixed directionality is not possible

So far the only candidates with two verbs that I have considered were ones where either both verbs precede their complements or both verbs follow their complements. In this section I want to show why it is justified to exclude candidates where one verb precedes its complement and the other follows its complement, as in (56c,d)/(57c,d):

- (56) En. a. Could she [VP have [VP seen a UFO]] ?
 b. *Could she [VP [VP a UFO seen] have] ?
 c. *Could she [VP have [VP a UFO seen]] ?
 d. *Could she [VP [VP seen a UFO] have] ?



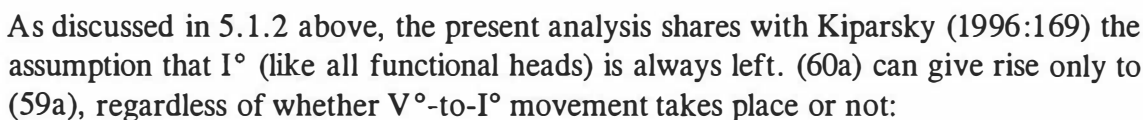
The ungrammaticality of (56b) in English is language specific, cf. that it is possible e.g. in German:

- (58) Ge. a. *Könnte sie [VP haben [VP gesehen ein Ufo]] ?
 b. Könnte sie [VP [VP ein Ufo gesehen] haben] ?
 c. *Könnte sie [VP haben [VP ein Ufo gesehen]] ?
 d. *Könnte sie [VP gesehen ein Ufo] haben] ?
 Could she (have) (seen) a UFO (seen) (have)

The point here is that whereas (57a,b) are possible depending on the constraint ranking of a

Kiparsky (1996:169) and Trips & Fuss (2001) discuss a related problem in the history of English, namely why one of four logically possible word orders in a clause with a finite auxiliary and a finite main verb is never found:

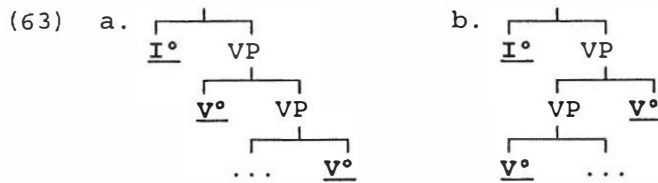
- Kiparsky (1996:168-170) suggests that only the following two structures are possible:



- If V°-to-I° movement does not take place, (60b) gives rise to (59b), and if V°-to-I° movement takes place, (60b) gives rise to (59c):

- Kiparsky (1996:169) shows that if (60a,b) are the only two possible clause structures, it is not possible to derive (59d), which is a desirable result, as (59d) is the only type in (59) which is not found.

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It is therefore necessary to rule out mixed directionality, which Kiparsky (1996:169) does by stipulation, saying that (63b) has an "inconsistent syntax" (and so presumably does (63a)). Although in Trips & Fuss (2001) the role attributed to I° by Kiparsky is given to Chomsky's (1995:305) *v*, they also have to stipulate the impossibility of mixed directionality. In the present analysis, this stipulation does not have to remain a stipulation as it follows from the constraints suggested in this and the preceding chapter for independent reasons.

The following tableau contains mixed directionality versions of all candidates in tableau (31). In candidates (64ea-fg), the main verb follows its complement and the auxiliary precedes its complement, whereas in candidates (64ga-hg), the main verb precedes its complement and the auxiliary follows its complement:

(64) non-V2, finite auxiliary

e.g. ... *if she has really seen the film* (22a)

English: be	Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Right	V in V°	X° Right
C°P°T°V° V°								
►►be e V [V DP] -dist		*				*	*	**
◄ea e e V [DP V] +dist	*!			*	*	*		*
eb e V t [DP V] +dist	*!			*	*	**		**
◄ec V t t [DP V] +dist	*!				*	***		***
ed V t t t [DP V] +dist	*!				*	****		****
◄ee e V [DP V] +dist	*!			*	*		*	*
ef V t [DP V] +dist	*!			*	*		*	**
eg V t t [DP V] +dist	*!			*	*		*	***
◄fa e e V [DP V] -dist		*			*!	*		*
fb e V t [DP V] -dist		*			*!	**		**
fc V t t [DP V] -dist		*			*!	***		***
fd V t t t [DP V] -dist		*			*!	****		****
◄fe e V [DP V] -dist		*			*!		*	*
ff V t [DP V] -dist		*			*!		*	**
fg V t t [DP V] -dist		*			*!		*	***
◄ga e e [V DP] V +dist	*!			*	*	*		*
gb e V [V DP] t +dist	*!			*	*	**		**
◄gc V t [V DP] t +dist	*!				*	***		***
gd V t t [V DP] t +dist	*!				*	****		****
◄ge e V [V DP] +dist	*!			*		*	*	**
gf V t [V DP] +dist	*!			*		*	*	***
gg V t t [V DP] +dist	*!			*		*	*	****
◄ha e e [V DP] V -dist		*			*!	*		*
hb e V [V DP] t -dist		*			*!	**		**
hc V t [V DP] t -dist		*			*!	***		***
hd V t t [V DP] t -dist		*			*!	****		****
►►he e V [V DP] -dist		*				*	*	**
hf V t [V DP] -dist		*				*	*	***!
hg V t t [V DP] -dist		*				*	*	***!*

En

The first point to notice here is that in those cases where the auxiliary is not inserted

under a V° but directly under $Tense^\circ$, there is no sense in talking about mixed directionality, as there is only one VP, the VP of the main verb. This is illustrated by the two winning candidates in (64). (64be,he) only differ with respect to whether the V° under which the auxiliary is NOT inserted precedes, (64be), or follows, (64he), its complement. In other words, there is no difference at all, (64be,he) are identical. This is so for all candidates where the auxiliary is inserted under $Tense^\circ$, (64ee-ef) are identical to (31ce-cf) above, (64fe-fg) to (31de-dg), (64ge-gf) to (31ae-af), and (64he-hg) to (31be-bg).

The second group of candidates which can be eliminated are those which are harmonically bounded within the remaining set of mixed directionality candidates. This leaves only (64ea,ec,fa,ga,gc,ha), which are repeated in tableau (65) below, together with all non-harmonically bounded candidates from (31):

(65) non-V2, finite auxiliary

e.g. ... *if she has really seen the film* (22a)

English: be		Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X $^\circ$ Left	Pred Right	V in V $^\circ$	X $^\circ$ Right	
C $^\circ$ P $^\circ$ T $^\circ$ V $^\circ$ V $^\circ$										
◀ aa	e e V [V DP] +dist	*!			*		**		**	??
◀ ac	V t t [V DP] +dist	*!					****		****	Ic/Fr
◀ ae	e V [V DP] +dist	*!			*		*	*	**	??
◀ ba	e e V [V DP] -dist		*				**!		**	Da/Fa
▶▶be	e V [V DP] -dist		*				*	*	**	En
◀ ca	e e [DP V] V +dist	*!			*	**				Fs/Ge
◀ cc	V t [DP V] t +dist	*!				**	**		**	Yi
◀ ce	e V [DP V] +dist	*!			*	*		*	*	??
◀ da	e e [DP V] V -dist		*			*!*				Af/Du
◀ de	e V [DP V] -dist		*			*!		*	*	??
◀ ea	e e V [DP V] +dist	*!			*	*	*		*	
◀ ec	V t t [DP V] +dist	*!				*	***		***	
◀ fa	e e V [DP V] -dist		*			*!	*		*	
◀ ga	e e [V DP] V +dist	*!			*	*	*		*	
◀ gc	V t [V DP] t +dist	*!				*	***		***	
◀ ha	e e [V DP] V -dist		*			*!	*		*	

The reason why (65ea,ec,fa,ga,gc,ha) are eternal losers even though they are not harmonically bounded by a particular candidate is that they are harmonically bounded by the other potential optimal candidates together. The point is that (65ea,ec,fa,ga,gc,ha) will never win, no matter how the constraints are ranked, even though there is not a particular candidate which will be more optimal in all of the cases.

Consider the case of (65ea,ga), which have identical constraint profiles. There is no candidate which has only a subset of the violations that (65ea,ga) has, i.e. (65ea,ga) are not harmonically bounded by any particular candidate.

Nevertheless, there is no ranking under which (65ea,ga) would be the optimal candidates: First we have to assume **Pers-Dist** to be ranked above **Pers-Not-Dist**, otherwise (65ea,ga) would be out of the competition at the earliest possible point. Ranking **Pers-Dist** above **Pers-Not-Dist** eliminates (65ba,be,da,de,fa,ha), leaving only (65aa,ac,ae,ca,cc,ce,ea,ec,ga,gc). Now assume the two highest ranked syntactic constraints to be **Obl-Head** and **V-in-V $^\circ$** , the only syntactic constraints that are not violated by (65ea,ga). This will eliminate (65ae,ce), leaving only (65aa,ac,ca,cc,ea,ec,ga,gc).

However, at this point we can go no further, it does not matter which constraint would be ranked next, (65ea) would never be the most optimal candidate. If the next constraint was **Check**, (65ea) would be less optimal than (65ac,cc,ec,gc):

(66) non-V2, finite auxiliary

FIRST attempt to get (65ea,ga) to win

C°P°T°V° V°				Pers Dist	Pers Not Dist	Obl Head	V in V°	Chck Dist Pers	X° Left	Pred Right	X° Right	
◀ aa	e e	V [V DP]	+dist		*			*!		**	**	??
▶▶ ac	V t t	[V DP]	+dist		*					****	****	Ic/Fr
◀ ca	e e	[DP V] V	+dist		*			*!	**			Fs/Ge
◀ cc	V t	[DP V] t	+dist		*				*!*	**	**	Yi
ea	e e	V [DP V]	+dist		*			*!	*	*	*	
ec	V t t	[DP V]	+dist		*				*!	***	***	
ga	e e	[V DP] V	+dist		*			*!	*	*	*	
gc	V t	[V DP] t	+dist		*				*!	***	***	

Alternatively, if the first constraint after **V-in-V°** was **X°-Left**, (65ea) would be less optimal than (65aa,ac):

(67) non-V2, finite auxiliary

SECOND attempt to get (65ea,ga) to win

C°P°T°V° V°				Pers Dist	Pers Not Dist	Obl Head	V in V°	X° Left	Chck Dist Pers	Pred Right	X° Right	
◀ aa	e e	V [V DP]	+dist		*				*!	**	**	??
▶▶ ac	V t t	[V DP]	+dist		*					****	****	Ic/Fr
◀ ca	e e	[DP V] V	+dist		*			*!*	*			Fs/Ge
◀ cc	V t	[DP V] t	+dist		*			*!*		**	**	Yi
ea	e e	V [DP V]	+dist		*			*!	*	*	*	
ec	V t t	[DP V]	+dist		*			*!		***	***	
ga	e e	[V DP] V	+dist		*			*!	*	*	*	
gc	V t	[V DP] t	+dist		*			*!		***	***	

Finally, if the first constraint after **V-in-V°** was **Pred-Right** (or **X°-Right**), (65ea) would be less optimal than (65ca):

(68) non-V2, finite auxiliary

THIRD attempt to get (65ea,ga) to win

C°P°T°V° V°				Pers Dist	Pers Not Dist	Obl Head	V in V°	Pred Right	Chck Dist Pers	X° Left	X° Right	
◀ aa	e e	V [V DP]	+dist		*			*!*	*		**	??
◀ ac	V t t	[V DP]	+dist		*			*!***			****	Ic/Fr
▶▶ ca	e e	[DP V] V	+dist		*				*	**		Fs/Ge
◀ cc	V t	[DP V] t	+dist		*			*!*		**	**	Yi
ea	e e	V [DP V]	+dist		*			*!	*	*	*	
ec	V t t	[DP V]	+dist		*			*!***		*	***	
ga	e e	[V DP] V	+dist		*			*!	*	*	*	
gc	V t	[V DP] t	+dist		*			*!***		*	***	

Exactly the same situation obtains for the other mixed directionality candidates, (65ec,fa,gc,ha): No matter what the ranking is, they will never be the optimal candidates.

6.2.7 Conclusion

This section, 6.2, showed how the unique situation concerning the English auxiliaries not only could be derived but had to be derived, given the set of constraints and their ranking already introduced to account for *do*-insertion, in section 6.1 above.

This further made the prediction that any language that shows the kind of differences between main and auxiliary verbs that are found in English will also have *do*-insertion, and vice versa.

Given that English auxiliaries, including light *do*, can be inserted higher in the clause than under V° , why is this not an option for main verbs? That it is not an option is seen from the fact that main verbs have a different syntax from auxiliary verbs in English. It was suggested that the answer to this was that only non-thematic verbs could be inserted outside VP. Thematic verbs inserted directly outside VP would not be able to assign their thematic roles, and so the result would be arguments without thematic roles, which was taken to be impossible (ruled out by GEN).

This leaves open the possibility of inserting other verbs outside VP, as long as they are non-thematic, and this is precisely what happens in English: The auxiliaries *be*, *do*, *have*, and the modal verbs, but also the main verb *be* are inserted outside VP, which is why they precede any sentential adverbials in English, in contrast to English finite main verbs.

The insertion of such verbs outside VP further means that there is nothing to be saved by insertion of light *do*, **Pred-Right** is already only violated once, by the main verb in V° . This is why *do*-insertion is impossible with the auxiliaries *be*, *do*, *have*, with the main verb *be*, and with the modal verbs (but not impossible with other main verbs, including *do* and *have*).

Finally it was shown that the analysis correctly predicts that there are no languages with mixed verbal directionality (i.e. no language exists where some verbs prefer VO, others OV).

6.3 Negation and the Head Movement Constraint

This section continues the discussion of light *do* in English and what it corresponds to in the other languages. Whereas section 6.1 above concentrated on *do*-insertion in V2 constructions, here the focus will be on *do*-insertion in negative clauses, cf. (69) below.

In 6.3.1, a new constraint, the Head Movement Constraint, and its ranking is introduced. In some of the following subsections, the four types of negated clauses are discussed: In 6.3.2, embedded clauses with no auxiliary, in 6.3.4, embedded clauses with an auxiliary, in 6.3.5, V2 with no auxiliary, and in 6.3.6, V2 with an auxiliary.

Two other subsections discuss related issues: 6.3.3 accounts for why emphatic clauses have a syntax similar to negated clauses, i.e. *do*-insertion, but only with thematic verbs. 6.3.7 discusses typological predictions of the analysis, and shows how the history of English may provide support for some of these predictions. Finally, the conclusion comes in 6.3.8.

6.3.1 Introduction

Light *do* is not triggered only in V2 contexts in English, but also in clauses that contain a sentential negation. Again English is the only language to have *do*-insertion, the other languages under discussion have finite main verbs in exactly the same position that finite main verbs occupy in embedded clauses with no negation:

- (69) En. ... if she did not see the film
- (70) a. Da. ... om hun ikke sá filmen
b. Fa. ... um hon ikki sá filmin
... if she not saw film-the
- (71) a. Ic. ... hvort hún sá ekki myndina
b. Fr. ... si elle ne voyait pas le film
c. Yi. ... oyb zi zet nisht dem film
... if she sees/saw not the film
- (72) a. Af. ... of sy die rolprent nie sien nie
b. Du. ... of ze de film niet zag
c. Fs. ... oft se de film net seach
d. Ge. ... ob sie den Film nicht sah
... if she the film not sees/saw

I shall take the structure of (71b), (69) and (70a) to be the following, cf. (85ac,be,ba) below:

- (73)
- | | <u>C°</u> | <u>Pers°</u> | <u>Tns°</u> | <u>Neg°</u> | <u>V°</u> | |
|--------|-----------|--------------|----------------------------|-------------|----------------|----------|
| a. Fr. | ... | si elle ne | <u>voyait</u> _i | | | le film |
| b. En. | ... | if she | <u>did</u> | not | see | the film |
| c. Da. | ... | om hun | | | ikke <u>sá</u> | filmen |

The structure of (69) is like the one in (73a) and the structure of (70b) is like the one in (73c). With the difference that order inside the VPs is OV instead of VO, the structure of (70b) corresponds to (73a) and the structure of (72a-d) to (73c).

One might attempt (as I myself did in earlier work, Vikner 1996) to explain the different effects of negation in the various languages by saying that Neg° could not be part

of the verb chain in English (*not* being an X° in Neg°), but the verb could move through Neg° in the other languages (Danish *ikke*, Faroese *ikki*, Icelandic *ekki*, French *pas*, Yiddish *nisht*, Afrikaans *nie*, Dutch *niet*, Frisian *net*, and German *nicht* all being XPs in $NegP$ -Spec). This could be achieved by two constraints, e.g. **Negation**= X° and **Negation**=XP which would be ranked one way in English and the other way in the other languages, but such an approach would not seem to be particularly insightful.

Instead, I want to show, as in Vikner (2000:445), that it is possible to account for the data using only constraints that are independently necessary, in particular **V-in- V°** and the **Head Movement Constraint (HMC)**:

(74) **HMC (Head Movement Constraint)**

violated by any X° which intervenes in an X° -chain with a different index

An X° intervenes in an X° -chain when it c-commands a link of the chain and is c-commanded by another link of the chain. The HMC is violated when X° -movement "skips" a head-position. See Travis (1984:131), Baker (1988:53), Rizzi (1990:11, 2000:92), Roberts (2000).

The independent need for **V-in- V°** was discussed in section 6.1 above. I also assume that there is independent need for the **HMC**, namely to distinguish between the following two candidates for a V2 sentence corresponding to ... *that they could have left*:

- (75)
- | | | | | | | | | |
|--------|--------------|------|--------------|-------------|-------|-----------|-----------|--|
| | <u>C°</u> | | <u>Pers°</u> | <u>Tns°</u> | | <u>V°</u> | <u>V°</u> | |
| En. a. | <u>Could</u> | they | <u>t</u> | <u>t</u> | | have | left? | |
| | | | | | | | | |
| b. | <u>*Have</u> | they | <u>t</u> | | could | <u>t</u> | left? | |
| | | | | | | | | |
- (based on Rizzi 1990:11, (24))

The only relevant difference is that in (75b), the chain of the verb in C° violates **HMC** (*could* intervenes in the chain between *have* in C° and a trace of *have* in V°), whereas this is not the case in (75a). This is not specific to English, but valid for all the languages under discussion here.

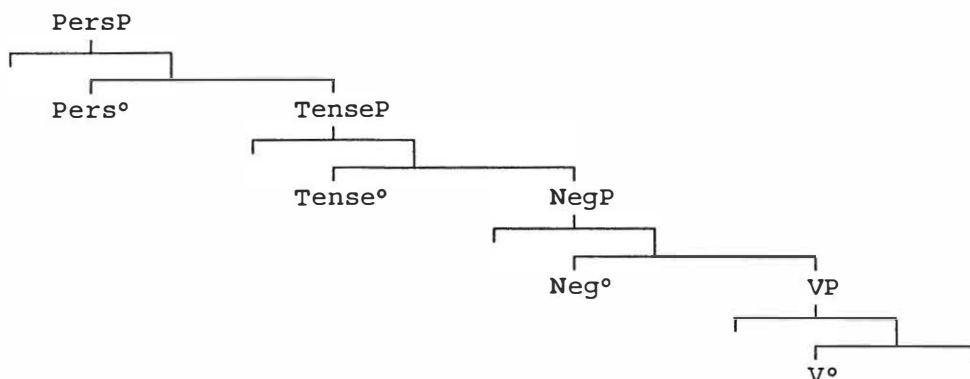
To account for negated clauses, no further ranking differences between the languages are necessary, just one additional constraint, namely the above-mentioned **Head Movement Constraint (HMC)**. The **HMC** may be taken to be ranked the same in all the languages, so that no more ranking differences are necessary than the ones already argued for in previous sections:

(76)

NEW ▼												
Pers Dist	Pers Not Dist		Obl Head	V in V°			X° Left	Pred Right	HMC	Chck Dist Pers	X° Right	not attested
Pers Dist	Pers Not Dist		Obl Head	V in V°		Chck Dist Pers	X° Left	Pred Right	HMC		X° Right	French/Icelandic
	Pers Not Dist	Pers Dist	Obl Head			Chck Dist Pers	X° Left	Pred Right	HMC		V in V°	English
	Pers Not Dist	Pers Dist	Obl Head	V in V°		Chck Dist Pers	X° Left	Pred Right	HMC		X° Right	Danish/Faroese
	Pers Not Dist	Pers Dist	Obl Head	V in V°		Chck Dist Pers	Pred Right	X° Left		HMC	X° Right	Dutch/Afrikaans
Pers Dist	Pers Not Dist		Obl Head	V in V°		Chck Dist Pers	Pred Right	X° Left		HMC	X° Right	Yiddish
Pers Dist	Pers Not Dist		Obl Head	V in V°	Pred Right	Chck Dist Pers	X° Left			HMC	X° Right	German/Frisian
▲ NEW												

I would like to suggest that the **HMC** is violated whenever Neg° intervenes in the verb chain in any of the languages (i.e. when Pers° and Tense° c-command Neg° and Neg° c-commands V°), which is the case whenever a sentence contains a sentential negation:

(77)



Notice that the NegP here is taken to be inside TenseP , not vice versa, as opposed to what is commonly assumed in the literature, e.g. Pollock (1989:397), Belletti (1990:30), and Haegeman (1995:28). See however Zanuttini (1997:101) for arguments in favour of four

different NegPs.

In order to also have the occurrence of a sentential negation count as a **HMC** violation in languages where the finite verb occurs in V° , the licensing of person and tense in such languages needs to be examined more closely.

As discussed in 5.1.1 above, it might be more accurate to talk about two different kinds of licensing of person and tense morphology on finite verbs. In addition to the (violable) checking which requires movement to $Pers^\circ$ of verbs with distinctive person morphology (regulated by the ranking of **Check-Dist-Pers**), I also assume that even in cases where the verb remains in V° , $Pers^\circ$ and $Tense^\circ$ obligatorily license the closest inflectional morphemes of the relevant kind that they dominate or c-command, cf. that also verbs which do not undergo V° -to- I° movement are not allowed to have just any inflection for person or tense:

		<u>Pers°</u>	<u>Tns°</u>	<u>Adv</u>	<u>V°</u>	
(78)	En. a.	...	if she	really	<u>knows</u>	the answer
	b.	*...	if she	really	<u>know</u>	the answer
	c.	*...	if they	really	<u>knows</u>	the answer
	d.	...	if they	really	<u>know</u>	the answer

		<u>Pers°</u>	<u>Tns°</u>	<u>Adv</u>	<u>V°</u>	
(79)	Fa. a.	...	um hon	virkuliga	<u>sá</u>	filmin
	b.	*...	um hon	virkuliga	<u>sóu</u>	filmin
			... if she	really	saw.SG/saw.PL	film-the
	c.	*...	um teir	virkuliga	<u>sá</u>	filmin
	d.	...	um teir	virkuliga	<u>sóu</u>	filmin
			... if they	really	saw.SG/saw.PL	film-the

The idea is that this kind of licensing from $Pers^\circ$ and $Tense^\circ$ to the actual verb form in V° takes the form of an X° -chain, and so if the sentence contains an intervening sentential Neg° , this counts as a **HMC** violation, as in (75) above:

		<u>C°</u>	<u>Pers°</u>	<u>Tns°</u>	<u>Neg°</u>	<u>V°</u>	
(80)	a. Fr.	... si elle ne	<u>voyait</u>	t	pas	t	le film
			|-----| X |-----|				
	b. En.	... if she	(P°)	<u>did</u>	not	see the film	

	c. Da.	... om hun	(P°)	(T°)	ikke	<u>så</u>	filmen
			|-----| X |-----|				

We thus have a situation parallel to that in V2 clauses without auxiliaries discussed in 6.1.2 above. Also here English prefers to insert *do*, although this costs a violation of **V-in- V°** , whereas in the other languages, where **V-in- V°** is ranked much higher, not violating **V-in- V°** is more important than not violating the conflicting constraint, in this case **HMC**. In the V2 cases the conflicting constraint was **Pred-Right**. The fact that the constraint with which **V-in- V°** conflicts is not the same in the two cases opens the door to the possibility that languages might exist with *do*-insertion in one but not the other case.

This analysis is thus parallel to analyses that take *not* to be in Neg° and to block the formation of a chain between V° and I° (e.g. Pollock 1989:397, Roberts 1993:338, n21).

Notice, however, that I do not necessarily want to suggest that the negative elements

This has often been assumed about NegP-spec, i.e. that NegP-spec may block the formation of A-bar-chains, irrespective of whether it is filled or not. Cinque (1990b:80) and Rizzi (1990:15) and many others assume that it is because NegP-spec cannot be part of an A-bar-chain that extraction (of adjuncts) across a negation element in NegP-spec is impossible, as shown by (81) below, which are often called "negative islands" in the literature, and which contrast with (82) where the extraction does not cross a negation:

- (Vikner 1995a:21, fn 4)

(83) En. a. *It is terrible how clever you are not t
 b. *It is terrible how clever you aren't t
 c. It is terrible how stupid you are t

(Vikner 1995a:21, fn 4)

(84) En. a. *Why are you t n't listening to me?
 b. Why aren't you t listening to me?
 c. *Why are not you t listening to me?
 d. Why are you t not listening to me?

I want to suggest something very parallel about Neg°, it cannot form part of the verb chain, and therefore X°-movement (verb movement) across it is in violation of the HMC, (74) above. Where then exactly *not*, *ikke*, *ikki*, *ekki*, *pas*, *nisht*, *nie*, *niet*, *net*, *nicht*, etc. actually are, in NegP-spec, Neg°, or somewhere else, is a different question (for a discussion of the possibilities with respect to Italian and related languages, see Zanuttini

1997:23, 101). This means that the above analysis is compatible with Roberts' (2000:147, fn11) suggestion that X° can block XP-movements and vice versa as long as they have the same type of features (in this case operator-features).

6.3.2 Negated embedded clause with no auxiliary

The data to be accounted for are the negated versions of examples from 5.2 and 6.1.3 above, i.e. (69)-(72). English has *do*, the other languages have finite main verbs in exactly the same position that finite main verbs have in embedded clauses with no negation.

(85) non-V2, finite main verb, negated e.g. ... *if she did not see the film* (69)

English: be	Pers	Pers	Obl	Chck	X°	Pred	HMC	V	X°	
C° P° T° [VP]	Not	Dist	Head	Dist	Left	Right		in	Right	
	Dist			Pers				v°		
◀ aa e e not V DP +d	*!			*		*	*		*	??
ab e V not t DP +d	*!			*		**	*		**	
◀ ac V t not t DP +d	*!					***	*		***	Ic/Fr
ad V t t not t DP +d	*!					****	*		****	
◀ ae e do not V DP +d	*!			*		*		*	**	??
af do t not V DP +d	*!			*		*		*	***	
ag do t t not V DP +d	*!			*		*		*	****	
◀ ba e e not V DP -d		*				*	*!		*	Da/Fa
bb e V not t DP -d		*				**!	*		**	
bc V t not t DP -d		*				**!*	*		***	
bd V t t not t DP -d		*				**!***	*		****	
▶▶be e do not V DP -d		*				*		*	**	En
bf do t not V DP -d		*				*		*	***!	
bg do t t not V DP -d		*				*		*	***!*	
C° p° T° [VP]	Pers	Pers	Obl	Chck	X°	Pred	HMC	V	X°	
	Not	Dist	Head	Dist	Left	Right		in	Right	
	Dist			Pers				v°		
◀ ca e e not DP V +d	*!			*	*		*			Fs/Ge
cb e V not DP t +d	*!			*	*	*	*		*	
◀ cc V t not DP t +d	*!				*	**	*		**	Yi
cd V t t not DP t +d	*!				*	***	*		***	
◀ ce e do not DP V +d	*!			*	*			*	*	??
cf do t not DP V +d	*!			*	*			*	**	
cg do t t not DP V +d	*!			*	*			*	***	
◀ da e e not DP V -d		*			*!		*			Af/Du
db e V not DP t -d		*			*!	*	*		*	
dc V t not DP t -d		*			*!	**	*		**	
dd V t t not DP t -d		*			*!	***	*		***	
◀ de e do not DP V -d		*			*!			*	*	??
df do t not DP V -d		*			*!			*	**	
dg do t t not DP V -d		*			*!			*	***	

(85ae-ag,be-bg,ce-cg,de-dg) are candidates with *do*-insertion, (85aa-ad,ba-bd,ca-cd,da-dd) are candidates without *do*-insertion, as can be seen from whether there is a verb or a trace present inside the VP.

Insertion of *do* in negative clauses only takes place when **HMC** is ranked higher than **V-in-V^o**: Because *do* is inserted above NegP, no X° -chain is formed in which Neg^o would count as an intervener, and therefore **HMC** prefers insertion of light *do* to

movement of the main verb. **V-in-V°**, on the other hand, prefers movement of the main verb to insertion of light *do*, even if this costs a violation of **HMC**.

In the following tableaux for the same case in the different languages, only candidates which are not harmonically bounded (i.e. which are not eternal losers) are considered.

(85') non-V2, finite main verb, negated

e.g. ... *if she did not see the film* (69)

English: be p°T° [VP]	Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Right	HMC	V in V°	X° Right
◀ aa e e not V DP +d	*!			*		*	*		*
◀ ac V t not t DP +d	*!					***	*		***
◀ ae e do not V DP +d	*!			*		*		*	**
◀ ba e e not V DP -d		*				*	*!		*
▶▶be e do not V DP -d		*				*		*	**
◀ ca e e not DP V +d	*!			*	*		*		
◀ cc V t not DP t +d	*!				*	**	*		**
◀ ce e do not DP V +d	*!			*	*			*	*
◀ da e e not DP V -d		*			*!		*		
◀ de e do not DP V -d		*			*!			*	*

English is the only language where **HMC** is ranked higher than **V-in-V°**, (85'), and therefore the only language to have *do*-insertion in negative clauses. In all the other languages **V-in-V°** is ranked higher than **HMC**, and therefore there is no *do*-insertion in negative clauses.

(86) non-V2, finite main verb, negated

e.g. ... *om hun ikke så filmen* (70a)

e.g. ... *um hon ikki så filmin* (70b)

Danish/Faroese: ba p°T° [VP]	Pers Not Dist	Pers Dist	Obl Head	V in V°	Chck Dist Pers	X° Left	Pred Right	HMC	X° Right
◀ aa e e not V DP +d	*!				*		*	*	*
◀ ac V t not t DP +d	*!						***	*	***
◀ ae e do not V DP +d	*!			*	*		*		**
▶▶ba e e not V DP -d		*					*	*	*
◀ be e do not V DP -d		*		*!			*		**
◀ ca e e not DP V +d	*!				*	*		*	
◀ cc V t not DP t +d	*!					*	**	*	**
◀ ce e do not DP V +d	*!			*	*	*			*
◀ da e e not DP V -d		*				*!		*	
◀ de e do not DP V -d		*		*!		*			*

Once **V-in-V°** is given a high ranking in all languages except English, the possibility of *do*-insertion disappears, and the differences between the other languages can be derived as before, cf. the following corollaries, repeated from 5.2 and 6.2.2 above:

- (87) a. Pers-Not-Dist >> Pers-Dist → Non-distinctive inflectional morphology
b. Pers-Dist >> Pers-Not-Dist → Distinctive inflectional morphology

- (88) a. Pred-Right >> Check → no V°-to-I° movement (regardless of verbal inflection)
b. Check >> Pred-Right → V°-to-I° movement (iff rich verbal inflection)

- (89) a. Pred-Right >> X°-Left → OV
 b. X°-Left >> Pred-Right → VO

(90) non-V2, finite main verb, negated

e.g. ... *of sy die rolprent nie sien nie* (72a)

e.g. ... *of ze de film niet zag* (72b)

Afrikaans/Dutch: da	Pers Not Dist	Pers Dist	Obl Head	V in V°	Chck Dist Pers	Pred Rght	X° Left	HMC	X° Rght
P°T° [VP]									
◀ aa e e not V DP +d	*!				*	*		*	*
◀ ac V t not t DP +d	*!					***		*	***
◀ ae e do not V DP +d	*!			*	*	*			**
◀ ba e e not V DP -d		*				*!		*	*
◀ be e do not V DP -d		*		*!		*			**
◀ ca e e not DP V +d	*!				*		*	*	
◀ cc V t not DP t +d	*!					**	*	*	**
◀ ce e do not DP V +d	*!			*	*		*		*
▶▶da e e <u>not</u> DP V -d		*					*	*	
◀ de e do not DP V -d		*		*!			*		*

(91) non-V2, finite main verb, negated

e.g. ... *si elle ne voyait pas le film* (71b)

e.g. ... *hvort hún sá ekki myndina* (71a)

Icelandic/French: ac	Pers Dist	Pers Not Dist	Obl Head	V in V°	Chck Dist Pers	X° Left	Pred Rght	HMC	X° Rght
P°T° [VP]									
◀ aa e e not V DP +d		*			*!		*	*	*
▶▶ac V t not t DP +d		*					***	*	***
◀ ae e do not V DP +d		*		*!	*		*		**
◀ ba e e not V DP -d	*!						*	*	*
◀ be e do not V DP -d	*!			*			*		**
◀ ca e e not DP V +d		*			*!	*		*	
◀ cc V t not DP t +d		*				*!	**	*	**
◀ ce e do not DP V +d		*		*!	*	*			*
◀ da e e not DP V -d	*!					*		*	
◀ de e do not DP V -d	*!			*		*			*

(92) non-V2, finite main verb, negated

e.g. ... *oyb zi zet nisht dem film* (71c)

Yiddish: cc	Pers Dist	Pers Not Dist	Obl Head	V in V°	Chck Dist Pers	Pred Rght	X° Left	HMC	X° Rght
P°T° [VP]									
◀ aa e e not V DP +d		*			*!	*		*	*
◀ ac V t not t DP +d		*				***!		*	***
◀ ae e do not V DP +d		*		*!	*	*			**
◀ ba e e not V DP -d	*!					*		*	*
◀ be e do not V DP -d	*!			*		*			**
◀ ca e e not DP V +d		*			*!		*	*	
▶▶cc V t not DP t +d		*				**	*	*	**
◀ ce e do not DP V +d		*		*!	*		*		*
◀ da e e not DP V -d	*!						*	*	
◀ de e do not DP V -d	*!			*			*		*

(93) non-V2, finite main verb, negated

e.g. ... *oft se de film net seach* (72c)

e.g. ... *ob sie den Film nicht sah* (72d)

Frisian/German: ca p°T° [VP]	Pers Dist	Pers Not Dist	Obl Head	V in V°	Pred Rght	Chck Dist Pers	X° Left	HMC	X° Rght
◀ aa e e not V DP +d		*			*!	*		*	*
◀ ac V t not t DP +d		*			*!*			*	***
◀ ae e do not V DP +d		*		*!	*	*			**
◀ ba e e not V DP -d	*!				*			*	*
◀ be e do not V DP -d	*!			*	*				**
▶▶ca e e not DP V +d		*				*	*	*	
◀ cc V t not DP t +d		*			*!*		*	*	**
◀ ce e do not DP V +d		*		*!		*	*		*
◀ da e e not DP V -d	*!						*	*	
◀ de e do not DP V -d	*!			*			*		*

As was shown above, even when harmonically bounded candidates are filtered out, there were still ten potential winning candidates left.

Six of these are actually found: (85ac) in Icelandic and French, (85ba) in Danish and Faroese, (85be) in English, (85ca) in Frisian and German, (85cc) in Yiddish, and (85da) in Afrikaans and Dutch.

(85aa) would no longer be a potential winner if we assume a conjoined constraint of the type discussed in 5.3.3 above: In order to be more optimal than (85ac), (85aa) would need (**Pred-Right** and) **X°-Right** to outrank all other syntactic constraints, but if there was a conjoined constraint **Check & Pred-Right**, it would outrank both **Pred-Right** and **X°-Right**, and this conjoined constraint would be violated only by (85aa), not by (85ac). Therefore if there was a conjoined constraint **Check & Pred-Right**, (85aa) could never be more optimal than (85ac).

Also potential winners: (85ae,ce,de). (85ae) is a VO-language with rich inflection and *do*-insertion. (85ce,de) are OV-languages with *do*-insertion, cf. the various unattested language types in previous sections and chapters.

6.3.3 Emphatic *do*

We are now in a position to see why *do* is also obligatory under emphasis, as hinted at at the end of 6.1.3 above. The point was that because *do*-insertion is costly (the price is a violation of **V-V°**), it is only inserted when something is gained, and otherwise it is impossible. The following data might seem problematic for this view:

- (94) En. a. I swear that she saw the film
b. I swear that she DID see the film

However, I would like to suggest (as in Vikner 2000:456, following Trachtenberg 1996) that the reason for the well-formedness of (94b) with emphatic or contrastive stress on *do* is precisely that something IS gained by inserting *do* here which makes it worthwhile to incur the violation of **V-V°** that is always incurred by insertion of *do* under Tense°.

If we assume with e.g. Pollock (1989:421, fn 51), Belletti (1990:39), and Laka (1990) that emphasis is an independent functional head above **V°**, just like Neg°, cf. the preceding subsection, then just like with Neg°, both moving a finite verb across this **X°** and leaving a finite verb below this **X°** will violate the **HMC**, whereas insertion of *do*

under Tense° will avoid a violation of the **HMC**.

In e.g. Danish, where V-V° is ranked higher than **HMC**, the analysis correctly predicts that emphasis, like negation, does not make any difference for the position and form of the finite verb:

- (95) Da. a. Jeg sværger på at hun virkelig så filmen
 I swear on that she really saw film-the
 b. *Jeg sværger på at hun GJORDE virkelig se filmen
 I swear on that she DID really see film-the

6.3.4 Negated embedded clause with an auxiliary

The data to be derived here are the negated versions of examples from 6.2.2 above, where the finite auxiliaries have exactly the same position as in non-negated clauses.

- (96) a. En. ... if she has not seen the film
 b. Ic. ... hvort hún hafi ekki séð myndina
 c. Fr. ... si elle n'a pas vu le film
 d. Yi. ... oyb zi hot nisht gezen dem film
- (97) a. Da. ... om hun ikke har set filmen
 b. Fa. ... um hon ekki hefur sæð filmin
 ... if she not has seen film-the
- (98) a. Af. ... of sy die rolprent nie gesien het nie
 b. Du. ... of ze de film niet gezien heeft
 c. Fs. ... oft se de film net sjoen hat
 d. Ge. ... ob sie den Film nicht gesehen hat
 ... if she the film not seen has

The tableau looks as follows:

(99) non-V2, finite auxiliary, negated

e.g. ... if she has not seen the film

English: be			Pers Not Dist	Pers Dist	Obl Hd	Chck Dist Pers	X° Left	Pred Rght	HMC	V in V°	X° Right			
C°P°T°	V°	V°												
◀ aa	e e	not V	[V DP]	+d	*!			*		**	*	**	??	
ab	e V	not t	[V DP]	+d	*!			*		***	*	***		
◀ ac	V t	not t	[V DP]	+d	*!					****	*	****	Ic/Fr	
ad	V t t	not t	[V DP]	+d	*!					*****	*	*****		
◀ ae	e V	not	[V DP]	+d	*!			*		*		*	**	??
af	V t	not	[V DP]	+d	*!			*		*		*	***	
ag	V t t	not	[V DP]	+d	*!			*		*		*	****	
◀ ba	e e	not V	[V DP]	-d			*			**!	*		**	Da/Fa
bb	e V	not t	[V DP]	-d			*			**!*	*		***	
bc	V t	not t	[V DP]	-d			*			**!*	*		****	
bd	V t t	not t	[V DP]	-d			*			**!***	*		*****	
▶▶be	e V	not	[V DP]	-d			*			*		*	**	En
bf	V t	not	[V DP]	-d			*			*		*	***!	
bg	V t t	not	[V DP]	-d			*			*		*	***!*	

(continued on the next page)

(continued from the previous page)

C°P°T°	V° V°	Pers Not Dist	Pers Dist	Obl Hd	Chck Dist Pers	X° Left	Pred Right	HMC	V in V°	X° Right	
◀ ca	e e not [DP V] V +d	*!			*	**		*			Fs/Ge
cb	e V not [DP V] t +d	*!			*	**	*	*		*	
◀ cc	V t not [DP V] t +d	*!				**	**	*		**	Yi
cd	V t t not [DP V] t +d	*!				**	***	*		***	
◀ ce	e V not [DP V] +d	*!			*	*			*	*	??
cf	V t not [DP V] +d	*!			*	*			*	**	
cg	V t t not [DP V] +d	*!			*	*			*	***	
◀ da	e e not [DP V] V -d		*			*!*		*			Af/Du
db	e V not [DP V] t -d		*			*!*	*	*		*	
dc	V t not [DP V] t -d		*			*!*	**	*		**	
dd	V t t not [DP V] t -d		*			*!*	***	*		***	
◀ de	e V not [DP V] -d		*			*!			*	*	??
df	V t not [DP V] -d		*			*!			*	**	
dg	V t t not [DP V] -d		*			*!			*	***	

In the candidates (99ae-ag,be-bg,ce-cg,de-dg), the auxiliary verb is inserted directly under Tense°. One advantage of this is the minimising of the violations of **Pred-Right** (only violated once in VO-languages and not violated in OV-languages at all), because the only predicate head, the main verb, remains where it is inserted, and does not add extra violations when moving to Tense° or Pers°. Another advantage which is crucial is that these candidates avoid violating the **HMC** in negated clauses: As the auxiliary is inserted above NegP, no X°-chain is formed in which Neg° would count as an intervener.

In the candidates (99aa-ad,ba-bd,ca-cd,da-dd), the auxiliary verb is inserted under a V°. Although this has more violations of **Pred-Right** and **HMC**, it has the advantage of not violating **V-in-V°**.

In this and the other competitions in this chapter which involves negated clauses and an auxiliary verb, (99) above and (114) in 6.3.6 below, candidates are not taken into consideration that contain both *do* and the auxiliary *have*. As discussed in section 6.2.5 above, such candidates can all be shown to be harmonically bounded. The advantage of *do*-insertion directly under Tense° is that it avoids violations of the **HMC**, as shown in 6.3.2 above. *Do*-insertion candidates in negated clauses with an auxiliary remain eternal losers, they are harmonically bounded by insertion of the auxiliary under Tense°. The latter have the same advantage, and less violations of e.g. **Pred-Right** in VO-languages and **X°-Left** in OV-languages, because if *do* is inserted under Tense°, the auxiliary has to be inserted under a V° and will count for **Pred-Right** if the VP is VO and for **X°-Left** if the VP is OV, neither of which would be the case given direct insertion of the auxiliary under Tense°.

In the following tableaux for the same case in the different languages, only candidates which are not harmonically bounded (i.e. which are not eternal losers) are considered.

(99') non-V2, finite auxiliary, negated

e.g. ... *if she has not seen the film* (96a)

English: be	Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Rght	HMC	V in V°	X° Rght
P°T° V° V°									
◀ aa e e not V [V DP] +d	*!			*		**	*		**
◀ ac V t not t [V DP] +d	*!					****	*		****
◀ ae e V not [V DP] +d	*!			*		*		*	**
◀ ba e e not V [V DP] -d		*				**!	*		**
▶▶ba e V not [V DP] -d		*				*		*	**
◀ ca e e not [DP V] V +d	*!			*	**		*		
◀ cc V t not [DP V] t +d	*!				**	**	*		**
◀ ce e V not [DP V] +d	*!			*	*			*	*
◀ da e e not [DP V] V -d		*			*!*		*		
◀ de e V not [DP V] -d		*			*!			*	*

English is the only language where **HMC** is ranked higher than **V-in-V°**, (99'), and therefore the only language to have auxiliaries inserted under Tense° (also) in negative clauses. In all the other languages **V-in-V°** is ranked higher than **HMC**, and therefore there is no auxiliary-insertion directly under Tense° in negative clauses.

(100) non-V2, finite auxiliary, negated

e.g. ... *om hun ikke har set filmen* (97a)e.g. ... *um hon ikki hevur sæð filmin* (97b)

Danish/Faroese: ba	Pers Not Dist	Pers Dist	Obl Head	V in V°	Chck Dist Pers	X° Left	Pred Rght	HMC	X° Rght
P°T° V° V°									
◀ aa e e not V [V DP] +d	*!				*		**	*	**
◀ ac V t not t [V DP] +d	*!						****	*	****
◀ ae e V not [V DP] +d	*!			*	*		*		**
▶▶ba e e not V [V DP] -d		*					**	*	**
◀ be e V not [V DP] -d		*		*!			*		**
◀ ca e e not [DP V] V +d	*!				*	**		*	
◀ cc V t not [DP V] t +d	*!					**	**	*	**
◀ ce e V not [DP V] +d	*!			*	*	*			*
◀ da e e not [DP V] V -d		*				*!*		*	
◀ de e V not [DP V] -d		*		*!		*			*

Once **V-in-V°** is given a high ranking in all languages except English, the possibility of auxiliary-insertion under Tense° disappears, and the differences between the other languages can be derived as in the various competitions above, e.g. in 5.2, in 6.2.2, and in 6.3.2 above:

- (101) non-V2, finite auxiliary, negated e.g. ... *of sy die rolprent nie gesien het nie* (98a)
e.g. ... *of ze niet de film gezien heeft* (98b)

Afrikaans/Dutch: da	Pers Not Dist	Pers Dist	Obl Head	V in V°	Chck Dist Pers	Pred Rght	X° Left	HMC	X° Rght
p°T° V° V°									
◀ aa e e not V [V DP] +d	*!				*	**		*	**
◀ ac V t not t [V DP] +d	*!					****		*	****
◀ ae e V not [V DP] +d	*!			*	*	*			**
◀ ba e e not V [V DP] -d		*				*!*		*	**
◀ be e V not [V DP] -d		*		*!		*			**
◀ ca e e not [DP V] V +d	*!				*		**	*	
◀ cc V t not [DP V] t +d	*!					**	**	*	**
◀ ce e V not [DP V] +d	*!			*	*		*		*
▶▶ da e e not [DP V] V -d		*					**	*	
◀ de e V not [DP V] -d		*		*!			*		*

- (102) non-V2, finite auxiliary, negated e.g. ... *hvort hún hafi ekki séð myndina* (96b)
e.g. ... *si elle n'a pas vu le film* (96c)

Icelandic/French: ac	Pers Dist	Pers Not Dist	Obl Head	V in V°	Chck Dist Pers	X° Left	Pred Rght	HMC	X° Rght
p°T° V° V°									
◀ aa e e not V [V DP] +d		*			*!		**	*	**
▶▶ ac V t not t [V DP] +d		*					****	*	****
◀ ae e V not [V DP] +d		*		*!	*		*		**
◀ ba e e not V [V DP] -d	*!						**	*	**
◀ be e V not [V DP] -d	*!			*			*		**
◀ ca e e not [DP V] V +d		*			*!	**		*	
◀ cc V t not [DP V] t +d		*				*!*	**	*	**
◀ ce e V not [DP V] +d		*		*!	*	*			*
◀ da e e not [DP V] V -d	*!					**		*	
◀ de e V not [DP V] -d	*!			*		*			*

- (103) non-V2, finite auxiliary, negated e.g. ... *oyb zi hot nisht gezen dem film* (96d)

Yiddish: cc	Pers Dist	Pers Not Dist	Obl Head	V in V°	Chck Dist Pers	Pred Rght	X° Left	HMC	X° Rght
p°T° V° V°									
◀ aa e e not V [V DP] +d		*			*!	**		*	**
◀ ac V t not t [V DP] +d		*				***!*		*	****
◀ ae e V not [V DP] +d		*		*!	*	*			**
◀ ba e e not V [V DP] -d	*!					**		*	**
◀ be e V not [V DP] -d	*!			*		*			**
◀ ca e e not [DP V] V +d		*			*!		**	*	
▶▶ cc V t not [DP V] t +d		*				**	**	*	**
◀ ce e V not [DP V] +d		*		*!	*		*		*
◀ da e e not [DP V] V -d	*!						**	*	
◀ de e V not [DP V] -d	*!			*			*		*

(104) non-V2, finite auxiliary, negated

e.g. ... *oft se de film net sjoen hat* (98c)

e.g. ... *ob sie den Film nicht gesehen hat* (98d)

Frisian/German: ca	Pers Dist	Pers Not Dist	Obl Head	V in V°	Pred Rght	Chck Dist Pers	X° Left	HMC	X° Rght
p°T° V° V°									
◀ aa e e not V [V DP] +d		*			*!*	*		*	**
◀ ac V t not t [V DP] +d		*			*!***			*	****
◀ ae e V not [V DP] +d		*		*!	*	*			**
◀ ba e e not V [V DP] -d	*!				**			*	**
◀ be e V not [V DP] -d	*!			*	*				**
▶▶ca e e not [DP V] V +d		*				*	**	*	
◀ cc V t not [DP V] t +d		*			*!*		**	*	**
◀ ce e V not [DP V] +d		*		*!		*	*		*
◀ da e e not [DP V] V -d	*!						**	*	
◀ de e V not [DP V] -d	*!			*			*		*

As was shown above, even when harmonically bounded candidates are filtered out, there were still ten potential winning candidates left, just like in section 6.3.2 above.

Six of these are actually found: (99ac) in Icelandic and French, (99ba) in Danish and Faroese, (99be) in English, (99ca) in Frisian and German, (99cc) in Yiddish, and (99da) in Afrikaans and Dutch.

One potential winner, (99aa), would no longer be a potential winner if we assume a conjoined constraint of the type discussed in 5.3.3 above: In order to be more optimal than (99ac), (99aa) would need **Pred-Right** or **X°-Right** to outrank all other syntactic constraints, but if there was a conjoined constraint **Check & Pred-Right**, it would outrank both **Pred-Right** and **X°-Right**, and this conjoined constraint would be violated only by (99aa), not by (99ac). Therefore if there was a conjoined constraint **Check & Pred-Right**, (99aa) could never be more optimal than (99ac).

Also potential winners: (99ae,ce,de). (99ae) is a VO-language with rich inflection and *do*-insertion. (99ce,de) are OV-languages with *do*-insertion, cf. the various unattested language types in previous sections and chapters.

6.3.5 Negated V2 clause with no auxiliary

The data to be derived here are the negated versions of examples from 5.4 and 6.1.2 above. The position of the finite verb is the same in all languages, C° (due to **Obl-Head**), but English is different from the rest because it is the only language to have *do*-insertion:

(105) En. Which film did she not see ?

- (106) a. Da. Hvad for en film så hun ikke ?
b. Fa. Hvat fyri film sá hon ikki ?
c. Ic. Hvaða mynd sá hún ekki ?
d. Fr. Quel film ne voyait- elle pas ?
e. Yi. Voser film zet zi nisht ?
f. Af. Watter rolprent sien sy nie ?
g. Du. Welke film zag ze niet ?
h. Fs. Hokfoar film seach se net ?
i. Ge. Welchen Film sah sie nicht ?
Which film sees/saw she not ?

In negated V2 constructions, where **Obl-Head** forces movement to C°, *do*-insertion will take place when either **Pred-Right** or **HMC** is ranked higher than **V-in-V°**: **Pred-Right** prefers insertion of light *do* to movement of the main verb because light *do* is not a predicate head, **HMC** prefers insertion of light *do* to movement of the main verb because *do*-insertion avoids forming an X°-chain in which Neg° would intervene, whereas **V-in-V°** prefers movement of the main verb to insertion of light *do*.

(107) V2, finite main verb, negated

e.g. *Which film did she not see?*

English: bg	Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Rght	HMC	V in V°	X° Rght	
C° P° T° [VP]										
◀ aa e e not V DP +d	*!		*	*		*	*		*	*ObHd
ab e V not t DP +d	*!		*	*		**	*		**	
◀ ac V t not t DP +d	*!		*			***	*		***	*ObHd
◀ ad V t t not t DP +d	*!					****	*		****	Ic/Fr
◀ ae e do not V DP +d	*!		*	*		*		*	**	*ObHd
af do t not V DP +d	*!		*	*		*		*	***	
◀ ag do t t not V DP +d	*!			*		*		*	****	??
◀ ba e e not V DP -d		*	*!			*	*		*	*ObHd
bb e V not t DP -d		*	*!			**	*		**	
bc V t not t DP -d		*	*!			***	*		***	
◀ bd V t t not t DP -d		*				****!	*		****	Da/Fa
◀ be e do not V DP -d		*	*!			*		*	**	*ObHd
bf do t not V DP -d		*	*!			*		*	***	
▶▶bg do t t not V DP -d		*				*		*	****	En
C° P° T° [VP]	Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Rght	HMC	V in V°	X° Rght	
◀ ca e e not DP V +d	*!		*	*	*		*			*ObHd
cb e V not DP t +d	*!		*	*	*	*	*		*	
◀ cc V t not DP t +d	*!		*		*	**	*		**	*ObHd
◀ cd V t t not DP t +d	*!				*	***	*		***	Yi/Fs/Ge
◀ ce e do not DP V +d	*!		*	*	*			*	*	*ObHd
cf do t not DP V +d	*!		*	*	*			*	**	
◀ cg do t t not DP V +d	*!			*	*			*	***	??
◀ da e e not DP V -d		*	*!		*		*			*ObHd
db e V not DP t -d		*	*!		*	*	*		*	
dc V t not DP t -d		*	*!		*	**	*		**	
◀ dd V t t not DP t -d		*			*!	***	*		***	Af/Du
◀ de e do not DP V -d		*	*!		*			*	*	*ObHd
df do t not DP V -d		*	*!		*			*	**	
◀ dg do t t not DP V -d		*			*!			*	***	??

In the following tableaux for the same case in the different languages, only candidates which are not harmonically bounded and which do not violate **Obl-Head** are considered.

The results are completely identical to those in 6.1.2 above. As V2 constructions already have *do* in English, the presence of negation does not change the picture in any crucial way.

(107') V2, finite main verb, negated

e.g. *Which film did she not see?* (105)

English: bg	Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Rght	HMC	V in V°	X° Rght
C° P°T° [VP]									
◀ ad V t t not t DP +d	*!					****	*		****
◀ ag do t t not V DP +d	*!			*		*		*	****
◀ bd V t t not t DP -d		*				**! **	*		****
▶▶bg do t t not V DP -d		*				*		*	****
◀ cd V t t not DP t +d	*!				*	***	*		***
◀ cg do t t not DP V +d	*!			*	*			*	***
◀ dd V t t not DP t -d		*			*!	***	*		***
◀ dg do t t not DP V -d		*			*!			*	***

(108) V2, finite main verb, negated

e.g. *Hvad for en film så hun ikke?* (106a)

e.g. *Hvat fyri film sá hon ikki?* (106b)

Danish/Faroese: bd	Pers Not Dist	Pers Dist	Obl Head	V in V°	Chck Dist Pers	X° Left	Pred Rght	HMC	X° Rght
C° P°T° [VP]									
◀ ad V t t not t DP +d	*!						****	*	****
◀ ag do t t not V DP +d	*!			*	*		*		****
▶▶bd V t t not t DP -d		*					****	*	****
◀ bg do t t not V DP -d		*		*!			*		****
◀ cd V t t not DP t +d	*!					*	***	*	***
◀ cg do t t not DP V +d	*!			*	*	*			***
◀ dd V t t not DP t -d		*				*!	***	*	***
◀ dg do t t not DP V -d		*		*!		*			***

(109) V2, finite main verb, negated

e.g. *Watter rolprent sien sy nie?* (106f)

e.g. *Welke film zag ze niet?* (106g)

Afrikaans/Dutch: dd	Pers Not Dist	Pers Dist	Obl Head	V in V°	Chck Dist Pers	Pred Rght	X° Left	HMC	X° Rght
C° P°T° [VP]									
◀ ad V t t not t DP +d	*!					****		*	****
◀ ag do t t not V DP +d	*!			*	*	*			****
◀ bd V t t not t DP -d		*				****!		*	****
◀ bg do t t not V DP -d		*		*!		*			****
◀ cd V t t not DP t +d	*!					***	*	*	***
◀ cg do t t not DP V +d	*!			*	*		*		***
▶▶dd V t t not DP t -d		*				***	*	*	***
◀ dg do t t not DP V -d		*		*!			*		***

(110) V2, finite main verb, negated

e.g. *Hvaða mynd sá hún ekki?* (106c)

e.g. *Quel film ne voyait-elle pas?* (106d)

Icelandic/French: ad C° p°T° [VP]	Pers Dist	Pers Not Dist	Obl Head	V in V°	Chck Dist Pers	X° Left	Pred Rght	HMC	X° Rght
►►ad V t t not t DP +d		*					*****	*	*****
◄ ag do t t not V DP +d		*		*!	*		*		*****
◄ bd V t t not t DP -d	*!						*****	*	*****
◄ bg do t t not V DP -d	*!			*			*		*****
◄ cd V t t not DP t +d		*				*!	***	*	***
◄ cg do t t not DP V +d		*		*!	*	*			***
◄ dd V t t not DP t -d	*!					*	***	*	***
◄ dg do t t not DP V -d	*!			*		*			***

(111) V2, finite main verb, negated

e.g. *Voser film zet zi nisht?* (106e)

Yiddish: cd C° p°T° [VP]	Pers Dist	Pers Not Dist	Obl Head	V in V°	Chck Dist Pers	Pred Rght	X° Left	HMC	X° Rght
◄ ad V t t not t DP +d		*				*****!		*	*****
◄ ag do t t not V DP +d		*		*!	*	*			*****
◄ bd V t t not t DP -d	*!					*****		*	*****
◄ bg do t t not V DP -d	*!			*		*			*****
►►cd V t t not DP t +d		*				***	*	*	***
◄ cg do t t not DP V +d		*		*!	*		*		***
◄ dd V t t not DP t -d	*!					***	*	*	***
◄ dg do t t not DP V -d	*!			*			*		***

(112) V2, finite main verb, negated

e.g. *Hokfoar film seach se net?* (106h)

e.g. *Welchen Film sah sie nicht?* (106i)

Frisian/German: cd C° p°T° [VP]	Pers Dist	Pers Not Dist	Obl Head	V in V°	Pred Rght	Chck Dist Pers	X° Left	HMC	X° Rght
◄ ad V t t not t DP +d		*			*****!			*	*****
◄ ag do t t not V DP +d		*		*!	*	*			*****
◄ bd V t t not t DP -d	*!				*****			*	*****
◄ bg do t t not V DP -d	*!			*	*				*****
►►cd V t t not DP t +d		*			***		*	*	***
◄ cg do t t not DP V +d		*		*!		*	*		***
◄ dd V t t not DP t -d	*!				***		*	*	***
◄ dg do t t not DP V -d	*!			*			*		***

As was shown above, even when harmonically bounded candidates as well as those potential winning candidates that violate **Obl-Head**, (107aa,ac,ae,ba,be,ca,cc,ce,da,de), are filtered out, there were still eight potential winning candidates left.

Five of these are actually found: (107ad) in Icelandic and French, (107bd) in Danish and Faroese, (107bg) in English, (107cd) both in Yiddish and in Frisian and German, and (107dd) in Afrikaans and Dutch.

Also potential winners: (107ag, cg, dg), all of which also have *do*-insertion.

6.3.6 Negated V2 clause with an auxiliary

The data to be derived here are the negated versions of examples from 6.2.3 above. All the languages have the same syntax here, the finite verb is an auxiliary and it is in C° , due to **Obl-Head**:

(113)	a.	En.	Which	film	<u>has</u>	she	not	seen	?
	b.	Da.	Hvad for en	film	<u>har</u>	hun	ikke	set	?
	c.	Fa.	Hvat fyri	film	<u>hefur</u>	hon	ikki	sæð	?
	d.	Íc.	Hvaða	mynd	<u>hefur</u>	hún	ekki	séð	?
	e.	Fr.	Quel	film	n' <u>a</u> -t-	elle	pas	vu	?
	f.	Yi.	Voser	film	<u>hot</u>	zi	nisht	gezen	?
	g.	Af.	Watter	rolprent	<u>het</u>	sy	nie	gesien	nie?
	h.	Du.	Welke	film	<u>heeft</u>	ze	niet	gezien	?
	i.	Fs.	Hokfoar	film	<u>hat</u>	se	net	sjoen	?
	j.	Ge.	Welchen	Film	<u>hat</u>	sie	nicht	gesehen	?

The position of the finite auxiliary here is an effect of **Obl-Head**, and it therefore has no empirical consequences whether the auxiliary has been inserted under V° or under $Tense^\circ$.

As in the auxiliary V2 constructions discussed in 6.2.3 above, the only visible differences are related to distinctive vs. non-distinctive person morphology and to VO vs. OV. The former is a question of whether **Pers-Not-Dist** is ranked higher or lower than **Pers-Dist**, the latter is a question of whether **X[°]-Left** outranks both **Pred-Right** and **X[°]-Right** or not. As there are thus relatively few empirical differences to be derived, it is perhaps not so surprising that it is possible to derive the data in a way compatible with the rankings already suggested for the respective languages.

As in 6.3.4 above, candidates are not taken into consideration that contain both *do* and the auxiliary *have*. As discussed in section 6.2.5 above, such candidates can all be shown to be harmonically bounded. The advantage of *do*-insertion in negated clauses is that it avoids violations of the **HMC**, as shown e.g. in 6.3.2 above. *Do*-insertion candidates remain eternal losers here, they are harmonically bounded by insertion of the auxiliary under $Tense^\circ$. Insertion of the auxiliary under $Tense^\circ$ has the same advantage, it also avoids violation of the **HMC**, and it has less violations of e.g. **Pred-Right** in VO-languages and **X[°]-Left** in OV-languages, because if *do* is inserted under $Tense^\circ$, the auxiliary has to be inserted under a V° and will count for **Pred-Right** if the VP is VO and for **X[°]-Left** if the VP is OV, neither of which would be the case given direct insertion of the auxiliary under $Tense^\circ$.

(114) V2, finite auxiliary, negated

e.g. Which film has she not seen?

English: bg	Pers Not Dist	Pers Dist	Obl Hd	Chck Dist Pers	X° Left	Pred Rght	HMC	V in V°	X° Right	
C°P°T° V° V°	Dist									
◀ aa e e not V [V DP] +d	*!		*	*		**	*		**	*ObHd
ab e V not t [V DP] +d	*!		*	*		***	*		***	
◀ ac V t not t [V DP] +d	*!		*			****	*		****	*ObHd
◀ ad V t t not t [V DP] +d	*!					*****	*		*****	Ic/Fr
◀ ae e V not [V DP] +d	*!		*	*		*		*	**	*ObHd
af V t not [V DP] +d	*!		*	*		*		*	***	
◀ ag V t t not [V DP] +d	*!			*		*		*	****	??
◀ ba e e not V [V DP] -d		*	*!			**	*		**	*ObHd
bb e V not t [V DP] -d		*	*!			***	*		***	
bc V t not t [V DP] -d		*	*!			****	*		****	
◀ bd V t t not t [V DP] -d		*				**!***	*		*****	Da/Fa
◀ be e V not [V DP] -d		*	*!			*		*	**	*ObHd
bf V t not [V DP] -d		*	*!			*		*	***	
▶▶bg V t t not [V DP] -d		*				*		*	****	En
C°P°T° V° V°	Dist									
◀ ca e e not [DP V] V +d	*!		*	*	**		*			*ObHd
cb e V not [DP V] t +d	*!		*	*	**	*	*		*	
◀ cc V t not [DP V] t +d	*!		*		**	**	*		**	*ObHd
◀ cd V t t not [DP V] t +d	*!				**	***	*		***	Yi/Fs/G
◀ ce e V not [DP V] +d	*!		*	*	*			*	*	*ObHd
cf V t not [DP V] +d	*!		*	*	*			*	**	
◀ cg V t t not [DP V] +d	*!			*	*			*	***	??
◀ da e e not [DP V] V -d		*	*!		**		*			*ObHd
db e V not [DP V] t -d		*	*!		**	*	*		*	
dc V t not [DP V] t -d		*	*!		**	**	*		**	
◀ dd V t t not [DP V] t -d		*			*!*	***	*		***	Af/Du
◀ de e V not [DP V] -d		*	*!		*			*	*	*ObHd
df V t not [DP V] -d		*	*!		*			*	**	
◀ dg V t t not [DP V] -d		*			*!			*	***	??

In the following tableaux for the same case in the different languages, only candidates which are not harmonically bounded and which do not violate **Obl-Head** are considered.

(114') V2, finite auxiliary, negated

e.g. Which film has she not seen? (113a)

English: bg	Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Rght	HMC	V in V°	X° Right
C°P°T° V° V°	Dist								
◀ ad V t t not t [V DP] +d	*!					*****	*		*****
◀ ag V t t not [V DP] +d	*!			*		*		*	****
◀ bd V t t not t [V DP] -d		*				**!***	*		*****
▶▶bg V t t not [V DP] -d		*				*		*	****
◀ cd V t t not [DP V] t +d	*!				**	***	*		***
◀ cg V t t not [DP V] +d	*!			*	*			*	***
◀ dd V t t not [DP V] t -d		*			*!*	***	*		***
◀ dg V t t not [DP V] -d		*			*!			*	***

(115) V2, finite auxiliary, negated

e.g. *Hvad for en film har hun ikke set?* (113b)

e.g. *Hvat fyri film hevur hon ikki sæð?* (113c)

Danish/Faroese: bd	Pers Not Dist	Pers Dist	Obl Head	V in V°	Chck Dist Pers	X° Left	Pred Rght	HMC	X° Right
C°P°T° V° V°									
◀ ad V t t not t [V DP] +d	*!						*****	*	*****
◀ ag V t t not [V DP] +d	*!			*	*		*		****
▶▶bd V t t not t [V DP] -d		*					*****	*	*****
◀ bg V t t not [V DP] -d		*		*!			*		****
◀ cd V t t not [DP V] t +d	*!					**	***	*	***
◀ cg V t t not [DP V] +d	*!			*	*	*			***
◀ dd V t t not [DP V] t -d		*				*!*	***	*	***
◀ dg V t t not [DP V] -d		*		*!		*			***

(116) V2, finite auxiliary, negated

e.g. *Watter rolprent het sy nie gesien nie?* (113g)

e.g. *Welke film heeft ze niet gezien?* (113h)

Afrikaans/Dutch: dd	Pers Not Dist	Pers Dist	Obl Head	V in V°	Chck Dist Pers	Pred Rght	X° Left	HMC	X° Right
C°P°T° V° V°									
◀ ad V t t not t [V DP] +d	*!					*****		*	*****
◀ ag V t t not [V DP] +d	*!			*	*	*			****
◀ bd V t t not t [V DP] -d		*				*****!*		*	*****
◀ bg V t t not [V DP] -d		*		*!		*			****
◀ cd V t t not [DP V] t +d	*!					***	**	*	***
◀ cg V t t not [DP V] +d	*!			*	*		*		***
▶▶dd V t t not [DP V] t -d		*				***	**	*	***
◀ dg V t t not [DP V] -d		*		*!			*		***

(117) V2, finite auxiliary, negated

e.g. *Hvaða mynd hefur hún ekki séð?* (113c)

e.g. *Quel film n'a-t-elle pas vu?* (113d)

Icelandic/French: ad	Pers Dist	Pers Not Dist	Obl Head	V in V°	Chck Dist Pers	X° Left	Pred Rght	HMC	X° Right
C°P°T° V° V°									
▶▶ad V t t not t [V DP] +d		*					*****	*	*****
◀ ag V t t not [V DP] +d		*		*!	*		*		****
◀ bd V t t not t [V DP] -d	*!						*****	*	*****
◀ bg V t t not [V DP] -d	*!			*			*		****
◀ cd V t t not [DP V] t +d		*				*!*	***	*	***
◀ cg V t t not [DP V] +d		*		*!	*	*			***
◀ dd V t t not [DP V] t -d	*!					**	***	*	***
◀ dg V t t not [DP V] -d	*!			*		*			***

(118) V2, finite auxiliary, negated

e.g. *Voser film hot zi nisht gezen?* (113f)

Yiddish: cd	Pers Dist	Pers Not Dist	Obl Head	V in V°	Chck Dist Pers	Pred Rght	X° Left	HMC	X° Right
C°P°T° V° V°									
◀ ad V t t not t [V DP] +d		*				*****!*		*	*****
◀ ag V t t not [V DP] +d		*		*!	*	*			****
◀ bd V t t not t [V DP] -d	*!					*****		*	*****
◀ bg V t t not [V DP] -d	*!			*		*			****
▶▶cd V t t not [DP V] t +d		*				***	**	*	***
◀ cg V t t not [DP V] +d		*		*!	*		*		***
◀ dd V t t not [DP V] t -d	*!					***	**	*	***
◀ dg V t t not [DP V] -d	*!			*			*		***

(119) V2, finite auxiliary, negated

e.g. *Hokfoar film hat se net sjoen?* (113i)

e.g. *Welchen Film hat sie nicht gesehen?* (113j)

Frisian/German: cd	Pers Dist	Pers Not Dist	Obl Head	V in V°	Pred Rght	Chck Dist Pers	X° Left	HMC	X° Right
C°P°T° V° V°									
◀ ad V t t not t [V DP] +d		*			*****!*			*	*****
◀ ag V t t not [V DP] +d		*		*!	*	*			****
◀ bd V t t not t [V DP] -d	*!				*****			*	*****
◀ bg V t t not [V DP] -d	*!			*	*				****
▶▶cd V t t not [DP V] t +d		*			***		**	*	***
◀ cg V t t not [DP V] +d		*		*!		*	*		***
◀ dd V t t not [DP V] t -d	*!				***		**	*	***
◀ dg V t t not [DP V] -d	*!			*			*		***

As was shown above, even when harmonically bounded candidates as well as those potential winning candidates that violate **Obl-Head**, (107aa,ac,ae,ba,be,ca,cc,ce,da,de), are filtered out, there were still eight potential winning candidates left, just as in the preceding subsection, 6.3.5.

Five of these are actually found: (107ad) in Icelandic and French, (107bd) in Danish and Faroese, (107bg) in English, (107cd) both in Yiddish and in Frisian and German, and (107dd) in Afrikaans and Dutch.

Also potential winners: (107ag, cg, dg), all of which also have *do*-insertion.

6.3.7 Typological predictions and the history of English

As discussed in in 6.2.4 above, if it is assumed to be obligatory (i.e. part of GEN) that thematic roles have to be assigned inside lexical projections and that every argument must be assigned a thematic role, then only two options exist in each of the following three cases (where "thematic verbs" means verbs that assign one or more thematic roles):

- (120) a. Either **NO verbs** (most languages) or **ONLY non-thematic verbs** (only English) are inserted outside VP - making it possible for finite thematic and finite non-thematic verbs to have different syntax.

(Thematic verbs are never inserted outside VP.)

- b. Either **NO verbs** (most languages) or **ONLY thematic verbs** (only English) have *do*-support when verb movement to C° takes place.
(Non-thematic verbs never have *do*-support when verb movement to C° takes place.)
- c. Either **NO verbs** (most languages) or **ONLY thematic verbs** (only English) have *do*-support with negation.
(Non-thematic verbs never have *do*-support with negation.)

Each of the choices could in principle apply to one of four groups: no verbs, all verbs, thematic verbs only, or non-thematic verbs only. The fact that each choice only allows two of the four possible verb groups effectively rules out far more than half of the logical possibilities: With four possibilities for each of (120a,b,c), there would be 64 possible grammars (i.e. 4^3) grammars. With only two possibilities for each of (120a,b,c), there are only 8 possible grammars (i.e. 2^3) grammars.

This number is still too high because it presupposes that the three choices in (120a,b,c) are independent of each other. This is not the case, (120a,b) are derived by the same ranking, and only (120c) is independent. This means that the possibilities defined by (120a,b) are not four but only two. Given that the two possibilities defined by (120c) are independent, the end result is four possible grammars.

The choice for (120a,b) is "no verbs" when **V-in- V°** is ranked above **Pred-Right** (it is worse to insert a verb outside VP than it is to have to move a verb inserted under V°), but when **Pred-Right** is ranked above **V-in- V°** (it is better to insert a verb outside VP than it is to have to move a verb inserted under V°), we get all non-thematic verbs inserted outside VP, (120a), and all thematic verbs inserted under V° and requiring *do*-insertion under movement to C° , (120b). This was the topic of sections 6.1 and 6.2 above.

The choice for (120c) is "no verbs" when **V-in- V°** is ranked above **HMC** (it is worse to insert a verb outside VP than it is to have Neg° intervene in the checking chain, i.e. the chain between $Pers^\circ/Tense^\circ$ and the highest V°), but when **HMC** is ranked above **V-in- V°** (it is better to insert a verb outside VP than it is to have Neg° intervene in the checking chain), thematic verbs (and only these) require *do*-insertion in negated clauses. This is the topic of the present section, 6.3.

The four possible grammars have the following rankings:

- (121) a. **V-in- V°** >> **Pred-Right** >> **HMC** (modern Danish and Faroese)
 b. **Pred-Right** >> **HMC** >> **V-in- V°** (modern English)
- c. **Pred-Right** >> **V-in- V°** >> **HMC** (English 1550-1650)
 d. **HMC** >> **V-in- V°** >> **Pred-Right**

Modern Danish and Faroese are (121a), under V2 all finite verbs occur in C° , and otherwise all finite verbs occur in V° , regardless of whether the clause is negated or not. This is because it is worse to insert a verb outside VP than it is to move a verb inserted under V° or to have Neg° intervene in the checking chain⁴.

⁴This also characterises all the other grammars discussed, except English and early modern English, and this is why only these two languages have *do*-insertion. The reason why all the other languages nevertheless have different characteristics is that they differ from Danish and Faroese either in the ranking of **Pers-Dist** and **Pers-Not-Dist**, resulting in V° -to- I° movement as in French, Icelandic and Yiddish, and/or they differ in the ranking of

Modern English is (121b), under V2 a non-thematic verbs must occur in C°, under negation a non-thematic verbs must occur in I°, and otherwise finite non-thematic verbs occur in I° and finite thematic verbs in V°. This is because it is better to insert a verb outside VP than it is to move a verb inserted under V° or to have Neg° intervene in the checking chain.

One of the intermediate possibilities, (121c), is actually found: In English as spoken roughly in the second half of the 16th and the first half of the 17th centuries, *do*-insertion in questions is far more common than *do*-insertion in negative declaratives:

(122)	% <i>do</i>	1475	1500	1525	1535	1550	1575	1600	1625	1650
		1500	1525	1535	1550	1575	1600	1625	1650	1700
	- in questions	6.4	30.3	33.0	45.1	55.8	57.0	64.0	75.0	77.4
	- in negative declaratives	4.8	7.8	13.7	27.9	38.0	23.8	36.7	31.7	46.0

(figures from Rohrbacher 1999:166, Table 4.2, which builds on Kroch 1989:224, table 3, which again builds on Ellegård 1953:161, table 7, 204, table 20)

In other words, under V2 a non-thematic verbs must occur in C°, and otherwise finite non-thematic verbs occur in I° and finite thematic verbs in V°, regardless of whether the clause is negated or not. This is because at this stage of English, it is better to have Neg° intervene in the checking chain than it is to insert a verb outside VP (**V-in-V° > > HMC**), but it is also better to insert a verb outside VP than it is to move a verb inserted under V° (**Pred-Right > > V-in-V°**).

The following data are typical for the three stages: Before 1550, there is no *do*-insertion in V2, (123a), nor in negative clauses, (124a). In the intermediate stage, there is *do*-insertion in V2, (123b), but not in negative clauses, (124b). Finally, in the modern stage, there is *do*-insertion both in V2, (123c), and in negative clauses, (124c).

- (123) En. a. Sir, know you one that can tell who kyllled Richarde Hunne?
(Sir, do you know anyone who can say who killed R.H.?)
 (1528 Thomas More, *Works*, 236 E8, from Visser 1969:1550)
- b. Dost thou know him? (1569 Thomas Preston, *Cambises*, 183, from Visser 1969:1552)
- c. Did they know that they would receive this?
 (1901 Arthur Conan Doyle, *The Hound of the Baskervilles*)
- (124) En. a. I ment not here to speake thereof
(I did not mean to speak of it here)
 (1534 Thomas More, *Works*, 1151 D4, from Visser 1969:1535)
- b. We hunt not, ne with horse nor hound
(We do not hunt, neither with horse nor with hound)
 (1588 Shakespeare, *Titus*, II, ii, 25, from Visser 1969:1535)
- c. I did not mean my husband
 (1901 Arthur Conan Doyle, *The Hound of the Baskervilles*)

Pred-Right, X°-Left and Check, giving OV languages either with V°-to-I° movement (Yiddish) or without it (all the other OV-languages).

Both the early modern English system and the modern English system can be derived only if **Check** plays no role, i.e. if **Check** is not violated although Pers° does not contain a finite verb (which has a trace in V°). That this must be the case in both systems can be seen from the fact that both in the early modern period and also today, there is no movement of the finite verb to I° in clauses which are neither negative nor V2. The following table gives the rise of the word order (126b) and the decline of (126a) (the figures do not include the type ... *he did never talk* ...):

(125)		1425	1475	1500	1525	1535	1550	1575
		1475	1500	1525	1535	1550	1575	1600
% <i>never</i> - finite Verb		22.0	33.3	69.2	88.6	88.8	87.9	96.2

(adjusted figures adapted from Rohrbacher 1999:160, Table 4.1, and from Kroch 1989:226, table 5, which again builds on Ellegård 1953:184)

- (126) En. a. ... and he swore that he talkyd neuer wyth no man ...
 ... and he swore that he talked never with any man ...
 (1460 William Paston I, *Letter to John Paston I*, 02.05.1460, Davis 1971:164)

- b. ... some chapters in his life of which he never spoke
 (1914 Arthur Conan Doyle, *Valley of Fear*)

When person is distinctive, then **Check** is violated unless finite verbs move from V° to Pers°, cf. 5.1.1. above. This again means that as long as **Check** is ranked higher than **Pred-Right** and **HMC**, distinctive inflection for person leads to V°-to-I° movement (i.e. to V°-to-Tns°-to-Pers° movement), regardless of which of the four rankings in (121) actually holds.

This makes it possible to see the two transitions between the three stages of English as derived by two different changes in ranking:

(127) a.

Pers Dist	Pers Not Dist		Obl Head	Chck Dist Pers	X° Left	Pred Right	V in V°	HMC		X° Right
-----------	---------------	--	----------	----------------	---------	------------	---------	-----	--	----------

Middle English

b.

	Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Right	V in V°	HMC		X° Right
--	---------------	-----------	----------	----------------	---------	------------	---------	-----	--	----------

English 1550-1650

c.

	Pers Not Dist	Pers Dist	Obl Head	Chck Dist Pers	X° Left	Pred Right		HMC	V in V°	X° Right
--	---------------	-----------	----------	----------------	---------	------------	--	-----	---------	----------

Modern English

Middle English has distinctive person, and movement to Pers° (and in V2 contexts to C°) of finite verbs, regardless of whether these are thematic or not. This could be the result of the ranking in (127a), where distinctive person and the high ranking of **Check** ensure V°-to-Pers° movement.

The transition to 1550-1650 English could then be the result of loss of distinctive inflection for person, i.e. reranking of **Pers-Dist** and **Pers-Not-Dist**, resulting in (127b). The loss of distinctive person makes **Check** irrelevant, and the intermediate ranking of **V-in-V°** below **Pred-Right** but above **HMC** then ensures *do*-insertion in V2 and insertion of non-thematic verbs outside VP, but it prevents *do*-insertion with negative clauses.

The transition to modern English could then be the result of a reranking of **HMC** and **V-in-V°**, giving (127c). The ranking of **V-in-V°** below both **Pred-Right** and **HMC** ensures *do*-insertion in V2, insertion of non-thematic verbs outside VP, and *do*-insertion with negative clauses.

6.3.8 Conclusion

This section, 6.3, presented an analysis of negated clauses, with special attention to *do*-insertion. It was argued that such an account only required constraints already needed. The constraints were taken over from the previous chapters and sections, except for one new one, **HMC**, which was seen to be independently needed.

The analysis furthermore did not need to presuppose any new ranking differences, **HMC** is ranked the same in all the languages under discussion. Its effect was shown to be parallel to that of **Pred-Right**, cf. sections 6.2 and 6.3, i.e. if **HMC** is ranked above **V-in-V°**, the result is *do*-insertion, if it is ranked below **V-in-V°**, the result is finite main verbs as in the non-negated cases.

The fact that the constraint with which **V-in-V°** conflicts is not the same in the two cases opens the door to the possibility that languages might exist with *do*-insertion in one but not the other case. This is supported by the diachronic developments from middle to modern English, where *do*-insertion in questions seems to slightly predate *do*-insertion in negative environments, as discussed in 6.3.7. In 6.3.7, it was also shown that the typological predictions resulted in far less possible grammars than might have been feared, and that of those four that were predicted, three seemed to exist or have existed.

It was furthermore shown that the account was independent of the actual position of the negation element, i.e. of whether it is an **X°** or an **XP**. In 6.3.3, it was shown that the results extend to cases of emphasis, another *do*-insertion environment in English (and only in English).

6.4 Conclusions

This chapter discusses a number of issues in the syntax of finite auxiliary verbs and finite main verbs. Having already discussed the syntax of finite main verbs in chapter 5, it is possible to see where the syntax of finite auxiliary verbs differ from this, and what such a difference co-occurs with. It was found that such differences were found in English, but not in the other languages, and that it was correlated with *do*-insertion in V2 clauses, in negative clauses, and in emphatic clauses.

Why is light *do* necessary in V2? Because verb movement has a price, and because in English, this price is higher than the price of inserting a light *do*. This is assumed, not derived, but most of the other findings of this chapter can be derived from this initial assumption.

Why is light *do* always finite? Because light *do* is never inserted under V° , only under $Tense^\circ$. Insertion of *do* under V° would require one more VP and therefore one more violation of **Pred-Right**, and the advantages of *do*-insertion would be lost.

If *do* can be inserted outside VP, why not insert a finite main verb outside VP, seeing as this would also cut down the number of violations of **Pred-Right**? Because only non-thematic verbs can be inserted outside VP. Thematic verbs inserted directly outside VP would not be able to assign their thematic roles, and I take this to be ruled out (by GEN).

This leaves open the possibility of inserting other verbs under $Tense^\circ$, as long as they are non-thematic, and this is precisely what happens in English: The auxiliaries *be*, *do*, *have*, and the modal verbs, but also the main verb *be* are inserted outside VP, which is why they precede sentential adverbials in English, in contrast to English finite main verbs.

Why is there no *do*-insertion with non-thematic verbs? The insertion of non-thematic verbs outside VP further means that there is nothing to be saved by insertion of light *do* in such cases: **Pred-Right** is already only violated once, by the main verb in V° . This is why *do*-insertion is impossible with the auxiliaries *be*, *do*, *have*, with the main verb *be*, and with the modal verbs (but not impossible with other main verbs, including main verb *do* and main verb *have*).

Because *do*-insertion (during V2) and the insertion of non-thematic verbs outside VP follow from exactly the same ranking, it makes the prediction that any language that shows the differences between main and auxiliary verbs found in English will also have *do*-insertion, and vice versa.

Why is light *do* necessary with sentential negation? Because sentential negation intervenes in the chain between $Pers^\circ/Tense^\circ$ and V° . Such a chain has to obtain both when there is V° -to- I° movement (in which case the chain is the movement path of the finite verb) and also when there is no V° -to- I° movement (in which case the chain is the checking relation between $Pers^\circ/Tense^\circ$ and the finite verb in V° , which still has to show subject-verb agreement, cf. e.g. English, Faroese, German and Dutch). As in V2 clauses, English prefers to insert *do*, although this costs a violation of **V-in- V°** , whereas in the other languages, where **V-in- V°** is ranked much higher, not violating **V-in- V°** is more important than not violating the conflicting constraint, in this case **HMC** (Head Movement Constraint).

In the V2 cases the constraint in conflict with **V-in- V°** was **Pred-Right**. The fact that the constraint with which **V-in- V°** conflicts is not the same in the two cases opens the door to the possibility that languages might exist with *do*-insertion in one but not the other case. This is compatible with the fact that *do*-insertion in questions seems to slightly predate

do-insertion in negative environments in late Middle English and early modern English, cf. section 6.3.7.

Why is light *do* necessary with emphasis? If it is assumed that emphasis is a head position c-commanding VP but c-commanded by Pers° and Tense°, its presence in a structure has exactly the same effect as the presence of sentential negation: It intervenes in the chain between Pers°/Tense° and V°. This causes *do*-insertion in English, but not in the other languages.

Why are there no languages where some verbs precede their complement whereas other verbs follow theirs? As discussed in 6.2.6, such candidates were harmonically bounded (eternal losers), i.e. they could not win any competition no matter which way the constraints are ranked.

Chapter 7. Wh-movement, topicalisation, and V2

In section 5.4 and in chapter 6 above, two types of word order were distinguished: the one typical for embedded clauses and the one called V2.

In embedded contexts, the "embedded clause word order" is always possible, and in addition some embedded contexts also allow the word order found in (declarative) main clauses in the same language. For the latter to be possible, the so-called embedded main clause must be the complement of a so-called bridge verb (see e.g. Vikner 1995a:70-72), it must be in the final position of its matrix clause (neither in subject nor in topic position), and finally it would also seem that the matrix verb (the bridge verb) may not be negated.

In main clauses, the languages under discussion vary with respect to which types of main clauses have to be V2. In English and French, only non-subject questions are V2, whereas in the other languages, both subject and non-subject questions and also both subject and non-subject topicalisations are all V2. In those main clauses in English and French which are not V2, the finite verb is in the same position as in the embedded clauses (i.e. French finite verbs are in Pers°, English finite non-thematic verbs in Tense°, and English finite thematic verbs are in V°), and they are thus covered by the analysis of embedded clauses.

In other words, the position of the finite verb in all the main and embedded clauses in all the languages under discussion are actually covered by the discussion in chapters 5 and 6 above. What remains to be accounted for is the different distribution of the two types (the embedded type and the V2 type) across the languages. Two different main clause contexts need to be distinguished: Questions and topicalisations.

In section 7.1, I discuss *wh*-questions, assuming (as e.g. in Vikner 1995a:44, 121) that *yes/no*-questions are a subcase of *wh*-questions, in which the *wh*-element is phonetically empty.

In section 7.2, I discuss topicalisations, assuming that all main clauses must contain at least one *wh*-element or a topic.

7.1 *wh*-questions

Two kinds of *wh*-questions need to be examined, subject and non-subject questions. I shall start with the latter, non-subject questions, in 7.1.2, and then go on to subject questions in 7.1.3. In 7.1.4, I will discuss some particular complications of the analysis made necessary by multiple questions.

7.1.1 Introduction

When the *wh*-element is not the subject, the result is clearly V2 in all the languages under discussion (data repeated from section 6.1 above):

- (1) En. Which film did she actually see?

- (2)
- | | | | | | |
|--------|-------------------------|-----------------|------------|---------------|----------|
| a. Da. | <u>Hvad</u> for en film | så | hun | egentlig | ? |
| b. Fa. | <u>Hvat</u> fyri film | sá | hon | egentliga | ? |
| c. Ic. | <u>Hvaða</u> mynd | sá | hún | eiginlega | ? |
| d. Fr. | <u>Quel</u> film | voit- | elle | vraiment | ? |
| e. Yi. | <u>Voser</u> film | zet | zi | eygntlekh | ? |
| f. Af. | <u>Watter</u> rolprent | sien | sy | eintlik | ? |
| g. Du. | <u>Welke</u> film | zag | ze | eigenlijk | ? |
| h. Fs. | <u>Hokfoar</u> film | seach | se | eins | ? |
| i. Ge. | <u>Welchen</u> Film | sah | sie | eigentlich? | |
| | <i>Which film</i> | <i>sees/saw</i> | <i>she</i> | <i>really</i> | <i>?</i> |

The reason why English but none of the other languages prefers *do*-insertion to movement of a finite main verb has to do with the ranking of **V-in-V°**, as discussed in chapter 6 above.

When the *wh*-element is the subject, the situation is more complicated. It seems clear that English is not V2 here, both because of the lack of *do*-insertion and because the finite verb must follow a medial adverbial. It is also clear from the verb position in Danish, Faroese, Afrikaans, Dutch, Frisian and German that they have V2 in subject questions, as otherwise the verb would have followed the adverbial in Danish and Faroese and it would have followed not only the adverbial but also the object in Afrikaans, Dutch, Frisian and German.

- (3) En. Who actually saw the film?
- (4)
- | | | | | |
|--------|-----------------|-----------------|--------------------------|----------|
| a. Da. | <u>Hvem</u> så | egentlig | filmen | ? |
| b. Fa. | <u>Hvør</u> sá | egentliga | filmin | ? |
| c. Ic. | <u>Hver</u> sá | eiginlega | myndina | ? |
| d. Fr. | <u>Qui</u> voit | vraiment | le film | ? |
| e. Yi. | <u>Ver</u> zet | eygntlekh | dem film | ? |
| f. Af. | <u>Wie</u> sien | eintlik | die rolprent? | |
| g. Du. | <u>Wie</u> zag | eigenlijk | de film | ? |
| h. Fs. | <u>Wa</u> seach | eins | de film | ? |
| i. Ge. | <u>Wer</u> sah | eigentlich | den Film | ? |
| | <i>Who</i> | <i>sees/saw</i> | <i>actually the film</i> | <i>?</i> |

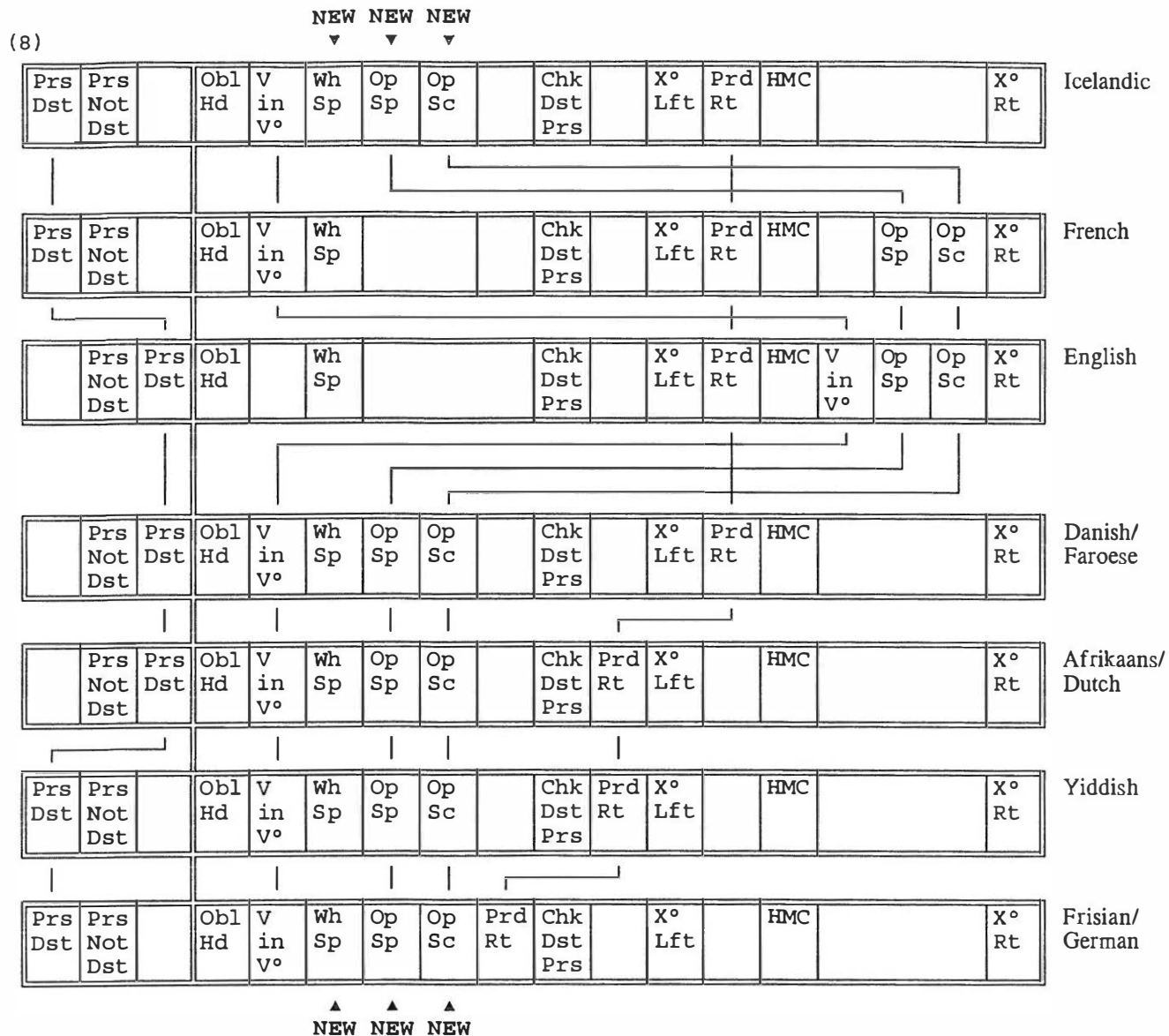
It is an open question whether V2 has applied in those languages which have V°-to-I° movement, namely Icelandic, French and Yiddish. Here the data would look the same whether or not V2 had applied. I will assume that V2 applies in subject questions in Icelandic and Yiddish (which also have V2 in topicalisations) but I will assume that V2 does not apply in subject questions in French (which also does not have V2 in topicalisations).

Here I disagree with e.g. Roberts (1993:94, (24)) where (4d) would be a CP, with *qui* in CP-spec and the verb in I°. Friedemann (1997:196), however, takes subject questions to be IPs in French. According to his analysis, if (4d) had been a CP, it would have looked as follows:

- (5) Fr. *Qui voit-il vraiment le film?
Who sees-he actually the film?

To Friedemann, the post-verbal inverted subject pronoun *-il* realises an A'-feature, which has to be checked by CP-spec, and this is only possible if I° moves to C° (at LF). However, if I° moves to C° (even at LF), the subject trace in IP-spec is not licensed, because C° is inert for government (cf. Rizzi 1990:53, 1996:68).

Friedemann's analysis is supported by the fact that *-il* is possible in some subject questions, provided the subject is complex:



7.1.2 Non-subject *wh*-questions

Consider first the tableau for the non-subject questions:

(9) *wh*-object, main clausee.g. *Which film did she actually see?* (1)

English:bm					Not	Prs	Ob	Wh	Ch	X°	Pr	V	Op	Op	X°	
C° P° T° V°					Dst	Dst	Hd	Sp	ck	Lf	Rt	V°	Sp	Sc	Rt	
aa	e	e	V	WH	+d	*!		*	*		*		*	*	*	
ab	e	V	t	WH	+d	*!		*	*		**		*	*	**	
ac	V	t	t	WH	+d	*!		*			***		*	*	***	
◀ ad	WH[e	e	V	—	+d	*!		*	*		*		*		*	*WhSp
ae	WH[e	V	t	—	+d	*!		*	*		**		*		**	
◀ af	WH[V	t	t	—	+d	*!		*			***		*		***	*WhSp
◀ ag	WH e	e	e	V	—	+d	*!	*	*		*				*	*ObHd
ah	WH e	e	V	t	—	+d	*!	*	*		**				**	
◀ ai	WH e	V	t	t	—	+d	*!	*			***				***	*ObHd
◀ aj	WH V	t	t	t	—	+d	*!				****				****	Fr/Ic
ak	WH e	e	do	V	—	+d	*!	*	*		*	*			**	
al	WH e	do	t	V	—	+d	*!	*	*		*	*			***	
◀ am	WH do	t	t	V	—	+d	*!				*	*			****	??
C° P° T° V°					Not	Prs	Ob	Wh	Ch	X°	Pr	V	Op	Op	X°	
					Dst	Dst	Hd	Sp	ck	Lf	Rt	V°	Sp	Sc	Rt	
ba	e	e	V	WH	-d		*	*!			*		*	*	*	
bb	e	V	t	WH	-d		*	*!			**		*	*	**	
bc	V	t	t	WH	-d		*	*!			***		*	*	***	
◀ bd	WH[e	e	V	—	-d		*	*!			*		*		*	*WhSp
be	WH[e	V	t	—	-d		*	*!			**		*		**	
bf	WH[V	t	t	—	-d		*	*!			***		*		***	
◀ bg	WH e	e	e	V	—	-d	*	*!			*				*	*ObHd
bh	WH e	e	V	t	—	-d	*	*!			**				**	
bi	WH e	V	t	t	—	-d	*	*!			***				***	
◀ bj	WH V	t	t	t	—	-d	*				***!				****	Da/Fa
bk	WH e	e	do	V	—	-d	*	*!			*	*			**	
bl	WH e	do	t	V	—	-d	*	*!			*	*			***	
▶▶bm	WH do	t	t	V	—	-d	*				*	*			****	En
C° P° T° V°					Not	Prs	Ob	Wh	Ch	X°	Pr	V	Op	Op	X°	
					Dst	Dst	Hd	Sp	ck	Lf	Rt	V°	Sp	Sc	Rt	
ca	e	e	WH	V	+d	*!		*	*	*			*	*		
cb	e	V	WH	t	+d	*!		*	*	*	*		*	*	*	
cc	V	t	WH	t	+d	*!		*		*	**		*	*	**	
◀ cd	WH[e	e	—	V	+d	*!		*	*	*			*			*WhSp
ce	WH[e	V	—	t	+d	*!		*	*	*	*		*		*	
◀ cf	WH[V	t	—	t	+d	*!		*		*	**		*		**	*WhSp
◀ cg	WH e	e	e	—	V	+d	*!	*	*	*						*ObHd
ch	WH e	e	V	—	t	+d	*!	*	*	*	*				*	
◀ ci	WH e	V	t	—	t	+d	*!	*		*	**				**	*ObHd
◀ cj	WH V	t	t	—	t	+d	*!			*	***				***	Fs/Ge/Yi
ck	WH e	e	do	—	V	+d	*!	*	*	*		*			*	
cl	WH e	do	t	—	V	+d	*!	*	*	*		*			**	
◀ cm	WH do	t	t	—	V	+d	*!			*		*			***	??

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	C°	P°	T°	V°	Not Dst	Prs Dst	Ob Hd	Wh Sp	Ch ck	X° Lf	Pr Rt	V V°	Op Sp	Op Sc	X° Rt	
da		e	e	WH V	-d	*		*!		*			*	*		
db		e	V	WH t	-d	*		*!		*	*		*	*	*	
dc		V	t	WH t	-d	*		*!		*	**		*	*	**	
◀ dd	WH	[e	e	— V	-d	*		*!		*			*			*WhSp
de	WH	[e	V	— t	-d	*		*!		*	*		*		*	
df	WH	[V	t	— t	-d	*		*!		*	**		*		**	
◀ dg	WH	e	e	e — V	-d	*	*!			*						*ObHd
dh	WH	e	e	V — t	-d	*	*!			*	*				*	
di	WH	e	V	t — t	-d	*	*!			*	**				**	
◀ dj	WH	V	t	t — t	-d	*				*!	***				***	Af/Du
dk	WH	e	e	do — V	-d	*	*!			*		*			*	
dl	WH	e	do	t — V	-d	*	*!			*		*			**	
◀ dm	WH	do	t	t — V	-d	*				*!		*			***	??

V2 in main clause questions is driven by the constraint **Wh-Spec**, which forces *wh*-elements to move to a specifier position, cf. also the *wh*-criterion (Rizzi 1996:64, Müller 1997b:263).

As discussed in section 5.4 and chapter 6 above, the V2 verb movement itself is driven by a different constraint. This is different from the *wh*-criterion, which drives both *wh*-movement and V°-movement.

To the present analysis (but not to e.g. Grimshaw 1999), X°-left and X°-right only penalise X°-movement, and therefore I have no penalising of XP-movement in the tableaux (the present analysis has no **Stay**), even though I am fairly convinced that there should be one.

This probably means that the number of harmonically bounded candidates in (9) is higher than it will be in a fully worked out analysis of the languages in question.

In the following tableaux for the same case in the different languages, only candidates which are not harmonically bounded and which do not violate **Obl-Head** are considered. Furthermore, the tableaux have been reduced, so that they either contain only candidates that do not violate **Pers-Not-Dist** or only candidates that do not violate **Pers-Dist**. The former is the case with tableaux for languages with non-distinctive inflection for person, the latter with tableaux for languages with distinctive inflection for person.

(9') *wh*-object, main clause

e.g. *Which film did she actually see?* (1)

English:bm	Ob Hd	Wh Sp	Ch ck	X° Lf	Pr Rt	V V°	Op Sp	Op Sc	X° Rt
C° P° T° V°									
◀ bd WH [e e V — -d		*!			*		*		*
◀ bj WH V t t t — -d					**! **				****
▶▶bm WH do t t V — -d					*	*			****
◀ dd WH [e e — V -d		*!		*			*		
◀ dj WH V t t — t -d				*!	***				***
◀ dm WH do t t — V -d				*!		*			***

Wh-Spec forces movement of the *wh*-object to a specifier position. It thus rules out both leaving the *wh*-element in situ, (9ba,bb,bc), and adjoining it to IP, (9bd,be,bf) and (9'bd). Given that **Wh-Spec** forces C° to exist, **Obl-Head** forces verb movement to C°. The relative ranking between **V-in-V°** and **Pred-Right** determines that *do*-insertion wins in English, (9'bm), and that movement of the finite main verb wins in e.g. Danish, (10bj):

(10) *wh*-object, main clause

e.g. *Hvad for en film så hun egentlig?* (2a)

e.g. *Hvat fyri film så hon egentliga?* (2b)

Danish/Faroese:bj C° P° T° V°	Ob Hd	V V°	Wh Sp	Op Sp	Op Sc	Ch ck	X° Lf	Pr Rt	X° Rt
◀ bd WH[e e V – -d]			*!	*				*	*
▶▶bj WH V t t t – -d								****	****
◀ bm WH do t t V – -d		*!						*	****
◀ dd WH[e e – V -d]			*!	*			*		
◀ dj WH V t t – t -d							*!	***	***
◀ dm WH do t t – V -d		*!					*		***

In Icelandic and French, we are in a different part of the tableau, namely in the one where the candidates have distinctive inflection for person in every tense, but otherwise the situation is parallel to Danish, the ranking of **V-in-V°** over **Pred-Right** determines that there is no *do*-insertion:

(11) *wh*-object, main clause

e.g. *Hvaða mynd sá hún eiginlega?* (2c)

Icelandic:c:aj C° P° T° V°	Ob Hd	V V°	Wh Sp	Op Sp	Op Sc	Ch ck	X° Lf	Pr Rt	X° Rt
◀ ad WH[e e V – +d]			*!	*		*		*	*
◀ af WH[V t t – +d]			*!	*				***	***
▶▶aj WH V t t t – +d								****	****
◀ am WH do t t V – +d		*!						*	****
◀ cd WH[e e – V +d]			*!	*		*	*		
◀ cf WH[V t – t +d]			*!	*			*	**	**
◀ cj WH V t t – t +d							*!	***	***
◀ cm WH do t t – V +d		*!					*		***

(12) *wh*-object, main clause

e.g. *Quel film voit-elle vraiment?* (2d)

French:aj C° P° T° V°	Ob Hd	V V°	Wh Sp	Ch ck	X° Lf	Pr Rt	Op Sp	Op Sc	X° Rt
◀ ad WH[e e V – +d]			*!	*		*	*		*
◀ af WH[V t t – +d]			*!			***	*		***
▶▶aj WH V t t t – +d						****			****
◀ am WH do t t V – +d		*!				*			****
◀ cd WH[e e – V +d]			*!	*	*		*		
◀ cf WH[V t – t +d]			*!		*	**	*		**
◀ cj WH V t t – t +d					*!	***			***
◀ cm WH do t t – V +d		*!			*				***

The differences between the VO-languages above and the OV-languages below are all related to **X°-left** being ranked below **Pred-Right**, which means that the verb is base-generated right of the object position, as in e.g. the Yiddish (13cj), instead of to the left of the object position, as in e.g. the Icelandic (11aj). As above, the ranking of **V-in-V°** above **Pred-Right** determines that *do*-insertion is less optimal than movement of the finite main verb in all the languages except English.

(13) *wh*-object, main clausee.g. *Voser film zet zi eygentlekh?* (2e)

Yiddish:cj C° P° T° V°	Ob Hd	V V°	Wh Sp	Op Sp	Op Sc	Ch ck	Pr Rt	X° Lf	X° Rt
◀ ad WH [e e V – +d]			*!	*		*	*		*
◀ af WH [V t t – +d]			*!	*			***		***
◀ aj WH V t t t – +d							*****!		*****
◀ am WH do t t V – +d		*!					*		****
◀ cd WH [e e – V +d]			*!	*		*		*	
◀ cf WH [V t – t +d]			*!	*			**	*	**
▶▶cj WH V t t – t +d							***	*	***
◀ cm WH do t t – V +d		*!						*	***

(14) *wh*-object, main clausee.g. *Watter rolprent sien sy eintlik?* (2f)e.g. *Welke film zag ze eigenlijk?* (2g)

Afrikaans/Dutch:dj C° P° T° V°	Ob Hd	V V°	Wh Sp	Op Sp	Op Sc	Ch ck	Pr Rt	X° Lf	X° Rt
◀ bd WH [e e V – -d]			*!	*			*		*
◀ bj WH V t t t – -d							*****!		*****
◀ bm WH do t t V – -d		*!					*		****
◀ dd WH [e e – V -d]			*!	*				*	
▶▶dj WH V t t – t -d							***	*	***
◀ dm WH do t t – V -d		*!						*	***

(15) *wh*-object, main clausee.g. *Hokfoar film seach se eins?* (2h)e.g. *Welchen Film sah sie eigentlich?* (2i)

Frisian/German:cj C° P° T° V°	Ob Hd	V V°	Wh Sp	Op Sp	Op Sc	Pr Rt	Ch ck	X° Lf	X° Rt
◀ ad WH [e e V – +d]			*!	*		*	*		*
◀ af WH [V t t – +d]			*!	*		***			***
◀ aj WH V t t t – +d						*****!			*****
◀ am WH do t t V – +d		*!				*			****
◀ cd WH [e e – V +d]			*!	*			*	*	
◀ cf WH [V t – t +d]			*!	*		**		*	**
▶▶cj WH V t t – t +d						***		*	***
◀ cm WH do t t – V +d		*!						*	***

7.1.3 Subject *wh*-questions

The main difference between non-subject questions and subject questions is that only in the latter is **Wh-Spec** not violated when the *wh*-element is left in situ, i.e. when the subject is left in IP-spec. The difference between English and French (subject in IP-spec) on one side and the other languages on the other side (subject in CP-spec) here follows from whether or not **Op-Sc** is ranked below both **Pred-Right** and **V-in-V°**.

(16) *wh*-subject, main clausee.g. *Who actually saw the film?* (3)

English:ba	C°	P°	T°	V°	Not Dst	Prs Dst	Ob Hd	Wh Sp	Ch ck	X° Lf	Pr Rt	V V°	Op Sp	Op Sc	X° Rt	
◀ aa	WH	e	e	V O	+d	*!			*		*			*	*	??
ab	WH	e	V	t O	+d	*!			*		**			*	**	
◀ ac	WH	V	t	t O	+d	*!					***			*	***	Fr
◀ ad	WH	[-	e	e V O	+d	*!		*	*		*		*		*	*WhSp
ae	WH	[-	e	V t O	+d	*!		*	*		**		*		**	
◀ af	WH	[-	V	t t O	+d	*!		*			***		*		***	*WhSp
◀ ag	WH	e	-	e e V O	+d	*!	*		*		*				*	*ObHd
ah	WH	e	-	e V t O	+d	*!	*		*		**				**	
◀ ai	WH	e	-	V t t O	+d	*!	*				***				***	*ObHd
◀ aj	WH	V	-	t t t O	+d	*!					****				****	Ic
ak	WH	e	-	e do V O	+d	*!	*		*		*	*			**	
al	WH	e	-	do t V O	+d	*!	*		*		*	*			***	
◀ am	WH	do	-	t t V O	+d	*!					*	*			****	??
	C°	P°	T°	V°	Not Dst	Prs Dst	Ob Hd	Wh Sp	Ch ck	X° Lf	Pr Rt	V V°	Op Sp	Op Sc	X° Rt	
▶▶ba	WH	e	e	V O	-d		*				*			*	*	En
bb	WH	e	V	t O	-d		*				**!			*	**	
bc	WH	V	t	t O	-d		*				**!*			*	***	
◀ bd	WH	[-	e	e V O	-d		*	*!			*		*		*	*WhSp
be	WH	[-	e	V t O	-d		*	*!			**		*		**	
bf	WH	[-	V	t t O	-d		*	*!			***		*		***	
◀ bg	WH	e	-	e e V O	-d		*	*!			*				*	*ObHd
bh	WH	e	-	e V t O	-d		*	*!			**				**	
bi	WH	e	-	V t t O	-d		*	*!			***				***	
◀ bj	WH	V	-	t t t O	-d		*				**!*				****	Da/Fa
bk	WH	e	-	e do V O	-d		*	*!			*	*			**	
bl	WH	e	-	do t V O	-d		*	*!			*	*			***	
◀ bm	WH	do	-	t t V O	-d		*				*	*!			****	??
	C°	P°	T°	V°	Not Dst	Prs Dst	Ob Hd	Wh Sp	Ch ck	X° Lf	Pr Rt	V V°	Op Sp	Op Sc	X° Rt	
◀ ca	WH	e	e	O V	+d	*!			*	*				*		??
cb	WH	e	V	O t	+d	*!			*	*	*			*	*	
◀ cc	WH	V	t	O t	+d	*!				*	**			*	**	??
◀ cd	WH	[-	e	e O V	+d	*!		*	*	*			*			*WhSp
ce	WH	[-	e	V O t	+d	*!		*	*	*	*		*		*	
◀ cf	WH	[-	V	t O t	+d	*!		*		*	**		*		**	*WhSp
◀ cg	WH	e	-	e e O V	+d	*!	*		*	*						*ObHd
ch	WH	e	-	e V O t	+d	*!	*		*	*	*				*	
◀ ci	WH	e	-	V t O t	+d	*!	*			*	**				**	*ObHd
◀ cj	WH	V	-	t t O t	+d	*!				*	***				***	Fs/Yi/Ge
ck	WH	e	-	e do O V	+d	*!	*		*	*		*			*	
cl	WH	e	-	do t O V	+d	*!	*		*	*		*			**	
◀ cm	WH	do	-	t t O V	+d	*!				*		*			***	??

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	C°	P°	T°	V°	Not Dst	Prs Dst	Ob Hd	Wh Sp	Ch ck	X° Lf	Pr Rt	V V°	Op Sp	Op Sc	X° Rt	
◀ da	WH	e	e	O V	-d	*				*!				*		??
db	WH	e	V	O t	-d	*				*!	*			*	*	
dc	WH	V	t	O t	-d	*				*!	**			*	**	
◀ dd	WH	[-	e	e O V	-d	*		*!		*			*			*WhSp
de	WH	[-	e	V O t	-d	*		*!		*	*		*		*	
df	WH	[-	V	t O t	-d	*		*!		*	**		*		**	
◀ dg	WH	e	-	e e O V	-d	*	*!			*						*ObHd
dh	WH	e	-	e V O t	-d	*	*!			*	*				*	
di	WH	e	-	V t O t	-d	*	*!			*	**				**	
◀ dj	WH	V	-	t t O t	-d	*				*!	***				***	Af/Du
dk	WH	e	-	e do O V	-d	*	*!			*		*			*	
dl	WH	e	-	do t O V	-d	*	*!			*		*			**	
◀ dm	WH	do	-	t t O V	-d	*				*!		*			***	??

In the following tableaux for the same case in the different languages, only candidates which are not harmonically bounded and which do not violate **Obl-Head** are considered. Furthermore, the tableaux have been reduced, so that they either contain only candidates that do not violate **Pers-Not-Dist** or only candidates that do not violate **Pers-Dist**. The former is the case with tableaux for languages with non-distinctive inflection for person, the latter with tableaux for languages with distinctive inflection for person.

(16') *wh*-subject, main clausee.g. *Who actually saw the film?* (3)

English:ba	C°	P°	T°	V°	Ob Hd	Wh Sp	Ch ck	X° Lf	Pr Rt	V V°	Op Sp	Op Sc	X° Rt
▶▶ba	WH	e	e	V O	-d				*			*	*
◀ bd	WH	[-	e	e V O	-d	*!			*		*		*
◀ bj	WH	V	-	t t t O	-d				***!				****
◀ bm	WH	do	-	t t V O	-d				*	*!			****
◀ da	WH	e	e	O V	-d			*!				*	
◀ dd	WH	[-	e	e O V	-d	*!		*			*		
◀ dj	WH	V	-	t t O t	-d			*!	***				***
◀ dm	WH	do	-	t t O V	-d			*!		*			***

The main difference between non-subject questions and subject questions is that only in the latter is **Wh-Spec** not violated when the *wh*-element is left in situ, i.e. when the subject is left in IP-spec. The difference between English and French (subject in IP-spec) on one side and the other languages on the other side (subject in CP-spec) is here derived as follows:

The high ranking of **Wh-Spec** prevents the *wh*-element from being adjoined to IP, (16'bd) and (19ac,ad).

If **Pred-Right** and **V-in-V°** are ranked above **Op-Scope**, as they are in English above, (16'), or in French below, (19), it is more expensive to have the *wh*-element in CP-spec than in IP-spec, because having it in CP-spec costs extra violation(s) either of **Pred-Right** or of **V-in-V°** due to either movement of the finite verb, (16'bj) and (19aj), or insertion of *do*, (16'bm) and (19am).

If **Pred-Right** is ranked below **Op-Scope**, as it is in e.g. Danish below, (17), it is more expensive to have the *wh*-element in IP-spec than in CP-spec, because having it in IP-spec costs an extra violation of **Op-Scope**, (17ba).

(17) *wh*-subject, main clausee.g. *Hvem så egentlig filmen?* (4a)e.g. *Hvør så egentliga filmin?* (4b)

Danish/Faroese:bj	C°	P°	T°	V°	Ob Hd	V V°	Wh Sp	Op Sp	Op Sc	Ch ck	X° Lf	Pr Rt	X° Rt
◀ ba	WH	e	e	V O	-d				*!			*	*
◀ bd	WH[-	e	e	V O	-d		*!	*				*	*
▶▶bj	WH V	-	t	t O	-d							****	****
◀ bm	WH do	-	t	t V O	-d		*!					*	****
◀ da	WH	e	e	O V	-d				*!		*		
◀ dd	WH[-	e	e	O V	-d		*!	*			*		
◀ dj	WH V	-	t	t O t	-d						*!	***	***
◀ dm	WH do	-	t	t O V	-d		*!				*		***

(18) *wh*-subject, main clausee.g. *Hver sá eiginlega myndina?* (4c)

Icelandic:aj	C°	P°	T°	V°	Ob Hd	V V°	Wh Sp	Op Sp	Op Sc	Ch ck	X° Lf	Pr Rt	X° Rt
◀ aa	WH	e	e	V O	+d				*!	*		*	*
◀ ac	WH V	t	t O	+d					*!			***	***
◀ ad	WH[-	e	e	V O	+d		*!	*		*		*	*
◀ af	WH[-	V	t t O	+d			*!	*				***	***
▶▶aj	WH V	-	t t t O	+d								****	****
◀ am	WH do	-	t t V O	+d		*!						*	****
◀ ca	WH	e	e	O V	+d				*!	*	*		
◀ cc	WH V	t	O t	+d					*!		*	**	**
◀ cd	WH[-	e	e	O V	+d		*!	*		*	*		
◀ cf	WH[-	V	t O t	+d			*!	*			*	**	**
◀ cj	WH V	-	t t O t	+d							*!	***	***
◀ cm	WH do	-	t t O V	+d		*!					*		***

(19) *wh*-subject, main clausee.g. *Qui voit vraiment le film?* (4d)

French:ac	C°	P°	T°	V°	Ob Hd	V V°	Wh Sp	Ch ck	X° Lf	Pr Rt	Op Sp	Op Sc	X° Rt
◀ aa	WH	e	e	V O	+d			*!		*		*	*
▶▶ac	WH V	t	t O	+d						***		*	***
◀ ad	WH[-	e	e	V O	+d		*!	*		*	*		*
◀ af	WH[-	V	t t O	+d			*!			***	*		***
◀ aj	WH V	-	t t t O	+d						*****!			****
◀ am	WH do	-	t t V O	+d		*!				*			****
◀ ca	WH	e	e	O V	+d			*!	*			*	
◀ cc	WH V	t	O t	+d					*!	**		*	**
◀ cd	WH[-	e	e	O V	+d		*!	*	*		*		
◀ cf	WH[-	V	t O t	+d			*!		*	**	*		**
◀ cj	WH V	-	t t O t	+d					*!	***			***
◀ cm	WH do	-	t t O V	+d		*!			*				***

The differences between the VO-languages above and the OV-languages below are all related to **X°-left** being ranked below **Pred-Right**, which means that the verb is base-generated right of the object position, as e.g. in Yiddish, instead of to the left of the object position, as e.g. in Icelandic. As in Danish and Icelandic above, the ranking of **Pred-Right** below **Op-Scope** means that it is less optimal to have the *wh*-subject in IP-spec than in CP-spec, because having it in

IP-spec costs an extra violation of **Op-Scope**.

(20) *wh*-subject, main clause

e.g. *Ver zet eygentlekh dem film?* (4e)

Yiddish:cj	C°	P°	T°	V°		Ob Hd	V V°	Wh Sp	Op Sp	Op Sc	Ch ck	Pr Rt	X° Lf	X° Rt
◀ aa	WH	e	e	V O	+d					*!	*	*		*
◀ ac	WH	V	t	t O	+d					*!		***		***
◀ ad	WH	[–	e	e V O	+d			*!	*		*	*		*
◀ af	WH	[–	V	t t O	+d			*!	*			***		***
◀ aj	WH	V	–	t t t O	+d							*****!		*****
◀ am	WH	do	–	t t V O	+d		*!					*		*****
◀ ca	WH	e	e	O V	+d					*!	*		*	
◀ cc	WH	V	t	O t	+d					*!		**	*	**
◀ cd	WH	[–	e	e O V	+d			*!	*		*		*	
◀ cf	WH	[–	V	t O t	+d			*!	*			**	*	**
▶▶cj	WH	V	–	t t O t	+d							***	*	***
◀ cm	WH	do	–	t t O V	+d		*!						*	***

(21) *wh*-subject, main clause

e.g. *Wie sien eintlik die rolprent?* (4f)

e.g. *Wie zag eigenlijk de film?* (4g)

Afrikaans/Dutch:dj	C°	P°	T°	V°		Ob Hd	V V°	Wh Sp	Op Sp	Op Sc	Ch ck	Pr Rt	X° Lf	X° Rt
◀ ba	WH	e	e	V O	-d					*!		*		*
◀ bd	WH	[–	e	e V O	-d			*!	*			*		*
◀ bj	WH	V	–	t t t O	-d							*****!		*****
◀ bm	WH	do	–	t t V O	-d		*!					*		*****
◀ da	WH	e	e	O V	-d					*!			*	
◀ dd	WH	[–	e	e O V	-d			*!	*				*	
▶▶dj	WH	V	–	t t O t	-d							***	*	***
◀ dm	WH	do	–	t t O V	-d		*!						*	***

(22) *wh*-subject, main clause

e.g. *Wa seach eins de film?* (4h)

e.g. *Wer sah eigentlich den Film?* (4i)

Frisian/German:cj	C°	P°	T°	V°		Ob Hd	V V°	Wh Sp	Op Sp	Op Sc	Pr Rt	Ch ck	X° Lf	X° Rt
◀ aa	WH	e	e	V O	+d					*!	*	*		*
◀ ac	WH	V	t	t O	+d					*!	***			***
◀ ad	WH	[–	e	e V O	+d			*!	*		*	*		*
◀ af	WH	[–	V	t t O	+d			*!	*		***			***
◀ aj	WH	V	–	t t t O	+d						*****!			*****
◀ am	WH	do	–	t t V O	+d		*!				*			*****
◀ ca	WH	e	e	O V	+d					*!		*	*	
◀ cc	WH	V	t	O t	+d					*!	**		*	**
◀ cd	WH	[–	e	e O V	+d			*!	*			*	*	
◀ cf	WH	[–	V	t O t	+d			*!	*		**		*	**
▶▶cj	WH	V	–	t t O t	+d						***		*	***
◀ cm	WH	do	–	t t O V	+d		*!						*	***

7.1.4 Multiple *wh*-questions

As the analysis is set out above, it follows that in multiple *wh*-questions, all *wh*-elements should move out of IP, which would incorrectly predict (23a)/(24a)/(25a) to be ill-formed and some of (23b,c)/(24b,c)/(25b,c) to be well-formed:

- (23) En. a. Why did [_{IP} she see which film] ?
 b. *Why which film did [_{IP} she see] ?
 c. *Why did which film [_{IP} she see] ?
- (24) Da. a. Hvorfor så [_{IP} hun hvad for en film] ?
 b. *Hvorfor hvad for en film så [_{IP} hun] ?
 c. *Hvorfor så hvad for en film [_{IP} hun] ?
- (25) Ge. a. Warum sah [_{IP} sie welchen Film] ?
 b. *Warum welchen Film sah [_{IP} sie] ?
 c. *Warum sah welchen Film [_{IP} sie] ?

The problem here is not **Wh-Spec**, which is violated once, by the second *wh*-element, in all of these examples. The problem is that **Op-Scope** would be violated only in (23a)/(24a)/(25a), as these are the only examples to contain *wh*-elements inside IP.

Such constructions are also analysed in an optimality theoretic framework in e.g. Müller (1997b) and Ackema & Neeleman (1998). However, the solutions to this problem in these two analyses do not carry over to the present analysis, among other things because the relevant constraint here is **Op-Scope**, which is relevant not only for questions but also for topicalisations, cf. section 7.2 below, and because it is not clear how these analyses deal with the differences between subject and non-subject *wh*-elements. Ackema & Neeleman (1998:453, fn7) suggest that subject *wh*-elements stay in IP-spec in English, but they do not address the question why subject *wh*-elements then trigger V2 in all the other Germanic languages.

To extend the present analysis to also cover multiple *wh*-questions, I would like to suggest that a second *wh*-element (and a third, etc.) may be taken not to violate **Op-Scope** even when it stays inside IP, as long as there is a *wh*-element which has moved out of the clause into a scope position. In other words, the idea is that it is possible for one *wh*-element to mark the scope of all *wh*-elements in a clause, cf. the notion of absorption in e.g. May (1985:21-22) and McDaniel (1989:592).

Aoun & Li (1993:117-119) illustrate the absorption mechanism by means of the following examples from Chinese:

- (26) Ch. a. Ni kanle [meigeren de shenme wenzhang] ?
 You read everyone DE what articles ?
 (What did you read everyone's articles about?)
- b. Shei kanle [meigeren de shenme wenzhang] ?
 Who read everyone DE what articles ?
 (Who read everyone's articles about what?) (Aoun & Li 1993:118, (72), (71))

Because Chinese is a language without *wh*-movement, both (26a,b) are real questions, not echo-questions. (26a) is ambiguous with respect to scope, *what* may have scope over *everyone* (in which case it refers to everyone's articles about one topic, e.g. syntax), or *everyone* may have scope over *what* (in which case it refers to e.g. Andrew's article about morphology, Bonnie's article about language acquisition, Carl's article about semantics, etc.). (26b) on the other hand is not ambiguous, *what* must have scope over *everyone*, i.e. it can only refer to everyone's articles about one particular topic. Aoun & Li (1993:118) ascribe the obligatory wide scope of

what in (26b) to absorption, i.e. the scope of *what* is that marked by the position of the other *wh*-element, *who*. In (26a), there is no other *wh*-element for *what* to share scope with and therefore nothing prevents an interpretation where *everyone* has scope over *what*.

One way of implementing absorption (one *wh*-element marking the scope of other *wh*-elements as well as its own scope) would be to allow it freely and to have a constraint **No-Absorption**, which would be violated when one *wh*-element marks not only its own scope but also that of another *wh*-element. In multiple questions in the Germanic languages (with the possible exception of Yiddish, see (31) below), one and only one *wh*-element moves to the CP-spec of the question (excluding interpretation as echo-questions):

- (27) En. a. Who do you think [___ went where] ?
 b. *Who where do you think [___ went ___] ?
 c. * You think [who went where] ?

For such languages, **No-Absorption** would be ranked below **Op-Scope** and also below a constraint that punishes *wh*-movement, which I shall call **Wh-Stay** here:

(28) *wh*-movement, but not multiple *wh*-movement e.g. *Who do you think went where?* (27a)

English: d	Op-Scope	Wh-Stay	No Absorp	
◀ a. ... [IP wh _i ... wh _j]	*!*			= (27c)
◀ b. ... [IP wh _{i-j} ... wh _j]	*!		*	= (27c)
c. wh _i ... [IP --- ... wh _j]	*!	*		= (27a)
▶▶ d. wh _{i-j} ... [IP --- ... wh _j]		*	*	= (27a)
◀ e. wh _i wh _j ... [IP --- ... ---]		**!		= (27b)
f. wh _{i-j} wh _j ... [IP --- ... ---]		**!	*	= (27b)

Absorption has taken place in (28b,d,f) but not in (28a,c,e). Because of absorption, it is possible for a *wh*-element in scope position, (28d), to mark the scope also for the *wh*-element(s) left inside the IP and thus completely avoid violations of **Op-Scope**. As this candidate does better than the multiple *wh*-movement ones, (28e,f), with respect to **Wh-Stay**, it is the optimal one. Notice that the candidate identical to (28d) but without absorption, (28c), is harmonically bounded in the sense that it is impossible to rank the three constraints in such a way that it becomes the optimal candidate. The question of whether there is verb movement or *do*-insertion is determined by the other constraints, as discussed in the previous sections.

Consider now what happens if **No-Absorption** is ranked higher.

In some Slavic languages, e.g. Bulgarian (Rudin 1988, Müller 1997b, Ackema & Neeleman 1998), both (or all) *wh*-elements in multiple *wh*-questions have to move to the CP-spec of the question:

- (29) Bu. a. *Koj misliš [cě e otišŭl ___ kŭde] ?
 Who think.2S that has gone where?
 b. Koj kŭde misliš [cě e otišŭl ___ ___] ?
 Who where think.2S that has gone ?
 (Who do you think went where?) (Rudin 1988:450, (6a,b))

For such languages, **No-Absorption** would also be ranked below **Op-Scope** but above

Wh-Stay, so that it would be more important to avoid absorption than to avoid *wh*-movement:

(30) multiple *wh*-movement

e.g. *Who where do you think went?* (27b), (29b)

Bulgarian	Op-Scope	No Absorp	Wh-Stay	
◀ a. ... [IP wh _i ... wh _j]	*!*			
◀ b. ... [IP wh _{i-j} ... wh _j]	*!	*		
c. wh _i ... [IP --- ... wh _j]	*!		*	= (29a)
◀ d. wh _{i-j} ... [IP --- ... wh _j]		*!	*	= (29a)
▶▶ e. wh _i wh _j ... [IP --- ... ---]			**	= (29b)
f. wh _{i-j} wh _j ... [IP --- ... ---]		*!	**	= (29b)

Although (30d) does not violate **Op-Scope**, it is still less optimal than multiple *wh*-movement, precisely because it violates **No-Absorption**, and (30e) violates neither **Op-Scope** nor **No-Absorption**. Notice that the candidate identical to (30e) but with absorption, (30f), is harmonically bounded by (30e).

Apparently, alone among the Germanic languages, Yiddish also allows multiple *wh*-movement:

- (31) Yi. Ikh veys nit ver vemen es hot gezen
 I know not who whom it has seen
 (I don't know who saw whom)

(Rudin 1988:470, n15, (ii))

Consider finally now what happens if **Wh-Stay** is the highest of the three constraints.

As already mentioned, some languages, e.g. Chinese, have no *wh*-movement at all, both (or all) *wh*-elements have to remain in situ in multiple questions:

- (32) Ch. Ni xiangzin [shei weisheme mail-le shu] ?
 You believe who why buy- ASP book ?
 (Who do you believe bought books why?)

(Aoun 1986:91, (11))

Like (26a,b) above, (32) is also a real question, not an echo-question. For such languages, **No-Absorption** would also be ranked below **Op-Scope** and both these two constraints would be ranked below **Wh-Stay**, so that it would be of maximal importance to avoid *wh*-movement:

(33) no *wh*-movement at all

e.g. *You think who went where?* (27c), (32)

Chinese: b	Wh-Stay	Op-Scope	No Absorp	
◀ a. ... [IP wh _i ... wh _j]		**!		= (32)
▶▶ b. ... [IP wh _{i-j} ... wh _j]		*	*	= (32)
c. wh _i ... [IP --- ... wh _j]	*!	*		
◀ d. wh _{i-j} ... [IP --- ... wh _j]	*!		*	
◀ e. wh _i wh _j ... [IP --- ... ---]	*!*			
f. wh _{i-j} wh _j ... [IP --- ... ---]	*!*		*	

The high ranking of **Wh-Stay** determines that the winning candidate is among the ones

without any *wh*-movement at all. Whether absorption actually takes place or not is then a question of whether **No-Absorption** is ranked higher or lower than **Op-Scope**. I take it that Chinese have absorption, following Aoun & Li (1993:117-119), cf. (26) above, but my analysis thus also allows for languages without *wh*-movement which lack absorption.

7.1.5 Conclusion

In this section, 7.1, it was shown how the high ranking of **Wh-Spec** caused *wh*-elements to occur in a specifier position. The only variation possible was the one between CP-spec and IP-spec as the position of the *wh*-element. IP-spec is furthermore only a possibility in the case where the *wh*-element is the subject, as in the case of non-subject *wh*-elements, the subject will occupy IP-spec, preventing the non-subject *wh*-element from occurring there.

The reason why English and French subject *wh*-elements occur in IP-spec is that **Pred-Right** and **V-in-V°** both outrank **Op-Scope**, so that it is more optimal to leave a *wh*-subject in IP-spec than moving it to CP-spec, because due to the high ranking of **Obl-Head**, movement to CP-spec would entail either movement of the finite verb to C° (which would cost a number of **Pred-Right** violations) or *do*-insertion (which would cost a violation of **V-in-V°**).

In the other languages, **Op-Scope** outranks **Pred-Right**, so that moving a *wh*-subject to CP-spec and not violating **Op-Scope** is more optimal than leaving it in IP-spec, in spite of the violations of **Pred-Right** that this would avoid.

Finally, it was shown that it is possible to extend the analysis in such a way that multiple *wh*-questions do not always have multiple *wh*-movement, but instead may also require one and only one *wh*-element to move to CP-spec, as is the case in all the Germanic languages (except Yiddish).

7.2 Topicalisation

Two kinds of topicalisation need to be examined, subject and non-subject topicalisation. I shall start with the latter, non-subject topicalisation, in 7.2.2, and then go on to subject topicalisation in 7.2.3.

7.2.1 Introduction

The assumption underlying this entire chapter, chapter 7, is that main clauses in the languages under discussion always contain a topic (or a fronted *wh*-element), whereas embedded clauses, on the other hand, frequently though not always lack both.

I take the initial time adverbial to be the topic (and therefore an operator) in the following main clauses:

- (34) En. Yesterday, she really saw the film
- (35) a. Da. I qár sá hun virkelig filmen
b. Fa. Í qjár sá hon virkuliga filmin
c. Ic. Í qær sá hún áreiðanlega myndina
Yesterday saw she really film-the
- (36) Fr. Maintenant, elle voit en effet le film
Now she sees really the film
- (37) a. Yi. Itst zet si take dem film
b. Af. Nu sien sy werklik die rolprent
Now sees she really the film
- (38) a. Du. Gisteren zag ze werkelijk de film
b. Fs. Juster seach se echt wol de film
c. Ge. Gestern sah sie tatsächlich den Film
Yesterday saw she really the film

I take the subject to be the topic (and therefore an operator) in the following subject-initial main clauses:

- (39) En. She really saw the film
- (40) a. Da. Hun sá virkelig filmen
b. Fa. Hon sá virkuliga filmin
c. Ic. Hún sá áreiðanlega myndina
d. Fr. Elle voit en effet le film
e. Yi. Zi zet take dem film
f. Af. Sy sien werklik die rolprent
g. Du. Ze zag werkelijk de film
h. Fs. Se seach echt wol de film
i. Ge. Sie sah tatsächlich den Film
She sees/saw really the film

Before the discussion of the derivation of the above data, I would like to make a few remarks on resumptive pronouns in topicalisations.

Comparing English to French, it might seem at first glance that, whereas in English, constructions with sentence-initial objects cannot involve a resumptive pronoun, constructions with sentence-initial objects in French must involve a resumptive pronoun.

The following data from Kroch (1989) are representative of this view of the two situations:

- (41) En. I can't stand squash, but beans, I adore (Kroch 1989:213, (14))
- (42) Fr. a. *Je déteste les courgettes, mais les haricots, j'adore
I hate the squash but the beans I adore
- b. Je déteste les courgettes, mais les haricots, je les adore
I hate the squash but the beans I them adore (Kroch 1989:213, (15))

Cf. also for French e.g. Confais (1978:236): "As opposed to German, direct objects [in French] can only be sentence-initial when they are resumed by a personal pronoun".

If this description was on the right track, we would have to answer at least three rather difficult questions:

- (43) a. Why does French not allow sentence-initial objects without a resumptive pronoun?
b. Why does English not allow sentence-initial objects with a resumptive pronoun?
and
c. Why do other Germanic languages allow both these constructions?
(taking clitic left dislocation in Romance to correspond to contrastive left dislocation in Germanic)

I would like to avoid these questions completely by following the suggestion made by Cinque (1990b:10, 73) and Rizzi (1997:286) that Italian (and by extension French) actually has both constructions (even if topicalisation may have a different pragmatics - more like contrastive focus - in Romance compared to Germanic, Cinque 1990b:180 n11), and I shall also assume that this holds for English.

As for French sentence-initial objects without a resumptive pronoun, Togeby (1985:154) says that colloquial French ("langue populaire") often omits the resumptive pronoun, and Grevisse (1993) has the following examples, among others:

- (44) Fr. a. Une seule chose il voyait
One single thing he saw
- b. La politique, ils connaissent
Politics they know
- c. Ça, il faut que je sache
This it is-necessary that I know (Grevisse 1993:455-56)

As for English sentence-initial objects with a resumptive pronoun, Quirk, Greenbaum, Leech & Svartvik (1985) has

- (45) En. Your friend John, I saw him last night (Quirk et al. (1985:1310))

I shall therefore assume that both constructions exist in all the languages under discussion:

- (46) En. a. This film, she has not seen yet
b. This film, she has not seen it yet

- (47) Fr. a. Ce film, elle n' a pas encore vu
 b. Ce film, elle ne l' a pas encore vu
This film she (it) has not yet seen
- (48) Da. a. Den her film har hun ikke set endnu
 b. Den her film, den har hun ikke set endnu
This film (it) has she not seen yet
- (49) Ic. a. Þessa mynd hefur hún ekki séð enn
 b. Þessa mynd, hana hefur hún ekki séð enn
This film (it) has she not seen yet
- (50) Ge. a. Diesen Film hat sie noch nicht gesehen
 b. Diesen Film, den hat sie noch nicht gesehen
This film (it) has she yet not seen

Notice that this entire discussion is only relevant to argument topics. Topics which are not arguments, e.g. adverbials, uncontroversially follow from the analysis suggested, as they never have resumptive pronouns:

- (51) a. En. Earlier the forests covered most of Europe
 b. Fr. Autrefois, les forêts couvraient la plus grande partie de l'Europe
 c. Da. Tidligere dækkede skovene det meste af Europa
 d. Ic. Áður fyrr þöktu skógarnir mestan part Evrópu
 e. Ge. Früher deckten die Wälder den größten Teil Europas

cf. also the examples in (34)-(38) above.

French has therefore been analysed here as parallel to English. Resumptive pronouns were taken not to be directly relevant (and an OT account of resumptive pronouns still remains to be worked out).

7.2.2 Non-subject Topicalisation

In accounting for V2 by means of the two constraints **Wh-Sp** and **Op-Sp**, it is possible to avoid the trap of binary parameters, whereby languages either have to have a particular property (e.g. V2) or not to have it. Languages may have a lot of V2, i.e. "real" V2 (Danish/Icelandic), or have just a little V2, i.e. "residual" V2 (English/French).

Furthermore, by having **Wh-Sp** be a more restricted version of (i.e. a subset of) **Op-Sp**, the (hopefully correct) prediction is made that there are no languages which have V2 in topicalisations but not in questions.

Consider first non-subject topicalisation:

(52) topic non-subject, main clause

e.g. *Yesterday, she really saw the film* (34)

English:bd C° P° T° V°	Not Dst	Prs Dst	Ob Hd	Wh Sp	Ch ck	X° Lf	Pr Rt	V V°	Op Sp	Op Sc	X° Rt	
aa e e V TO +d	*!				*		*		*	*	*	
ab e V t TO +d	*!				*		**		*	*	**	
ac V t t TO +d	*!						***		*	*	***	
◀ ad TO[e e V – +d	*!				*		*		*		*	??
ae TO[e V t – +d	*!				*		**		*		**	
◀ af TO[V t t – +d	*!						***		*		***	Fr
◀ ag TO e e e V – +d	*!		*		*		*				*	*ObHd
ah TO e e V t – +d	*!		*		*		**				**	
◀ ai TO e V t t – +d	*!		*				***				***	*ObHd
◀ aj TO V t t t – +d	*!						****				****	Ic
ak TO e e do V – +d	*!		*		*		*	*			**	
al TO e do t V – +d	*!		*		*		*	*			***	
◀ am TO do t t V – +d	*!						*	*			****	??
C° P° T° V°	Not Dst	Prs Dst	Ob Hd	Wh Sp	Ch ck	X° Lf	Pr Rt	V V°	Op Sp	Op Sc	X° Rt	
ba e e V TO -d		*					*		*	*!	*	
bb e V t TO -d		*					***!		*	*	**	
bc V t t TO -d		*					***!*		*	*	***	
▶▶bd TO[e e V – -d		*					*		*		*	En
be TO[e V t – -d		*					***!		*		**	
bf TO[V t t – -d		*					***!*		*		***	
◀ bg TO e e e V – -d		*	*!				*				*	*ObHd
bh TO e e V t – -d		*	*!				**				**	
bi TO e V t t – -d		*	*!				***				***	
◀ bj TO V t t t – -d		*					***!***				****	Da/Fa
bk TO e e do V – -d		*	*!				*	*			**	
bl TO e do t V – -d		*	*!				*	*			***	
◀ bm TO do t t V – -d		*					*	*!			****	??
C° P° T° V°	Not Dst	Prs Dst	Ob Hd	Wh Sp	Ch ck	X° Lf	Pr Rt	V V°	Op Sp	Op Sc	X° Rt	
ca e e TO V +d	*!				*	*			*	*		
cb e V TO t +d	*!				*	*	*		*	*	*	
cc V t TO t +d	*!					*	**		*	*	**	
◀ cd TO[e e – V +d	*!				*	*			*			??
ce TO[e V – t +d	*!				*	*	*		*		*	
◀ cf TO[V t – t +d	*!					*	**		*		**	??
◀ cg TO e e e – V +d	*!		*		*	*						*ObHd
ch TO e e V – t +d	*!		*		*	*	*				*	
◀ ci TO e V t – t +d	*!		*			*	**				**	*ObHd
◀ cj TO V t t – t +d	*!					*	***				***	Fs/Ge/Yi
ck TO e e do – V +d	*!		*		*	*		*			*	
cl TO e do t – V +d	*!		*		*	*		*			**	
◀ cm TO do t t – V +d	*!					*		*			***	??

(continued on the next page)

(continued from the previous page)

	C°	P°	T°	V°		Not Dst	Prs Dst	Ob Hd	Wh Sp	Ch ck	X° Lf	Pr Rt	V V°	Op Sp	Op Sc	X° Rt	
da	e	e	TO	V	-d		*				*!			*	*		
db	e	V	TO	t	-d		*				*!	*		*	*	*	
dc	V	t	TO	t	-d		*				*!	**		*	*	**	
◀ dd	TO[e	e	—	V	-d		*				*!			*			??
de	TO[e	V	—	t	-d		*				*!	*		*		*	
df	TO[V	t	—	t	-d		*				*!	**		*		**	
◀ dg	TO e	e	e	—	V	-d	*	*!			*						*ObHd
dh	TO e	e	V	—	t	-d	*	*!			*	*				*	
di	TO e	V	t	—	t	-d	*	*!			*	**				**	
◀ dj	TO V	t	t	—	t	-d	*				*!	***				***	Af/Du
dk	TO e	e	do	—	V	-d	*	*!			*		*			*	
dl	TO e	do	t	—	V	-d	*	*!			*		*			**	
◀ dm	TO do	t	t	—	V	-d	*				*!		*			***	??

In the following tableaux for the same case in the different languages, only candidates which are not harmonically bounded and which do not violate **Obl-Head** are considered. Furthermore, the tableaux have been reduced, so that they either contain only candidates that do not violate **Pers-Not-Dist** or only candidates that do not violate **Pers-Dist**. The former is the case with tableaux for languages with non-distinctive inflection for person, the latter with tableaux for languages with distinctive inflection for person.

(52') topic non-subject, main clause

e.g. *Yesterday, she really saw the film* (34)

English:bd	C°	P°	T°	V°		Ob Hd	Wh Sp	Ch ck	X° Lf	Pr Rt	V V°	Op Sp	Op Sc	X° Rt
▶▶bd	TO[e	e	V	—	-d					*		*		*
◀ bj	TO V	t	t	t	—	-d				**!*				****
◀ bm	TO do	t	t	V	—	-d				*	*!			****
◀ dd	TO[e	e	—	V	-d				*!			*		
◀ dj	TO V	t	t	—	t	-d			*!	***				***
◀ dm	TO do	t	t	—	V	-d			*!		*			***

Decisive here is the ranking of **Op-Spec** in relation to **V-in-V°** and **Pred-Right**.

In English (and in French) it is better to have the topic adjoined to IP, (52'bd) and (55af), saving on **Pred-Right** because no verb movement to C° is forced, cf. (52'bj) and (55aj), and saving on **V-in-V°** because no *do*-insertion is forced, cf. (52'bm) and (55am).

In Danish (and the other languages) it is better to have the topic in CP-spec, (53bj), forcing verb movement and costing **Pred-Right** violations, but saving on **Op-Spec** violations because the topic is in a spec, (53bd), and also not violating **V-in-V°** because no *do*-insertion is forced, (53bm).

(53) topic non-subject, main clause

e.g. *I går så hun virkelig filmen* (35a)

e.g. *Í gjár sá hon virkuliga filmin* (35b)

Danish/Faroese:bj	C°	P°	T°	V°	Ob	V	Wh	Op	Op	Ch	X°	Pr	X°
					Hd	V°	Sp	Sp	Sc	ck	Lf	Rt	Rt
◀ bd TO [e e V - -d]								*!				*	*
▶▶bj TO V t t t - -d]												****	****
◀ bm TO do t t V - -d]						*!						*	****
◀ dd TO [e e - V -d]								*!			*		
◀ dj TO V t t - t -d]											*!	***	***
◀ dm TO do t t - V -d]						*!					*		***

(54) topic non-subject, main clause

e.g. *Í gær sá hún áreiðanlega myndina* (35c)

Icelandic:aj	C°	P°	T°	V°	Ob	V	Wh	Op	Op	Ch	X°	Pr	X°
					Hd	V°	Sp	Sp	Sc	ck	Lf	Rt	Rt
◀ ad TO [e e V - +d]								*!		*		*	*
◀ af TO [V t t - +d]								*!				***	***
▶▶aj TO V t t t - +d]												****	****
◀ am TO do t t V - +d]						*!						*	****
◀ cd TO [e e - V +d]								*!		*	*		
◀ cf TO [V t - t +d]								*!			*	**	**
◀ cj TO V t t - t +d]											*!	***	***
◀ cm TO do t t - V +d]						*!					*		***

(55) topic non-subject, main clause

e.g. *Maintenant, elle voit en effet le film* (36)

French:af	C°	P°	T°	V°	Ob	V	Wh	Ch	X°	Pr	Op	Op	X°
					Hd	V°	Sp	ck	Lf	Rt	Sp	Sc	Rt
◀ ad TO [e e V - +d]								*!		*	*		*
▶▶af TO [V t t - +d]										***	*		***
◀ aj TO V t t t - +d]										****!			****
◀ am TO do t t V - +d]						*!				*			****
◀ cd TO [e e - V +d]								*!	*		*		
◀ cf TO [V t - t +d]									*!	**	*		**
◀ cj TO V t t - t +d]									*!	***			***
◀ cm TO do t t - V +d]						*!			*				***

The differences between the VO-languages above and the OV-languages below are all related to **X°-left** being ranked below **Pred-Right**, which means that the verb is base-generated right of the object position, as e.g. in Yiddish, instead of to the left of the object position, as e.g. in Icelandic. As in Danish and Icelandic above, the ranking of **Pred-Right** below **Op-Spec** means that it is less optimal to have the topic adjoined to IP than it is to have it in CP-spec, because the cost of the verb movement (in terms of violations of **Pred-Right**) is offset by avoiding the violation of **Op-Spec**.

(56) topic non-subject, main clause

e.g. *Itst zet si take dem film* (37a)

Yiddish:cj	Ob	V	Wh	Op	Op	Ch	Pr	X°	X°
C° P° T° V°	Hd	V°	Sp	Sp	Sc	ck	Rt	Lf	Rt
◀ ad TO[e e V – +d				*!		*	*		*
◀ af TO[V t t – +d				*!			***		***
◀ aj TO V t t t – +d							*****!		*****
◀ am TO do t t V – +d		*!					*		*****
◀ cd TO[e e – V +d				*!		*		*	
◀ cf TO[V t – t +d				*!			**	*	**
▶▶cj TO V t t – t +d							***	*	***
◀ cm TO do t t – V +d		*!						*	***

(57) topic non-subject, main clause

e.g. *Nou sien sy werklik die rolprent* (37b)

e.g. *Gisteren zag ze werkelijk de film* (38a)

Afrikaans/Dutch:dj	Ob	V	Wh	Op	Op	Ch	Pr	X°	X°
C° P° T° V°	Hd	V°	Sp	Sp	Sc	ck	Rt	Lf	Rt
◀ bd TO[e e V – -d				*!			*		*
◀ bj TO V t t t – -d							*****!		*****
◀ bm TO do t t V – -d		*!					*		*****
◀ dd TO[e e – V -d				*!				*	
▶▶dj TO V t t – t -d							***	*	***
◀ dm TO do t t – V -d		*!						*	***

(58) topic non-subject, main clause

e.g. *Juster seach se echt wol de film* (38b)

e.g. *Gestern sah sie tatsächlich den Film* (38c)

Frisian/German:cj	Ob	V	Wh	Op	Op	Pr	Ch	X°	X°
C° P° T° V°	Hd	V°	Sp	Sp	Sc	Rt	ck	Lf	Rt
◀ ad TO[e e V – +d				*!		*	*		*
◀ af TO[V t t – +d				*!		***			***
◀ aj TO V t t t – +d						*****!			*****
◀ am TO do t t V – +d		*!				*			*****
◀ cd TO[e e – V +d				*!			*	*	
◀ cf TO[V t – t +d				*!		**		*	**
▶▶cj TO V t t – t +d						***		*	***
◀ cm TO do t t – V +d		*!						*	***

7.2.3 Subject Topicalisation

Let us now turn to the other relevant type of topicalisation, the one where the topic is the subject.

(59) topic subject, main clause

e.g. *She really saw the film* (39)

English:ba					Not	Prs	Ob	Wh	Ch	X°	Pr	V	Op	Op	X°	
C°	P°	T°	V°	Dst	Dst	Hd	Sp	ck	Lf	Rt		V°	Sp	Sc	Rt	
◄ aa	TO	e	e	V O	+d	*!		*		*				*	*	??
ab	TO	e	V	t O	+d	*!		*		**				*	**	
◄ ac	TO	V	t	t O	+d	*!				***				*	***	Fr
◄ ad	TO[-	e	e	V O	+d	*!		*		*			*		*	??
ae	TO[-	e	V	t O	+d	*!		*		**			*		**	
◄ af	TO[-	V	t	t O	+d	*!				***			*		***	??
◄ ag	TO	e	-	e e V O	+d	*!	*	*		*					*	*ObHd
ah	TO	e	-	e V t O	+d	*!	*	*		**					**	
◄ ai	TO	e	-	V t t O	+d	*!	*			***					***	??
◄ aj	TO	V	-	t t t O	+d	*!				****					****	Ic
ak	TO	e	-	e do V O	+d	*!	*	*		*	*				**	
al	TO	e	-	do t V O	+d	*!	*	*		*	*				***	
◄ am	TO	do	-	t t V O	+d	*!				*	*				****	??
					Not	Prs	Ob	Wh	Ch	X°	Pr	V	Op	Op	X°	
C°	P°	T°	V°	Dst	Dst	Hd	Sp	ck	Lf	Rt		V°	Sp	Sc	Rt	
►►ba	TO	e	e	V O	-d		*			*				*	*	En
bb	TO	e	V	t O	-d		*			**!				*	**	
bc	TO	V	t	t O	-d		*			**!*				*	***	
◄ bd	TO[-	e	e	V O	-d		*			*			*!		*	??
be	TO[-	e	V	t O	-d		*			**!			*		**	
bf	TO[-	V	t	t O	-d		*			**!*			*		***	
◄ bg	TO	e	-	e e V O	-d		*	*!		*					*	*ObHd
bh	TO	e	-	e V t O	-d		*	*!		**					**	
bi	TO	e	-	V t t O	-d		*	*!		***					***	
◄ bj	TO	V	-	t t t O	-d		*			**!***					****	Da/Fa
bk	TO	e	-	e do V O	-d		*	*!		*	*				**	
bl	TO	e	-	do t V O	-d		*	*!		*	*				***	
◄ bm	TO	do	-	t t V O	-d		*			*	*				****	??
					Not	Prs	Ob	Wh	Ch	X°	Pr	V	Op	Op	X°	
C°	P°	T°	V°	Dst	Dst	Hd	Sp	ck	Lf	Rt		V°	Sp	Sc	Rt	
◄ ca	TO	e	e	O V	+d	*!		*	*					*		??
cb	TO	e	V	O t	+d	*!		*	*	*				*	*	
◄ cc	TO	V	t	O t	+d	*!			*	**				*	**	??
◄ cd	TO[-	e	e	O V	+d	*!		*	*				*			??
ce	TO[-	e	V	O t	+d	*!		*	*	*			*		*	
◄ cf	TO[-	V	t	O t	+d	*!			*	**			*		**	??
◄ cg	TO	e	-	e e O V	+d	*!	*	*	*							*ObHd
ch	TO	e	-	e V O t	+d	*!	*	*	*	*					*	
◄ ci	TO	e	-	V t O t	+d	*!	*		*	**					**	*ObHd
◄ cj	TO	V	-	t t O t	+d	*!			*	***					***	Fs/Ge/Yi
ck	TO	e	-	e do O V	+d	*!	*	*	*		*				*	
cl	TO	e	-	do t O V	+d	*!	*	*	*		*				**	
◄ cm	TO	do	-	t t O V	+d	*!			*		*				***	??

(continued on the next page)

(continued from the previous page)

	C°	P°	T°	V°		Not Dst	Prs Dst	Ob Hd	Wh Sp	Ch ck	X° Lf	Pr Rt	V V°	Op Sp	Op Sc	X° Rt	
◀ da	TO	e	e	O V	-d		*				*!				*		??
db	TO	e	V	O t	-d		*				*!	*			*	*	
dc	TO	V	t	O t	-d		*				*!	**			*	**	
◀ dd	TO[-	e	e	O V	-d		*				*!			*			??
de	TO[-	e	V	O t	-d		*				*!	*		*		*	
df	TO[-	V	t	O t	-d		*				*!	**		*		**	
◀ dg	TO	e	-	e O V	-d		*	*!			*						*ObHd
dh	TO	e	-	e V O t	-d		*	*!			*	*				*	
di	TO	e	-	V t O t	-d		*	*!			*	**				**	
◀ dj	TO	V	-	t t O t	-d		*				*!	***				***	Af/Du
dk	TO	e	-	do O V	-d		*	*!			*		*			*	
dl	TO	e	-	do t O V	-d		*	*!			*		*			**	
◀ dm	TO	do	-	t t O V	-d		*				*!		*			***	??

In the following tableaux for the same case in the different languages, only candidates which are not harmonically bounded and which do not violate **Obl-Head** are considered. Furthermore, the tableaux have been reduced, so that they either contain only candidates that do not violate **Pers-Not-Dist** or only candidates that do not violate **Pers-Dist**. The former is the case with tableaux for languages with non-distinctive inflection for person, the latter with tableaux for languages with distinctive inflection for person.

(59') topic subject, main clause

e.g. *She really saw the film* (39)

English:ba	C°	P°	T°	V°		Ob Hd	Wh Sp	Ch ck	X° Lf	Pr Rt	V V°	Op Sp	Op Sc	X° Rt
▶▶ba	TO	e	e	V O	-d					*			*	*
◀ bd	TO[-	e	e	V O	-d					*		*!		*
◀ bj	TO	V	-	t t t O	-d					**!	**			****
◀ bm	TO	do	-	t t V O	-d					*	*!			****
◀ da	TO	e	e	O V	-d				*!				*	
◀ dd	TO[-	e	e	O V	-d				*!			*		
◀ dj	TO	V	-	t t O t	-d				*!	***				***
◀ dm	TO	do	-	t t O V	-d				*!		*			***

Decisive here is the ranking of **Op-Scope** in relation to **V-in-V°** and **Pred-Right**.

In English (and in French) it is better to leave the topic in IP, (59'ba) and (62ac), saving on **Pred-Right** because no verb movement to C° is forced, cf. (59'bj) and (62aj), and saving on **V-in-V°** because no *do*-insertion is forced, cf. (59'bm) and (62am).

However, the internal ranking of **Op-Spec** and **Op-Scope** is underdetermined by the data, the two following types of candidates would result in the same two sentences, (39) and (40d):

If **Op-Spec** > > **Op-Scope**, then there is no movement in subject topicalisation in English and French (subject topic remains in IP-spec), (59'ba) and (62ac).

If **Op-Scope** > > **Op-Spec**, there is adjunction to IP in subject topicalisation in English and French, (59'bd) and (62af).

In Danish (and the other languages) it is better to have the topic in CP-spec, (60bj), forcing verb movement and costing **Pred-Right** violations, but saving on **Op-Scope** violations (topic is in scope position) and on **Op-Spec** violations (topic is in a specifier position), cf. (60ba,bd), and also not violating **V-in-V°** because no *do*-insertion is forced, (60bm).

(60) topic subject, main clause

e.g. *Hun så virkelig filmen* (40a)

e.g. *Hon så virkuliga filmen* (40b)

Danish/Faroese:bj	Ob	V	Wh	Op	Op	Ch	X°	Pr	X°
C° P° T° V°	Hd	V°	Sp	Sp	Sc	ck	Lf	Rt	Rt
◀ ba TO e e V O -d					*!			*	*
◀ bd TO[- e e V O -d				*!				*	*
▶▶bj TO V - t t t O -d								****	****
◀ bm TO do - t t V O -d		*!						*	****
◀ da TO e e O V -d					*!		*		
◀ dd TO[- e e O V -d				*!			*		
◀ dj TO V - t t O t -d							*!	***	***
◀ dm TO do - t t O V -d		*!					*		***

(61) topic subject, main clause

e.g. *Hún sá áreiðanlega myndina* (40c)

Icelandic:aj	Ob	V	Wh	Op	Op	Ch	X°	Pr	X°
C° P° T° V°	Hd	V°	Sp	Sp	Sc	ck	Lf	Rt	Rt
◀ aa TO e e V O +d					*!	*		*	*
◀ ac TO V t t O +d					*!			***	***
◀ ad TO[- e e V O +d				*!		*		*	*
◀ af TO[- V t t O +d				*!				***	***
▶▶aj TO V - t t t O +d								****	****
◀ am TO do - t t V O +d		*!						*	****
◀ ca TO e e O V +d					*!	*	*		
◀ cc TO V t O t +d					*!		*	**	**
◀ cd TO[- e e O V +d				*!		*	*		
◀ cf TO[- V t O t +d				*!			*	**	**
◀ cj TO V - t t O t +d							*!	***	***
◀ cm TO do - t t O V +d		*!					*		***

(62) topic subject, main clause

e.g. *Elle voit en effet le film* (40d)

French:ac	Ob	V	Wh	Ch	X°	Pr	Op	Op	X°
C° P° T° V°	Hd	V°	Sp	ck	Lf	Rt	Sp	Sc	Rt
◀ aa TO e e V O +d				*!		*		*	*
▶▶ac TO V t t O +d						***		*	***
◀ ad TO[- e e V O +d				*!		*	*		*
◀ af TO[- V t t O +d						***	*!		***
◀ aj TO V - t t t O +d						*****!			****
◀ am TO do - t t V O +d		*!				*			****
◀ ca TO e e O V +d				*!	*			*	
◀ cc TO V t O t +d					*!	**		*	**
◀ cd TO[- e e O V +d				*!	*		*		
◀ cf TO[- V t O t +d					*!	**	*		**
◀ cj TO V - t t O t +d					*!	***			***
◀ cm TO do - t t O V +d		*!			*				***

The differences between the VO-languages above and the OV-languages below are all related to **X°-left** being ranked below **Pred-Right**, which means that the verb is base-generated right of the object position, as e.g. in Yiddish, instead of to the left of the object position, as e.g. in

Icelandic. As in Danish and Icelandic above, the ranking of **Pred-Right** below **Op-Scope** and **Op-Spec** means that it is less optimal to have the topic adjoined to IP or left inside IP-spec than it is to have it in CP-spec, because the cost of the verb movement (in terms of violations of **Pred-Right**) is offset by avoiding violation of **Op-Scope** and **Op-Spec**.

(63) topic subject, main clause

e.g. *Zi zet take dem film* (40e)

Yiddish:cj	C°	p°	T°	v°	Ob Hd	V V°	Wh Sp	Op Sp	Op Sc	Ch ck	Pr Rt	X° Lf	X° Rt
◀ aa	TO	e	e	V O	+d				*!	*	*		*
◀ ac	TO	V	t	t O	+d				*!		***		***
◀ ad	TO[-	e	e	V O	+d			*!		*	*		*
◀ af	TO[-	V	t	t O	+d			*!			***		***
◀ aj	TO V	-	t	t t O	+d						*****!		*****
◀ am	TO do	-	t	t V O	+d		*!				*		****
◀ ca	TO	e	e	O V	+d				*!	*		*	
◀ cc	TO	V	t	O t	+d				*!		**	*	**
◀ cd	TO[-	e	e	O V	+d			*!		*		*	
◀ cf	TO[-	V	t	O t	+d			*!			**	*	**
▶▶cj	TO V	-	t	t O t	+d						***	*	***
◀ cm	TO do	-	t	t O V	+d		*!					*	***

(64) topic subject, main clause

e.g. *Sy sien werklik die rolprent* (40f)

e.g. *Ze zag werkelijk de film* (40g)

Afrikaans/Dutch:dj	C°	p°	T°	v°	Ob Hd	V V°	Wh Sp	Op Sp	Op Sc	Ch ck	Pr Rt	X° Lf	X° Rt
◀ ba	TO	e	e	V O	-d				*!		*		*
◀ bd	TO[-	e	e	V O	-d			*!			*		*
◀ bj	TO V	-	t	t t O	-d						*****!		*****
◀ bm	TO do	-	t	t V O	-d		*!				*		****
◀ da	TO	e	e	O V	-d				*!			*	
◀ dd	TO[-	e	e	O V	-d			*!				*	
▶▶dj	TO V	-	t	t O t	-d						***	*	***
◀ dm	TO do	-	t	t O V	-d		*!					*	***

(65) topic subject, main clause

e.g. *Se seach echt wol de film* (40h)

e.g. *Sie sah tatsächlich den Film* (40i)

Frisian/German:cj						Ob	V	Wh	Op	Op	Pr	Ch	X°	X°
C° P° T° V°						Hd	V°	Sp	Sp	Sc	Rt	ck	Lf	Rt
◀ aa	TO	e	e	V	O	+d				*!	*	*		*
◀ ac	TO	V	t	t	O	+d				*!	***			***
◀ ad	TO[-	e	e	V	O	+d			*!		*	*		*
◀ af	TO[-	V	t	t	O	+d			*!		***			***
◀ aj	TO	V	-	t	t	t	O	+d			****!			****
◀ am	TO	do	-	t	t	V	O	+d		*!	*			****
◀ ca	TO	e	e	O	V	+d				*!		*	*	
◀ cc	TO	V	t	O	t	+d				*!	**		*	**
◀ cd	TO[-	e	e	O	V	+d			*!			*	*	
◀ cf	TO[-	V	t	O	t	+d			*!		**		*	**
▶▶ cj	TO	V	-	t	t	O	t	+d			***		*	***
◀ cm	TO	do	-	t	t	O	V	+d		*!			*	***

7.2.4 Conclusion

In this section, 7.2, it was shown how the varying ranking of **Op-Scope** and **Op-Spec** may account for the variation found in the languages under discussion.

Ranking **Op-Scope** and **Op-Spec** low allows them to be violated in order to avoid violation of **Pred-Right** and **V-in-V°**, resulting in the lack of V2 in English and French topicalisations. English and French subject topics stay in IP-spec and English and French non-subject topics adjoin to IP. In English, **V-in-V°** must be ranked higher than **Op-Scope**, otherwise the result would be V2 with *do*-insertion in subject questions and in all topicalisations. In French, **Pred-Right** must be ranked higher than **Op-Scope**, otherwise the result would be V2 with movement of the finite main verbs to C° in all topicalisations.

Ranking **Op-Scope** and **Op-Spec** high forces V2 in both types of topicalisation, regardless of the cost of the ensuing verb movement in terms of violations of **Pred-Right**.

Finally, it has to be admitted that like other analyses of partial or residual V2 in English and French, there is no satisfactory account of the following two asymmetries. Negative topics (or rather downward entailing topics) trigger V2 in English but not in French:

- (66) En. a. Under no circumstances can you see this film
b. *Under no circumstances you can see this film

- (67) Fr. a. *En aucun cas peux-tu voir ce film
b. En aucun cas tu peux voir ce film

A number of adverbials may trigger V2 in French (at least in a somewhat formal style) but not in English:

- (68) Fr. a. Ainsi demeura-t-elle un très long moment
b. Ainsi elle demeura un très long moment
(Grevisse 1993:577)

- (69) En. a. *Thus did she stay a very long while
b. Thus she stayed a very long while

7.3 Conclusions

This chapter discusses the syntax of main clauses, in particular why the differences between the V2 word order and the non-V2 word order is distributed between the languages and between the clause types in the way that they are. In English and French, only non-subject questions are V2, whereas in the other languages, both subject and non-subject questions and also both subject and non-subject topicalisations are all V2.

Why are there no languages which have V2 in topicalisations but not in questions? Because the formulations of the constraints **Wh-Spec** and **Op-Spec** entail that either V2 is triggered for all operators, i.e. in topicalisations and questions alike, given a high ranking of **Op-Spec**, or V2 is triggered in questions only, given a high ranking of **Wh-Spec** and a low one of **Op-Spec**. High or low here mean above or below the constraints that penalise movement, in most of the cases discussed this is **Pred-Right**, though sometimes it is **V-in-V°**.

Why may only *wh*-subjects, not *wh*-non-subjects, escape V2? Because the relevant constraint is **Wh-Spec** and only *wh*-subjects are already in a specifier position. This insight is taken directly from Grimshaw (1997:388).

Why are there many more types of languages than just V2 and non-V2 languages? Because V2 is the result of interaction between different constraints, including **Obl-Head**, **Wh-Spec**, **Op-Spec**, **Op-Scope**, etc., instead of being the result of having one non-violable constraint (called e.g. "V2") in some languages and not in others.

Op-Spec and **Op-Scope** are ranked together (i.e. adjacent to each other) in all the languages under discussion. This means that as far as the ranking differences needed to account for the variation found are concerned, these two constraints could be turned into one constraint.

One possibility would be a constraint, call it **Op-Real-Scope**, where the optimal state of affairs is for an operator to c-command both the IP and an X° which c-commands the IP (this is actually reminiscent of Ackema & Neeleman's 1998 "Q-Marking"). The next best situation is for an operator to c-command only the IP. In topicalisations in English and French, the higher ranking of **V-in-V°** (English) and **Pred-Right** (French) means that the optimal candidate violates **Op-Real-Scope**, and then that the candidate which violates it only a little (because it has IP-adjunction) is more optimal than the one that violates it a lot (by the topic not having scope over the IP at all).

We would then be left with only two constraints, **Op-Real-Scope** and **Wh-Spec**, where the latter still is unviolated in the languages under discussion here. However, this constraint would be violated in languages without *wh*-movement, cf. the constraint **Wh-criterion** in Müller's (1997b:270) analysis of Korean.

Chapter 8. Conclusion

8.1 Summary

Part I of the book, *Establishing the typology: Verb Movement in the Germanic VO- and OV-languages*, consists of chapters 1, 2 and 3. Here I continued the work in Vikner (1995a, 1997) on the movement of finite verbs across the Germanic languages.

Chapter 1 suggested a definition of what counts as rich finite inflection, namely "distinctive inflection for person in all tenses", and it argued that this is what triggers V° -to- I° movement in the Germanic (and Romance) VO-languages, but not in all Germanic OV-languages.

In chapter 2 the claim that Yiddish is an OV-language was supported by evidence concerning the possibility in Yiddish of certain coordination constructions in which the second object is empty, evidence concerning verb particles and particle verbs, evidence concerning predicative adjective agreement, and evidence concerning non-finite two-verb sequences inside a clause. The general picture is one where an analysis of Yiddish as an OV-language will have far less problems to deal with than an analysis of Yiddish as a VO-language would.

Chapter 3 presented three different arguments in favour of the view that apart from Yiddish, none of the Germanic OV-languages have V° -to- I° movement (except as part of V2, i.e. as part of V° -to- I° -to- C° movement). These languages include Afrikaans, Dutch, West Flemish, Frisian, German, Swabian, and the three Swiss German variants from Sankt Gallen, Zürich, and Bern. One piece of evidence came from a further examination of the same two-verb sequences that were discussed in chapter 2, which showed that, apart from in Yiddish, finiteness had hardly any influence at all on the order of any two-verb sequence. Since V° -to- I° movement would apply obligatorily and exclusively to finite verbs, this entails that none of the nine languages have V° -to- I° movement. The other two kinds of evidence concern verbs that although they occur in finite form do not occur in V2 constructions, and adverbial expressions like *far more than* or *more than just*, which seem to only be possible in embedded clauses in those languages that do not have V° -to- I° movement.

Part II of the book, *Accounting for the typology: Optimality Theory and Germanic Verb Movement*, consists of chapters 4, 5, 6, and 7. Where Part I tried to establish facts and arguments which are independent of (but not incompatible with) Optimality Theory, the objective in Part II was not only to show how these facts may be accounted for within Optimality Theory but also to show why it is more promising to do this within Optimality Theory rather than within a theory with only non-violable constraints.

Chapter 4 introduced the basic framework, Optimality Theory, which the account employed, and paid particular attention to its four defining features, namely that constraints may be violated, that constraints are ordered in a hierarchy, that constraints are universal, and that out of a set of candidates, only the optimal candidate is grammatical.

In chapter 5, the basic constraints were introduced and it was shown how their interaction made it possible to account for V° -to- I° movement in terms of a violable checking constraint. This again made possible a link to the actual richness of verbal inflectional morphology (as argued for by the non-OT-studies Rohrbacher 1994, 1999 and Vikner 1997), even though some Germanic languages, e.g. German, clearly violate the

checking constraint, cf. that although German has more verbal inflection than French and Yiddish, there is no V° -to- I° movement in German (as argued in chapter 3 above), whereas there is V° -to- I° movement in French and Yiddish. It was also shown that it was possible to derive the VO/OV-difference with violable constraints, and that the constraints crucial for the VO/OV-difference also had other effects, namely the minimising both of structure and of movement.

Chapter 6 discussed a number of issues in the syntax of finite auxiliary verbs and finite main verbs. Compared to the syntax of finite main verbs, the syntax of finite auxiliary verbs differs in English, but not in the other languages, and it was shown that this variation is parallel to *do*-insertion in V2 clauses, in negative clauses, and in emphatic clauses. An account was also given of how the development of these differences might have taken place.

In chapter 7, the syntax of main clauses was discussed, in particular why the differences between the V2 word order and the non-V2 word order is distributed between the languages and between the clause types in the way that they are. In English and French, only non-subject questions are V2, whereas in the other languages, both subject and non-subject questions and also both subject and non-subject topicalisations are all V2.

8.2 Possible extensions

Two possible extensions of the work presented here had to be left for further research.

One is the optionality of complementisers: *that* is optional only in VO-languages without V° -to- I° movement, but obligatory in VO-languages with V° -to- I° movement (an effect of the constraint **Projection-Principle**, Grimshaw 1997, Vikner 2000, and many others) and in all OV-languages (because all embedded sentences have to be extraposed, just like subject sentences in the VO-languages, which also have obligatory *that*).

The other is an integration into the analysis of transitive expletive constructions and of other expletive constructions across the Germanic languages: In the VO-languages, transitive expletive constructions are possible only in languages with V° -to- I° movement, an observation going back at least to Vikner (1990:3.7, 3.24, 1995a:153, 188-190) and Sigurðsson (1991:354). This is because the logical subject (which was shown to be in TP-spec by Jonas & Bobaljik 1993:88-89) is licensed from I° , and such licensing requires that I° has content, which is only the case if the verb has moved there. In OV-languages, on the other hand, following Haider & Rosengren (1998:48-51), cf. also 2.5.6 above, the logical subject of a transitive expletive construction may be licensed by the verb in situ.

8.3 Last words

In this work, I have tried to use Optimality Theory to account for rather extensive language variation, among other things in order to investigate the claim of Optimality Theory that language variation is variation in the constraint hierarchy. In so far as the preceding chapters have been successful in deriving the surface variation found from a very restricted set of underlying options, I think that it also has shown that the view of language variation as variation in the constraint hierarchy is indeed a viable one.

There are a number of reasons for choosing Optimality Theory as the general framework in which to couch the analyses above. One such reason is the desire to take the idea of violability seriously, i.e. to allow for all constraints being violable, rather than none or only a very small subset of constraints (see also e.g. Vikner 2001:334). This has been formulated very succinctly by Grimshaw (1997:399): "Maximally general principles will inevitably conflict. The alternative is to formulate more specific principles which are designed never to conflict, and one price is generality. Only by allowing constraints to conflict can we avoid building the effects of every principle into all of the others that it potentially conflicts with."

The rewards for the choice of Optimality Theory include the following three:

A crucial part of the analysis showed how the optimality framework provides the possibility of exploiting the empirical correlations between V°-to-I° movement and verbal inflection. The point was that checking (which is what motivates V°-to-I° movement) has to be violable. As outlined above, the reason is that although German has more verbal inflection than French and Yiddish, there is no V°-to-I° movement in German (as argued in chapter 3 above), whereas there is V°-to-I° movement in French and Yiddish. This leaves three options open: Either German violates checking, or French and Yiddish violate economy of movement, or French and Yiddish have stronger features than German. In the last case there can be no link between morphological richness and feature strength, and this would seem to be the only way out in frameworks with only non-violable constraints.

Another advantage of the particular implementation of Optimality Theory is that candidates with and without *do* compete, which allows an account of the fact that sentences with and without *do* seem to be in complementary distribution, i.e. whenever *do* may be inserted, it has to be inserted.

The implementation of Optimality Theory in the preceding chapters also made it possible to give an account of V2 in which the trap of binarity was avoided, whereby languages either have a particular property (e.g. V2) or do not have it. Such an analysis will allowed languages to have a lot of V2, e.g. Danish or Icelandic or German, or to have just a little V2, e.g. English or French, and it will also allow languages which have substantially less V2 than English or French, e.g. Russian.

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