SOV Languages are Head Initial

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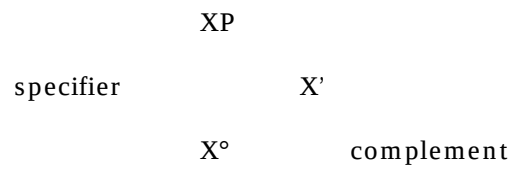
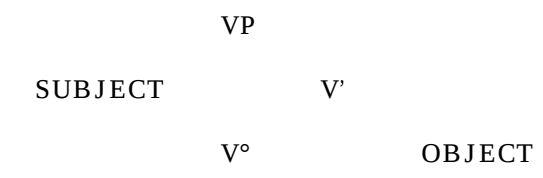
In his inspiring GLOW guest lecture, Richard Kayne argued that movement of syntactic constituents is invariably leftward (Kayne 1992). In combination with Chomsky's Minimalist Program, in which movement invariably targets heads and specifiers in the functional domain (Chomsky 1992), Kayne's observation leads to the conclusion that functional heads and specifiers of functional projections are always on the left side in a syntactic tree structure. Hence, if Kayne and Chomsky are correct, structure building operations in all languages follow the same, universal blueprint (illustrated in (1)).

(1)



Chomsky (1992) in addition advances the hypothesis that all representations in a derivation are built up by the same structure building process of *Generalized Transformations*. Thus, there is no structural difference between an initial representation (formerly built up by 'rules of the base') and derived representations (built up in the process of movement). As a result, we may expect the universal blueprint determining the structure of the functional domain to be relevant for the lexical domain as well. This leads to the hypothesis that in all languages, all projections are head initial.

Assuming the VP-internal subject hypothesis, according to which subjects are generated in the specifier position of VP, Chomsky's and Kayne's work leads to the conclusion that in all languages the derivation of a sentence starts out with a VP structered as in (2).

(2)


The various surface orders in the world's languages are then the result of leftward movements of the subject, object, and verb to positions in the functional domain. With Chomsky (1992), I assume that these movements are triggered by a licensing requirement on elements carrying abstract morphological features, and that movement may either be overt or covert.

For SOV languages, this reasoning implies that the surface order of meaningful elements in these languages is determined by overt movement of the subject and the object in combination with an absence of overt verb movement to a position to the left of the object.

Rather than reconsidering the syntactic properties of many SOV languages to investigate these claims, I will in this paper concentrate on Dutch, a language considered to be an SOV language in terms of generative syntax (Koster 1975).

Dutch is an interesting test case for the hypotheses advanced above, since many phenomena in the syntax of Dutch have been taken to indicate *rightward* movement to a functional head, and since the head final character of the VP in Dutch has been firmly established in almost three decades of research. Nevertheless, I will argue that the phenomena of Dutch syntax must be taken to support the hypothesis that syntactic projections universally have the structure in (1).

This paper has the following contents. In section 1, I will discuss the evidence for the presence of functional heads to the right of the VP in Dutch. This evidence is found wanting, and evidence to the presence of functional heads to the left of the VP in Dutch is succinctly presented. In section 2, a cross categorial survey of the lexical projections in Dutch is conducted. It turns out that the NP projection is quite clearly head initial, whereas the evidence for VP is mixed. The structure of the VP is examined in more detail, and it is proposed that Small Clause predicates in Dutch move to the specifier of a functional projection immediately dominating the VP. This tips the scale in favor of the head initial analysis of the VP in Dutch. AP and PP are neither clearly head initial nor clearly head final, and I assume that they follow the by now general pattern. In section 3, some tentative remarks concerning typology and the nature of strict SOV languages are advanced.

This paper is written in the framework of the Minimalist Program (Chomsky 1992).

1. The Functional Domain

1.1 DP and CP

Assuming determiners to be the head of DP and complementizers to be the head of CP, it is clear that DP and CP are head initial:

(3) a. de vader van Jan
the father of John
b. * vader van Jan de
father of John the

(4) a. ..dat het regent buiten
that it rains outside
b. * ..het regent buiten dat
it rains outside that

Since D and C are the topmost functional heads in the nominal and verbal projections, respectively, the order in (3a) and (4a) cannot have been the result of head movement. Therefore, if DP and CP were head final, the order in (3a) and (4a) should be the result of rightward movement of the complement of D and C, respectively, to a specifier position to the right of the projection line.

If so, the specifier of D and C must be occupied in (3a) and (4a), and the DP and CP are predicted to be islands, contrary to fact:

(5) daar de vader van
there the father of

(6) Waar zei je dat het regent?
where said you that it rains
"Where did you say that it was raining?" [2 readings]

Thus, the movement to a right-peripheral specifier position is impossible, and DP and CP in Dutch must be structured as in (1).

1.2 'IP'

For the following discussion of the structure of the functional domain in the complement of C in Dutch, the exact layering of the functional projections in this domain is irrelevant. I will therefore refer to the domain in question as IP, headed by I. We need to investigate the evidence for an I head to the right of VP in Dutch.

It is commonly assumed that in Dutch the finite verb is in I in embedded clauses and in C in main clauses. As is well known, the finite verb occupies a sentence final position in embedded clauses and a second position in main clauses:

(7) a. ..dat Jan Marie kust
that John Mary kisses
"..that John kisses Mary."
b. * ..dat Jan kust Marie

(8) a. Jan kust Marie
John kisses Mary
b. * Jan Marie kust

(9) a. Overal kust Jan Marie
everywhere kisses John Mary
"Everywhere John kisses Mary."
b. * Overal Jan kust Marie

The underlying assumption in this analysis is that finite verbs must have moved to I in overt syntax to pick up the tense and agreement morphemes generated there. Hence, in (7a) I must be located to the right of the VP, and the verb must have moved to a different functional head in (8a) and (9a).

However, in the Minimalist framework it is assumed that verbs are generated in fully inflected form. What is generated in I are not inflectional morphemes, but abstract morphological features associated with the inflection. These features are also present on the inflected forms, and movement takes place to check the two features off against each other. Crucially, this movement can be overt or covert. Consequently, the verb final position in (7a) does not indicate the presence of a right peripheral I. The inflected verb may be inside VP, waiting to move to I at LF.

It is a familiar feature of several Germanic languages that the inflected verb remains in the VP in overt syntax. For instance, it is

commonly assumed that the inflected verb never leaves the VP in overt syntax in English. More interesting are cases like Swedish.

Swedish, like Dutch, shows an asymmetry between main and embedded clauses as to the position of the finite verb. In embedded clauses, the finite verb appears to the right of sentence adverbials and the sentence negation element, whereas in main clauses the finite verb appears in second position again.

(10) a. ..att Johann inte köpte boken
that John not bought book-the
"..that John did not buy the book."
b. * ..att Johann köpte inte boken
that John bought not book-the

(11) a. Johann köpte inte boken
John bought not book-the
"John did not buy the book."
b. * Johann inte köpte boken
John not bought book-the

This pattern is standardly analyzed as follows: *inte* 'not' marks the left boundary of the VP. Then in (10a), the finite verb *köpte* 'bought' must be inside the VP. In (11a), the finite verb must have moved out of the VP to a functional head to the left of the VP (C, in most analyses).

Hence, Swedish shows the same pattern as Dutch, with one exception: the direct object precedes the finite verb in Dutch, whereas it follows the finite verb in Swedish. Assuming there to be a basic distinction between SOV and SVO languages, the correct generalization appears to be that both Swedish and Dutch procrastinate verb movement in embedded clauses until covert syntax.

There is also a considerable amount of circumstantial evidence against the hypothesis that the finite verb moves to a right peripheral I in embedded clauses in Dutch (see also Reuland 1990).

First, the finite verb is not necessarily the rightmost element in embedded clauses in Dutch. PPs, relative clauses, adjunct clauses and complement clauses may follow the verb in embedded clauses. It is assumed that these elements are moved out of the VP to the right, by a rule of extraposition. This predicts that all these elements should be islands. This prediction is accurate for all categories except complement clauses (Hoekstra 1983):

(12) a. Wie denk je dat Jan mij vertelde
who think you that John me told

dat hij gekust had?
that he kissed had

"Who do you think John told me he kissed?"

b. * Wie denk je dat Jan mij het verhaal
who think you that John me the story

vertelde dat hij gekust had?
told that he kissed had

"Who do you think John told me the story that he had kissed?"

In (12a) *dat hij gekust had* 'that he kissed' is the complement of *vertelde* 'told'; in (12b) it is an adjunct clause associated with *het verhaal* 'the story'. In both (12a) and (12b), the finite verb *vertelde* 'told' occupies a right peripheral position in its clause (which is an embedded clause complement to *denk* 'think').

If we for that reason assume that *vertelde* is in I, the most deeply embedded clause must be extraposed. Hence, extraction out of this clause is impossible. (12b) shows that the adjunct clause is an island, as predicted. But (12a) is not, which is unpredicted.

Therefore, the analysis of verb movement to a right peripheral I can only be maintained if complement clauses are generated in IP, which violates the principle that theta roles are assigned in a uniform way (Baker 1988). According to this principle, complements should be generated in a single position, regardless their categorial status.

More circumstantial evidence against the hypothesis that the finite verb moves to a right peripheral I in embedded clauses is presented by past participle constructions.

In embedded clauses in Dutch, past participles can appear both to the right and to the left of the finite verb.

(13) a. ..dat Jan Marie gekust heeft
that John Mary kissed has

b. ..dat Jan Marie heeft gekust
that John Mary has kissed
"..that John kissed Mary."

When more verbs are present, the verbs form a cluster, and the past participle appears to the right or to the left of the cluster:

(14) a. ..dat Jan Marie gekust zou moeten hebben
that John Mary kissed should must have
b. ..dat Jan Marie zou moeten hebben gekust
that John Mary should must have kissed
"..that John should have kissed Mary."

It is assumed that the verbs all cluster in I by a process of adjunction to the right. If this is correct, it seems to be the case that the past participle in (14a) is not involved in the clustering process, but stays behind in the most deeply embedded VP.

If so, it should be possible to see material in between the past participle and the verb cluster in (14a), or between the past participle and the verb in (13a). But this is never possible:

(15) a. * ..dat Jan Marie gekust tijdens de film heeft
that John Mary kissed during the movie has
"..that John kissed Mary during the movie."
b. * ..dat Jan Marie gekust tijdens de film
that John Mary kissed during the movie

zou moeten hebben
should must have

"..that John should have kissed Mary during the movie."

Therefore, it must be assumed, under this analysis, that the past participle adjoins to the verb cluster in (13a) and (14a) as well. As a result, the verb clustering is not a uniform process in this analysis.

A similar argument is presented by particle verb constructions. In Koster's original analysis of Dutch as an SOV language, particles were taken to mark the base position of the verb. In the analysis of verb movement to a right peripheral I, it must be assumed that the particle moves along to I. If not, it would still mark the original position of the verb, and again we would expect right adjoined material to intervene between the particle in the VP and the verb in I. But this is never the case:

(16) a. ..dat Jan Marie tijdens de film op belde
that John Mary during the movie up called
"..that John called Mary up during the movie."
b. * ..dat Jan Marie op tijdens de film belde
that John Mary up during the movie called

Similarly, resultative predicates must be assumed to go along with the verb to I. Since nothing can intervene between resultative predicates and the finite verb in embedded clauses, it must be concluded that resultative predicates, like past participles and particles do not mark the original position of the verb:

(17) a. ..dat Jan de deur met die kwast
that John the door with that brush

zo groen als gras verfde
as green as grass painted

"..that John painted the door as green as grass with that brush."

b. * ..dat Jan de deur zo groen als gras
that John the door as green as grass

met die kwast verfde
with that brush painted

Notice that it is particularly unattractive to assume that the resultative predicate in (17) moves along with the verb to I, since it is not a head but a phrase.

In short, the analysis of verb movement to a right peripheral I has two major drawbacks. First, the movement is always vacuous. Second, it must be assumed that all elements that could have marked the original position of the verb, whether heads or phrases, move along in this vacuous movement to I. This seems a very unattractive state of affairs, considering that there is no principled reason to move finite verbs to I in overt syntax to begin with.

Positive evidence in favor of verb movement to a right peripheral I has been presented by Giusti (1991). This evidence involves movement of infinitives in German.

As with finite verb movement, the underlying assumption here is that inflected verbs move to I in overt syntax. As we have seen, this is

not necessarily the case. Giusti assumes that German *zu* (Dutch *te*, English *to*) is an infinitival marker generated in I, and that the infinitive moves to I in overt syntax to adjoin to *zu*. This accounts for the fact that the infinitive is always right adjacent to *zu*.[1]

Giusti considers constructions with a preposed *zu*-infinitival, as in (18).

(18)	a.	Das Buch zu lesen	hat er nicht versucht
		the book to read	has he not tried
	b.	Das Buch zu lesen	hat er Maria nicht ermuntert
		the book to read	has he Mary not encouraged

"He did not try/encourage Mary to read the book."

As with VP-topicalization, it is also generally possible to prepose the verb, leaving the embedded object behind. In the analysis of Den Besten & Webelhuth (1987), these constructions involve scrambling of the object prior to preposing of the VP:

(19)	a.	Das Buch gelezen	hat er nicht
		the book read	has he not
	b.	Gelesen	hat er das Buch nicht
		read	has he the book not

Applying this process to the *zu*-infinitival constructions in (18), an asymmetry emerges:

(20)	a.	Zu lesen	hat er das Buch nicht versucht
		to read	has he the book not tried
	b. *	Zu lesen	hat er Maria das Buch nicht ermuntert
		to read	has he Mary the book not encouraged

Giusti reduces this assymetry to the status of the complement of the verbs *versuchen* 'try' and *ermuntern* 'encourage'. The complement of *versuchen* is transparent and allows scrambling into the matrix clause, whereas the complement of *ermuntern* is opaque and does not:

[1] Notice that it is not *a priori* clear that *zu* is an infinitival marker, since a) not all infinitives have *zu*, and b) infinitives have a specific inflectional ending *-en* which seems more appropriate a candidate for the status of infinitival marker. See Zwart (to appear).

(21) a. Er hat versucht das Buch zu lesen
he has tried the book to read
b. Er hat das Buch versucht zu lesen
he has the book tried to read
"He tried to read the book."

(22) a. Er hat Maria ermuntert das Buch zu lesen
he has Mary encouraged the book to read
"He encouraged Mary to read the book."
b. * Er hat Maria das Buch ermuntert zu lesen
he has Mary the book encouraged to read

The asymmetry in (20) is now explained as follows. *Zu*-infinitivals involve preposing of a category larger than VP: IP or CP. Because scrambling out of VP is generally allowed in German, assuming that the preposing in (20) involves VPs would never bring out the difference. In short, the entire complement of the matrix verb is preposed. Without scrambling out of this complement clause, the constructions are both grammatical, as (18) bears out. In (20a), the embedded object is scrambled out of the complement clause of *versuchen*, prior to the infinitival preposing. This is allowed, since *versuchen* selects a transparent complement. However, since *ermuntern* does not allow scrambling out of its complement clause, (20b) can never be derived.

It is crucial for this analysis that the *zu*-infinitival is in I, rather than in V. If the *zu*-infinitival were in V, both constructions in (20) could be derived by VP-preposing, and they should both be grammatical (since no scrambling out of the complement clause of *ermuntern* needs to have taken place under that scenario).

This analysis is flawed in one important respect. If *ermuntern* selects an opaque complement, (20b) is ungrammatical on another count as well: the embedded object should not be allowed to appear to the left of the matrix verb. Therefore, *zu*-infinitival preposing in the case of *ermuntern* does not yield (20b), but (23) (cf. (22a)):

(23) * Zu lesen hat er Maria nicht ermuntert das Buch
to read has he Mary not encouraged the book

In (23), at least nothing went wrong as far as scrambling is concerned. The construction is still ungrammatical, and this appears to be the fact to be explained, not the ungrammaticality of (20b).

The ungrammaticality of (23) is very familiar from VP-preposing constructions in which no verb is left behind:

(24) a. Kiss Mary I think John rarely does
b. * Kisses Mary I think John rarely

(25) a. Gekust denk ik niet dat Jan Marie heeft
kissed think I not that John Mary has
"I don't think John KISSED Mary."
b. * Gekust heeft denk ik niet dat Jan Marie
kissed has think I not that John Mary

These facts receive a straightforward explanation in the Minimalist framework (see Zwart, to appear). A verb is needed in the embedded clause to check the features in the functional heads of the embedded clause. If these features are not checked, the derivation crashes.

Apparently, the functional projections of transparent complements can be part of the functional domain of the matrix clause. Assuming that scrambling is movement to Spec,AgrO, this is the only way to account for scrambling into the matrix clause. Therefore, in (20a) one of the verbs extant in the matrix clause can move through the functional heads associated with the embedded clause and eliminate the relevant features. This is impossible when the matrix verb selects an opaque complement, hence the ungrammaticality of (23).[2]

Needless to say that under this analysis, no conclusion as to the position of the *zu*-infinitival can be drawn.

On the positive side, there is accumulating evidence for the existence of at least one, but probably more, functional heads in Dutch to the left of the VP (and to the right of C).

First, assuming that all movements are triggered by the requirement that morphological features be checked, it seems natural to conclude that in the unmarked case the subject will move to its designated checking position, Spec,AgrS. Given the fact that the subject and the finite verb are adjacent in neutral subject initial main clauses in Dutch, it must be the case that the verb is in a AgrS.

[2] I agree with Koster (1978) and Haider (1990) that the preposed element is not really moved from inside the construction, but generated in a left adjoined position. The movement effects are due to a dummy d-word (like Dutch *dat*, see Koster 1978) occupying the Spec,C and binding a trace in the position of the absent constituent. For this reason, the functional features of the embedded clause in (23)-(25) can never be eliminated through some process of reconstruction.

(26) Jan (*gisteren) kuste Marie
John yesterday kissed Mary

This analysis is supported by observations of Koster (1978b), Travis (1984) and Zwart (1991a,b), showing the difference between subjects and topics in Dutch.

Second, the position of the finite verb with respect to subject clitics appears to indicate an additional verb movement in topicalizations (and wh-constructions):

(27) a. 'k Heb Marie gekust
I have Mary kissed
b. Gisteren heb'k Marie gekust
yesterday have I Mary kissed
c. * Gisteren 'k heb Marie gekust

The ungrammaticality if (27c) is explained if topicalization of *gisteren* 'yesterday' triggers an additional verb movement from AgrS to C.

Third, the position of object clitics in Dutch also suggests the presence of at least one functional head to the left of VP and to the right of C (Jaspers 1989, Zwart 1991a, Haegeman 1991).

(28) a. ..dat Jan (*gisteren) 'r gekust heeft
that John yesterday her kissed has
b. ..dat Jan (gisteren) haar gekust heeft
that John yesterday her kissed has

Following Kayne (1975, 1990) and Baltin (1982), it is assumed that clitics adjoin to functional heads. If the object clitic in Dutch adjoins to AgrS, the adjacency of the subject and the object clitic in embedded clauses reduces to the adjacency of Spec,AgrS and AgrS (cf. (26)). As Zwart (1991a) shows, there are a number of distributional differences between weak object pronouns and full NPs in Dutch suggesting that the former have clitic status.

For more extensive discussion of these matters, I refer to Zwart (to appear).

Summarizing, there appears to be no evidence for a functional head I to the right of the VP in Dutch, whereas the presence of at least one

functional head to the left of VP in Dutch can be deduced from a number of phenomena and considerations.[3]

1.3 Conclusion

There appears to be no evidence for the existence of head final functional projections in Dutch.

2. The Lexical Domain

2.1 NP

Complements of nouns are invariably PPs (Emonds 1985). In Dutch, these PPs follow the head noun in overt syntax:

(29)	a.		de verwoesting	van de stad
			the destruction	of the city
	b.	*	de van de stad	verwoesting
			the of the city	destruction

If NPs are head final, the order in (29a) must be the result of head movement. Head movement inside DP has been proposed various times in the literature (a.o. Delsing 1989, Bernstein 1991), and we cannot exclude that it has taken place in (29).

However, head movement cannot be demonstrated to have taken place in (29). The determiner and the head noun are not necessarily adjacent, so the head noun cannot have moved to D:

(30)	de complete verwoesting	van de stad
	the complete destruction	of the city

Similarly, the noun cannot have been moved to D in a head-to-head fashion, via an Adjectival Head, because the adjective can be modified:

[3] Haegeman (1991) argues that in West Flemish, a dialect of Dutch, there must be a number of functional heads between CP and VP to accomodate the object clitics. I agree, and these observations only strengthen the point to be made here (cf. Zwart 1992).

(31) de alles behalve complete verwoesting van de stad
the anything but complete destruction of the city

Nevertheless, there appears to be an adjacency requirement on the adjectival head and the noun (Van Riemsdijk 1991).

(32) a. een op zijn zoon trotse vader
a of his son proud-AGR father
b. * een trotse op zijn zoon vader
a proud-AGR of his son father

Assuming, as Abney (1987) does, that Adjectives are heads selecting NP in their complement, the adjacency effect could be explained by assuming that the head noun moves to the adjectival noun. However, the following facts show that this cannot be the case (cf. Van Riemsdijk 1991):

(33) een zo trots mogelijke vader
a so proud possible-AGR father
"an as proud as possible father"

In (33), *zo...mogelijke* modifies the adjective *trots* in a curious circumpositional way. The adjectival group as a whole (of which *trots* is the head) modifies the noun, *vader*. As can be seen, the head noun *vader* does not adjoin to *trots*.

A curious feature of the AP *zo trots mogelijke* 'as proud as possible' in (33) is that the *-e* morpheme expressing agreement with the noun is not on the adjectival head, but on the rightmost, subordinate, adjective in the AP. Apparently, the AP as a whole must agree with the head noun. This suggests that the AP is in the specifier position of a nominal agreement phrase, and that the head noun must move through the head of this agreement phrase at some point in the derivation (Lattewitz 1992).

However, it is not clear that this movement must take place in overt syntax. Facts from Nominal Infinitives suggest that head movement of the noun to the head of the adjectival agreement phrase is not overt.

Nominal Infinitives in Dutch may consist of a complete VP, including direct objects and adverbs, topped by a DP, including adjectives and PP-complements (Zwart 1987). The adjectives always have to appear to the left of the adverbs:

(34) a. dat vervelende constant Marie kussen
that irritating-AGR constantly Mary kiss
"that irritating kissing Mary all the time"
b. * dat constant vervelende Marie kussen
that constantly irritating-AGR Mary kiss
[under the same reading]

Adapting Abney's (1987) analysis of English gerunds, we may analyze Dutch Nominal Infinitives as consisting of a VP and at least and AgrOP, and on top of that an adjectival agreement phrase and a DP. The transition between the verbal and the nominal part must be made by a functional head, perhaps the adjectival agreement head, in which the nominal features are represented, and which may select a VP as well as an NP. The verb, *kussen* 'kiss' in (34), is an ambiguous form: it is both verbal and nominal. This means that the verb has the features needed to check the AgrO features in the VP, as well as the features needed to check the nominal features in D and in the intermediate functional head effecting the transition from verbal projection to nominal projection (see Zwart & Hoekstra 1989 for this analysis).

Thus, Nominal Infinitives present a test case for the hypothesis that the head noun moves to the head of the adjectival agreement phrase in overt syntax. In ordinary DPs, it is hard to come up with material potentially separating the AP and the head noun. In Nominal Infinitives, as (34) shows, at least the adverb and the direct object separate the head noun from the AP. If movement of the noun to the head of the adjectival agreement phrase were overt, (35) should be grammatical, which it is not:[4]

(35) * dat vervelende kussen constant Marie
that irritating-AGR kiss constantly Mary

If there is a feature in the adjectival agreement phrase triggering overt head movement of N to the head of the adjectival agreement phrase,

[4] The grammaticality of (i) shows that the direct object, expressed in a PP, can be attached as an adjunct to the right of the nominal part of the Nominal Infinitive.

(i) dat vervelende constant kussen van Marie door Jan
that irritating constantly kiss of Mary by John

Therefore, the object PP is not necessarily a sister of the head noun in DPs, and no argument can be built on the order of head noun and object PP, or on the presence or absence of adjacency between the two.

this feature should trigger the same head movement in (35), and the derivation should crash in the absence of this head movement. Apparently, the situation is the other way around: overt head movement leads to ungrammaticality, and non-overt movement leads to convergence.

I conclude that there is no evidence that the order N-PP in (29a) is derived by head movement of the noun.

Another possibility is that the PP in (29a) has moved to the right, as an instance of extraposition.

This is not initially plausible, because extraposition is generally optional (if it is a rule). A description in terms of extraposition leaves the ungrammaticality of the PP-N order in (29b) unaccounted for.

Also, we would expect PPs resisting extraposition in the verbal system to appear to the left of the noun in the nominal system as well. But there is a clear asymmetry between clauses and noun phrases here:

(36) a. ..dat Jan het land uit reist
that John the country out travels
"..that John travels out of the country."
b. * ..dat Jan reist het land uit
that John travels the country out

(37) a. Jan's reis het land uit
John's travel the country out
"John's travel out of the country"
b. * Jan's het land uit reis
John's the country out travel

I conclude that the N-PP order in (29a) is not the result of PP extraposition either. Therefore the basic ordering within NPs is head-complement. This means that NPs, like functional projections, have the structure in (1).

2.2 VP

Earlier discussions of the headedness of VP in Dutch were concerned with the question whether the main clause word order (VO) was derived from the embedded clause word order (OV), or the other way around. I take no issue with the outcome of that discussion, namely that the main clause word order is derived from the embedded clause word

order (Koster 1975). What we need to investigate here, is whether the embedded clause word order is itself derived from a more basic head initial structure or not.

As we have seen above, sentential complements appear to the right of the verb in embedded clauses in Dutch. See (12a), repeated here as (38):

(38) Wie denk je dat Jan mij vertelde [dat hij gekust had]?
"Who do you think John told me he kissed?"

The verb final order is ungrammatical here:

(39) * Wie denk je dat Jan mij [dat hij gekust had] vertelde?

On the other hand, nominal complements necessarily appear to the left of the verb in embedded clauses:

(40) a. ..dat Jan gisteren Marie kuste
that John yesterday Mary kissed
"..that John kissed Mary yesterday."
b. * ..dat Jan gisteren kuste Marie
that John yesterday kissed Mary

Let us look at these paradigms in more detail.

As can be seen in (38), the sentential complement clause appearing to the right of the VP is not an island. This suggests that the clause has not moved to the right by way of extraposition.

Likewise, the fact that the sentential complement *must* appear to the right of the verb suggests that no extraposition has taken place, since extraposition (if it is a rule) is generally optional.

In both respects, sentential complements differ from adjunct clauses: they are islands and may appear on either side of the verb (see (41), repeated from (12b), and (42)).

(41) * Wie denk je dat Jan mij het verhaal vertelde
[dat hij gekust had]?
"Who do you think John told me the story
that he had kissed?"

(42) a. ..dat Jan Marie [toen de film begon] kuste
that John Mary when the movie began kissed

b. ..dat Jan Marie kuste [toen de film begon]
that John Mary kissed when the movie began
"..that John kissed Mary when the movie began."

Therefore, the verb-complement order in the case of sentential complements cannot be explained by rightward movement of the CP.

Another possibility is that the verb has undergone a short movement to the left, skipping the CP.

If there is short movement of the verb to the left, we expect adjuncts to appear between the verb and the sentential complement. The following sentences suggest that this is indeed possible:

(43) a. Wat wil je dat ik op de vergadering zeg
what want you that I on the meeting say

dat ik van je voorstel vind?
that I of your proposal find

"What do you want me to say at the meeting
that I think of your proposal?"

b. Wat wil je dat ik zeg op de vergadering
what want you that I say on the meeting

dat ik van je voorstel vind?
that I of your proposal find

"What do you want me to say at the meeting
that I think of your proposal?"

In both (43a) and (43b) extraction out of the complement clause of *zeg* 'say' is possible, yet in (43b) *zeg* and the complement clause are separated by the adjunct PP *op de vergadering* 'at the meeting'. This indicates that the finite verb is not in its initial position in embedded

clauses in Dutch.[5] Notice, however, that the short verb movement in embedded clauses may start out from a position to the left of the complement clause as well as from a position to the right of it.

Consequently, we can draw no conclusion as to the basic order in the Dutch VP. However, if we want to maintain an optimal parallellism of the nominal and the verbal system, we have to conclude that the initial position of the verb is to the left of the sentential complement, regardless of the presence or absence of short movement to the left.

Let us consider noun phrase complements next. These invariably appear to the left of the finite verb in embedded clauses in Dutch. What is crucial, however, is the question whether the NP and the finite verb are adjacent. If not, we can draw no conclusion as to the basic position of the NP.

As is well known, direct objects in Dutch do not have to be adjacent to the verb in embedded clauses (cf. (40a)):

(44) ..dat Jan Marie gisteren kuste
that John Mary yesterday kissed
"..that John kissed Mary yesterday."

The order in (44) is not marked in any way.

Assuming that direct objects are sisters to the verb in the initial representation, the order in (44) must be the result of movement.

It is not likely that the adverb has been moved: adverbs, for all we know, lack the features needed to trigger movement in the Minimalist

[5] It may, however, be the case that the adjunct separating the finite verb and the sentential complement is parenthetical. Normally, parenthetical material gets an intonation indepently from the sentence intonation. Thus, there are two intonational patterns for a sentence like *Wat dacht je dat ik zou zeggen op de vergadering?* 'What thought you that I would say at the meeting?'. If the adjunct *op de vergadering* 'at the meeting is not parenthetical it is integrated in the intonational pattern of the sentence as a whole. As with every question in Dutch, the intonational pattern is slowly falling all the way through the sentence, then falls markedly on the final stressed syllable, immediately followed by a sharply rising intonation. In the sentence at hand, the pitch falls on *zeg* and stays down until the final syllable of the adjunct, where the sharp rising sets in. But when the adjunct is parenthetical, the rising intonation comes immediately after *zeg*, thus on the final syllable of *zeggen*, and the adjunct gets a kind of echo intonation, again sharply rising in the end. However, when parentheticals are not on the edge of the question, they do not get an independent intonation, but participate in the slowly falling line of intonation of the question as a whole. Thus, the intervening adjunct may be parenthetical, but this cannot be concluded from intonational patterns.

framework. Furthermore, since adverbs may appear in a large variety of positions, it is not clear where the licensing position for the adverbs should be, even if they did have movement triggering features.

Nor is it likely that the verb has been moved to the right in (44), since we have established that there is no evidence for the existence of functional heads to the right of the VP in Dutch.

This leaves us with only one possibility to account for the non-adjacency in (44): the NP has been moved to the left. This has been proposed many times in the literature, and the concept of NP-movement can be readily implemented in the Minimalist framework: NPs carry abstract Case features which must be checked in the specifier position of a functional head. For object NPs, this functional head is AgrO, therefore it seems correct to hypothesize that Dutch has overt movement of object NPs to Spec,AgrO.

Notice that under the Minimalist assumptions, movement is never optional. Therefore, if the NP moves to Spec,AgrO in (44), where the movement is made visible through the position of the adverb, it must also move to Spec,AgrO when the movement is not visible, as in (40a). Apparently, adverbs can be generated in various positions, which is a necessary assumption anyhow, because there are no obvious triggers for adverb movement.

It therefore appears to be the case that the direct object in Dutch is always in Spec,AgrO, and that the finite verb in embedded clauses in Dutch is not in AgrO (as the non-adjacency of object and verb indicates).[6] Consequently, the embedded clause order of object and verb doesn't allow us to draw conclusions about the 'basic' order of verb and object.

Again, it seems to be a minimal assumption that the VP in Dutch patterns with the other projections considered thus far, in having the structure in (1).

However, before we can advance this hypothesis with any security, we must address some other issues.

First, it has been argued, most recently in De Hoop (1992), that indefinite objects are not subject to the same Case licensing requirements that govern the movement of definite objects to Spec,AgrO. If this is correct, we must consider the possibility that the position of indefinite objects with respect to the verb reflects the basic

[6] Notice that if there is short movement of the finite verb in embedded clauses in Dutch, the target of the movement must be a functional head between AgrO and the VP.

structure of the VP. As (45) shows, this would imply that the VP in Dutch is head final:

(45) a. ..dat Jan vaak meisjes kust
that John often girls kisses
"..that John often kisses girls."
b. * ..dat Jan vaak kust meisjes
that John often kisses girls

Secondly, elements that could be characterized as Small Clause predicates (particles, resultative predicates, locational and positional predicates) invariably appear to the left of the verb in embedded clauses in Dutch:

(46) a. ..dat Jan Marie op belt
that John Mary up calls
"..that John calls Mary up."
b. * ..dat Jan Marie belt op
that John Mary calls up

(47) a. ..dat Jan de deur rood verft
that John the door read paints
"..that John paints the door red."
b. * ..dat Jan de deur verft rood
that John the door paints red

(48) a. ..dat Jan de sloot in springt
that John the ditch into jumps
"..that John jumps into the ditch."
b. * ..dat Jan springt de sloot in
that John jumps the ditch into

(49) a. ..dat het lijk in de kast zit
that the body in the closet sits
"..that the body is in the closet."
b. * ..dat het lijk zit in de kast
that the body sits in the closet

Since PPs generally may appear in 'extraposition' in Dutch, the ungrammaticality of (48b) and (49b) is particularly telling. Again, it could be the case that the position of these predicative elements with

respect to the verb reflects a basic (head final) structure of the VP in Dutch.

Let us consider these cases one by one, starting with the case of the indefinite objects.

The position of the indefinite object is only relevant for the structure of the VP in Dutch, if the indefinite object and the verb are always adjacent in overt syntax. In that case, we could assume that no movement has taken place, and that the basic order is directly observable. However, this conclusion is not warranted, for two reasons.

First, as we have seen, there is reason to suppose that the finite verb in Dutch undergoes a short movement to the left. If so, the position of the indefenite object must be derived as well.

Second, it is not true that indefinite objects have to be adjacent to the finite verb in embedded clauses: adverbs may intervene, but this affects the interpretation of the indefinite NP in various ways.

(50) a. ..dat Jan vaak meisjes kust
that John often girls kisses
"..that John often kisses girls."

b. ..dat Jan meisjes vaak kust
that John girls often kisses
"..that John kisses girls often."

Whereas *meisjes* 'girls' in (50a) only has a neutral indefinite reading, *meisjes* in (50b) may have a generic reading as well. In addition, (50b) may have a reading involving multiple kissing events per girl, which is absent in (50a). In other words, the adverb of quantification *vaak* 'often' has scope over *meisjes* in (50a), but *meisjes* has scope over *vaak* in (50b).

Assuming, as we have done before, that adverbs may be generated in various positions, the minimal assumption still appears to be that *meisjes* moves to Spec,AgrO in both (50a) and (50b), and that the adverb of quantification takes scope over the NP in Spec,AgrOP just in case the former c-commands the latter.[7]

At this point, it may be benificial to keep syntax and semantics strictly separated. From a syntactic point of view, the rigid mechanisms of the minimalist framework do not allow us to distinguish between

[7] In this case, the overt syntax order and the LF order are identical, assuming that there is no Quantifier Raising rule moving the adverb to a sentence initial position at LF (as in May 1985; cf. Koster 1987, Chomsky 1992, Culicover 1992).

indefinite NPs having and not having a generic reading. Indefinite NPs should generally be subject to a kind of morphological licensing mechanism (preferably the same licensing mechanism definite NPs are subject to). There are many ways in which the subtleties of interpretation can be brought about, and for a large part these may lie outside the grammar proper (cf. Chomsky 1992). It would appear to be a weakening of the syntactic computational system if these subtleties would have to be expressed in the formal licensing operations involved in the checking of morphological (not: semantic) features.[8]

In sum, there doesn't seem to be any reason to assume that the basic order of the VP in Dutch is reflected in the order of the indefinite object and the verb in embedded clauses.

The second point to be considered is the position of the Small Clause predicates with respect to the verb in embedded clauses (exx. (46)-(49)).

In this case, there is a fairly strict adjacency requirement on the Small Clause predicate and the verb. Adverbs may not intervene:

(51)	a.	..dat	Jan	Marie	op	(*gisteren)	belde
		that	John	Mary	up	yesterday	called
	b.	..dat	Jan	de deur	rood	(*gisteren)	verfde
		that	John	the door	read	yesterday	painted
	c.	..dat	Jan	de sloot in		(*gisteren)	sprong
		that	John	the ditch into		yesterday	jumped
	d.	..dat	het lijk	in de kast		(*gisteren)	zat
		that	the body	in the closet		yesterday	sat

The only element that may separate the predicate and the verb is a stranded preposition:

[8] These remarks abstract away from the phenomenon of object incorporation, in which the incorporated objects are not just indefinite, but generally uninflected as well. Apparently, incorporated arguments are subject to different morphosyntactic licensing requirements than free objects. The indefinite objects in Dutch are not incorporated, and even if they were, we could not construe an argument for the basic structure of the VP out of it. Another fact to be discussed in a more full treatment is the phenomenon that in some languages (Chinese, Russian) indefinite objects have to follow the verb, whereas definite objects may precede it (Li & Thompson 1976).

(52) a. de telefoon waar Jan Marie op mee belde
the telephone where John Mary up with called
"the telephone with which John called Mary up"

b. de telefoon waar Jan Marie mee op belde
the telephone where John Mary with up called
"the telephone with which John called Mary up"

(53) a. de kwast waar Jan de deur rood mee
the brush where John the door red with

verfde
painted

b. de kwast waar Jan de deur mee rood
the brush where John the door with red

verfde
painted

"the brush with which John painted the door red"

As can be seen in (52)-(53), the stranded preposition *mee* can appear both before and after the Small Clause predicate.[9] It is unclear to me at this point where exactly the stranded preposition is attached, but I will assume here that it does not break up the adjacency of the verb and the Small Clause predicate.

However, the adjacency of the verb and the Small Clause predicate can mean one of two things. Both the verb and the predicate can be in their basic positions, or the verb and the predicate can be in a Spec-Head configuration.

Recall that we have found indications that the verb in embedded clauses undergoes a short movement to the left. This made it possible for adjuncts to appear between the verb and the sentential complement

[9] Curiously, the stranded preposition, unlike the particle, cannot appear *inside* a verbal cluster (Van Riemsdijk 1992; cf. Bennis 1992):

(i) de telefoon waar Jan Marie
the phone where John Mary

a. mee op wilde bellen
with up wanted call
b. op mee wilde bellen
c. mee wilde op bellen
d. * op wilde mee bellen

(cf. (43b)). If so, the verb and the Small Clause predicate cannot be in their basic positions. Hence, we appear to be forced to the conclusion that the Small Clause predicate and the verb are in a Spec-Head configuration.

Let us advance the hypothesis that the verb in embedded clauses in Dutch moves to the head of a functional projection whose designated purpose is the licensing of Small Clause predicates. Let us call this projection PredP, and assume that the short movement of the verb indicated above is movement to Pred. If this is correct, again the order of the Small Clause predicate and the verb in Dutch is useless if we want to determine the basic structure of the Dutch VP.

Is there any evidence for the movement of a Small Clause predicate to the Spec of a functional projection in Dutch?

At present, I can see two phenomena that could be considered as presenting evidence for Small Clause predicate raising. The first phenomenon involves agreement of the verb with the Small Clause predicate. The second involves Small Clauses with a clausal subject. I will briefly discuss the relevant facts here.

First, consider the following well known facts:

(55) a. Het is/*zijn gek
it is/are crazy
b. Het zijn/*is kooplieden
it are/is merchants

The neuter determiner *het* 'it' triggers singular agreement on the verb, unless it is associated (in a pretheoretic term) with a plural NP, as in (55b).

Assuming that the copula always takes a Small Clause as its complement, we have to wonder whether *kooplieden* in (55b) is the subject or the predicate of the Small Clause.

The following test is relevant here. Small Clause predicates, but not Small Clause subjects, can be associated with a neuter singular d-word when they are topicalized, regardless the gender or number of the topicalized constituent itself:

(56) a. De vader maakte de oudste de rijkste
the father made the oldest the richest

b. De oudste, die/*dat maakte de vader
the oldest MASC/NTR made the father

de rijkste
the richest

c. De rijkste, dat/*die maakte de vader
the richest NTR/MASC made the father

de oudste
the oldest

Assuming that it is not in the power of fathers to change the relative age of their children, *de rijkste* 'the richest' must be the Small Clause predicate in (56). As can be seen, the Small Clause predicate must be resumed by the neuter d-word *dat*, whereas the Small Clause subject must be resumed by an agreeing d-word.

Application of this test to (55) shows that *kooplieden* 'merchants' is the Small Clause predicate. It must be resumed by the non-agreeing neuter/singular d-word *dat*:

(57) Kooplieden, dat/*die zijn het
merchants NTR.SG/PL are it
"Merchants, that's what they are."

Kooplieden in (55) also, like Small Clause predicates in general, has to be adjacent to the verb in embedded clauses:[10]

(58) a. ..dat het nog altijd kooplieden zijn
that it still always merchants are
"..that they are still merchants."

b. * ..dat het kooplieden nog altijd zijn
that it merchants still always are

[10] This is also the case when the Small Clause predicate happens to be a definite NP:
(i) ..dat de vader de oudste de rijkste (*steeds) maakte
that the father the oldest the richest (always) made

The Small Clause predicate *kooplieden* is remarkably less mobile than the indefinite object *kooplieden* in (59):

(59) ..dat Jan kooplieden (nog altijd) haat
that John merchants still always hates

Kooplieden in (59) gets a generic reading (as an effect of the hierarchical order of NP and adverb, as we have assumed), whereas *kooplieden* in (58b) gets no interpretation at all.

Thus, the Small Clause predicate, even if it is an NP, does not occupy the Spec,AgrO. Yet it determines the agreement on the verb in (55). This can be explained if the Small Clause predicate and the verb are in a Spec-Head agreement relation at some point in the derivation. This is accounted for if there is a PredP, and that in Dutch the Spec-Head agreement relation of Small Clause predicate and verb is overtly realized in embedded clauses.[11]

A second piece of evidence for Small Clause predicate raising is offered by those constructions in which the subject of the Small Clause is a CP. Examples are given in (60):

(60) a. ..dat Jan belangrijk vindt
that John important considers

dat hij Marie gekust heeft
that he Mary kissed has

"..that John considers it important that he kissed Mary."

b. ..dat Jan de ether in schreeuwde
that John the air into yelled

dat hij Marie gekust had
that he Mary kissed had

"..that John yelled into the air <e.g. in a radio show> that he had kissed Mary."

[11] A problem with this analysis, however, is that the Small Clause predicate and the verb never show agreement when the verb selecting the Small Clause has an external argument of its own.

c. ..dat Jan op schreef
that John up wrote

dat hij Marie gekust had
that he Mary kissed had

"..that John wrote down that he had kissed Mary."

In each of the sentences in (60), the CP appearing to the right of the verb can be considered as the subject of a Small Clause, just like *het* 'it' in de corresponding cases in (61):[12]

(61) a. ..dat Jan het belangrijk vindt
that John it important finds
"..that John considers it important."

b. ..dat Jan het de ether in schreeuwt
that John it the air into yells
"..that John yells it into the air."

c. ..dat Jan het op schrijft
that John it up writes
"..that John writes it down."

Extraction facts again show that the CP appearing to the right of the verb in (60) is not an adjunct. This is illustrated for (60a) only:

(62) a. Wie denk je dat Jan belangrijk vindt
who think you that John important finds

dat hij gekust heeft?
that he kissed has

b. * Wie denk je dat Jan het belangrijk
who think you that John it important

vindt dat hij gekust heeft?
considers that he kissed has

[12] Den Dikken (1992) argues for more complicated SC-structures than the ones assumed here. In particular, in Den Dikken's analysis the particle *op* 'up' is the ergative head of a Small Clause, selecting a Small Clause complement of which *het* in (61c) would be the subject. In this analysis, the subject position of the highest Small Clause is empty. CLearly, this analysis is not immediately compatible with the argument advanced here.

This suggests that the CP Small Clause subjects in (60) are in their basic position, hence, that the Small Clause as a whole has a basic position to the right of the overt position of the verb in embedded clauses.

If this is correct, the fact that Small Clause predicates invariably appear to the left of the verb in embedded clauses can only be explained if there is a designated position to the left of the verb for the Small Clause predicate to move to. This position is provided by the analysis in which the predicate raises to the Spec,Pred, and the verb to Pred.

Inasmuch as the PredP analysis is viable, the position of Small Clause predicates with respect to the verb is not indicative of the head final or head initial status of the VP in Dutch. Thus, I see no way to settle the issue of the basic structure of the VP in Dutch on the basis of overt syntactic phenomena. The minimal assumption therefore is that the Dutch VP is like the Dutch NP: head initial.

2.3 AP

Adjectival Phrases of transitive adjectives appear to be head final in Dutch and German (Van Riemsdijk 1983, cf. Platzack 1982):

(63) a. De man was zijn vrouw toegewijd
the man was his wife devoted
"The man was devoted to his wife."

b. * De man was toegewijd zijn vrouw
the man was devoted his wife

(64) a. een zijn vrouw toegewijde man
a his wife devoted man
"a man devoted to his wife"

b. * een toegewijde zijn vrouw man
a devoted his wife man

However, in these examples the adjective and its complement are not necessarily adjacent:

(65) a. De man was zijn vrouw volkomen toegewijd
the man was his wife utterly devoted
"The man was utterly devoted to his wife."
b. een zijn vrouw volkomen toegewijde man
a his wife utterly devoted man
"a man utterly devoted to his wife"

Hence, the complement of the adjective is in a derived position in (63)-(65), and nothing can be concluded as to the basic structure of the AP.

Again, nothing is lost if we assume that the AP, like the NP, is head initial.

2.4 PP

Dutch has prepositional PPs, postpositional PPs and circumpositional PPs:

(66) in het bos
in the forest
"in the forest"

(67) a. het bos in
the forest in
"into the forest"
b. er in
there in
"in/into it"

(68) tussen de bomen door
between the trees through
"through the trees"

Van Riemsdijk (1990) argues that in the circumpositional PP the NP forms a constituent with the leftmost P. This is demonstrated by the fact that adjuncts can only be placed between the NP and the rightmost P:

(69) a. * de weg tussen weer de bomen door
the road between again the trees through
b. ? de weg tussen de bomen weer door
the road between the trees again through
"the road leading through the trees again"

Thus, circumpositional PPs reduce to postpositional PPs of the type in (67a).

In these PPs, like in (69b), the preposition and its complement are not necessarily adjacent:

(70) de weg het bos weer in
the road the forest back into
"the road back into the forest"

The same goes for postpositional PPs of the type in (67b):

(71) a. de weg er weer in
the road there back into
"the road back into it"
b. het meer er diep in
the lake there deep in
"the lake deep inside it"

This shows, as before, that the position of the complement in postpositional PPs is a derived position. Hence, these constructions do not argue for a head final status of PPs in Dutch.

Prepositional PPs do show an adjacency effect. See (69a) and (72):

(72) a. het meer diep in het bos
the lake deep in the forest
"the lake deep inside the forest"
b. * het meer in diep het bos
the lake in deep the forest

Whereas this does not *prove* anything about the structure of the Dutch PP (it could be that the preposition is generated to the right of its complement, and moves to a functional head to the immediate left of its complement, more or less like the verb in English in the analysis of Johnson 1991), the adjacency effect is not unexpected if the Dutch PP were head initial.

A final argument for the head initial status of PPs in Dutch is presented by the following pair:

(73) a. van de tafel af
of the table off
"off the table"
b. vanaf de tafel
off the table

If *van..af* in (73a) and *vanaf* are derivationally related, it looks like either *af* has moved to *van* or the other way around. Now if PPs are head initial, and the PP *van de tafel* 'of the table' is in a derived position in (73a), the initial representation of both sentences in (73) may have been as follows:

(74) $[_{PP}$ *af* $[_{PP}$ *van* $[_{DP}$ *de tafel*]]]

If so, (73a) results from moving the entire PP *van de tafel*, and (73b) from head movement of the lower P *van* to the higher P *af*.

On the other hand, if PPs in Dutch are consistently head final, as in (75a), many problems arise. First, the order P-NP of the PP *van de tafel* must be derived (75b). Secondly, the two Ps have to be combined by head movement. Since this cannot be lowering, *van* has to raise to *af*, yielding (75c). Finally, the combined Ps have to raise again to a position to the left of the NP, as in (75d):

(75) a. $[_{PP}$ $[_{PP}$ $[_{DP}$ *de tafel*] *van*] *af*]

b. $[_{PP}$ $[_{PP}$ *van* $[_{DP}$ *de tafel*] $\underline{t}$] *af*]

c. $[_{PP}$ $[_{PP}$ $\underline{t}$ $[_{DP}$ *de tafel*] $\underline{t}$] *vanaf*]

d. $[_{PP}$ *vanaf* $[_{PP}$ $\underline{t}$ $[_{DP}$ *de tafel*] $\underline{t}$] $\underline{t}$]

While none of these processes are principally impossible, most of them are a bit obscure, to say the least.

I will therefore conclude that PPs in Dutch, like NPs are head initial.

2.5 Conclusion

Because of the possibility of moving elements to positions in the functional domain, it is very hard to determine the basic order of elements in the lexical domain. Nevertheless, there is some reason to conclude that at least NPs and PPs in Dutch are head initial. There is no reason whatsoever to conclude that *any* lexical projection in Dutch is head final. Consequently, I submit that all lexical projections in Dutch are head initial. If so, both lexical and functional projections in Dutch are built up as in (1).

3. Typology and the Nature of Strict SOV Languages

Reconsidering the evidence for the status of Dutch, I have concluded that Dutch is an SVO language. This is a new and interesting result for generative grammarians, since it opens up the possibility that all languages are built up in the same way, namely according to the schema in (1).

However, typologists have always regarded Dutch as an SVO language, because of the many head-complement surface phenomena of the language. To them, the reduction of Dutch to the SVO class would appear to be a minor achievement. On the other hand, there are many languages that show a consistent SOV surface pattern. The question now rises whether these languages can be analyzed as basically SVO as well. This appears to be the real challenge if we wish to maintain that all languages are built up according to (1).

In section 2.2, I have argued that the order Verb-Sentential Complement reflects the basic structure of the VP in Dutch. I tacitly assumed that CPs are not subject to a kind of morphological licensing requirement of the type that makes NPs move. By economy, this makes CPs immobile right from the start.

Now in strict SOV languages sentential complements appear to the left of the V, just like all NP-complements. If CPs are not subject to morphological licensing requirements, and are not allowed to move by economy, it must be the case that there are true SOV languages, and that something like the mirror image of (1) is a possible blueprint for human language as well.

However, if in strict SOV languages the lexical domain is built up according to the mirror image of the schema in (1), we would expect the functional domain in these languages to be built up according to the

mirror image of (1) as well. Consequently, we would expect a lot of rightward head movements and rightward XP-movements. It was Kayne's (1992) empirical point that these expected mirror image phenomena do not exist in the languages of the world.

In other words, it is highly desirable to maintain (1) as the sole building blueprint for the functional and lexical projections of the languages of the world.

For this reason, it is necessary to reconsider the status of sentential complements. For instance, it could be the case that clauses are subject to a different morphological licensing requirement than NPs. In that case, movement to satisfy this requirement could again be overt or covert. Dutch could take the covert option, and strict SOV languages the overt one. Or Dutch could take the overt option like strict SOV languages, and there could be an additional V-movement (in Dutch, but not in strict SOV languages) to a position between the licensing position of the clause and the AgrOP (or PredP). Notice that if that is the case, no evidence as to a basic order of the elements in VP could ever be found.[13]

Let us therefore take a weaker position, and state that CPs in Dutch lack features that would force them to move to a licensing position at some point in the derivation. The question now rises whether CPs always lack these features, or whether languages may differ as to the status of sentential complements.

It is a well known fact that in Japanese, a strict SOV language, sentential complements take objective Case endings (Kuno 1973):[14]

[13] This would lead to one of two conclusions. Either lexical projections are assumed to be head initial, because we know functional projections are, or lexical projections are assumed to be unordered (Ouhalla 1991). On the assumption that binary branching is relevant to both lexical and functional projections, the first conclusion seems preferable.

[14] Clauses headed by the 'non-presuppositional' complementizer *to* do not take Case endings, e.g. *John wa Mary ga sinda to itta* 'John said that Mary had died'. When such a clause is the subject instead of the object, *to* must be augmented to *to yuu koto* or *to yuu no* and does take the inflectional ending used for subject clauses *wa*: *John ga Mary o nagutta to yuu koto wa uso da* 'That John hit Mary is a lie' (Kuno 1973, Ch. 18).

(76) a. John ga Mary o butta
John NOM Mary ACC hit
"John hit Mary."

b. Wakatusi wa [John ga Mary o butu no] o
I WA John NOM Mary ACC hits that ACC

mita
saw

"I saw John hitting Mary

Suppose now that languages may differ as to the syntactic status they assign to sentential arguments: in some languages they are NPs and in others they are not. If they are NPs, they move to licensing positions in the functional domain just like NPs do, if they are not, they are immobile. Japanese would be an instance of the former type, Dutch of the latter.

Let us assume that all languages have a basic SVO structure.

If so, Japanese-type languages (in which CPs have nominal features) may come in two varieties, depending on the amount of overt verb and NP movement. If the verb ends up to the left of the NP/CP object in overt syntax, a strict SVO language results. If not, a strict SOV language results.

On the other hand, Dutch-type languages (in which CPs are immobile) may have a third variety. If the verb does not move across the NP object in overt syntax, an SOVO language results (where the first O indicates the position of an NP-object, and the second O the position of a CP-object).[15]

Japanese would then be a Japanese-type language without overt V-movement crossing the NP/CP object. Dutch would be a Dutch-type language without V-movement crossing the NP object. English could either be a Japanese-type language without overt V-movement, or a Dutch-type language with overt V-movement.

We can now make an interesting prediction regarding SOVO languages: they can never be of the Japanese type.

[15] The the OVO pattern is assumed to hold across sentences, not in one sentence at the time. So we are not looking at triadic constructions here, but at the position of one type of object relative to the position of another type of object in the overt syntax of a language.

In other words, since SOVO languages only exist in the group of Dutch-type languages, we predict that in those languages sentential complements will never have Case endings (or other nominal properties). Similarly, we predict that in Japanese-type languages NP complements and CP complements will always have the same distribution.

Consider the predictions following from the assumption that languages are invariably SOV, still assuming that movement is invariably leftward.

For Japanese-type languages, again two surface orders are expected, depending on the amount of verb movement relative to the amount of NP/CP movement: SOV and SVO.

For Dutch-type languages, SOV, SVO, and SOVO (where the first O is the NP object and the second O is the CP object) are predicted as under the basic SVO hypothesis. But in addition, the following phenomenon is predicted. If no verb movement occurs, and NP-movement does occur, we expect an OOV order, where the first O indicates the position of an NP object and the second O the position of a sentential object. In other words, it is expected that NP-objects and CP-objects will occur in different positions, even though both are preceding the verb. This could be brought to light, for example, by considering the position of adverbial material and the like.

At this point I do not have sufficient material to test these predictions. For example, since Dutch has short V-movement in embedded clauses, and NP-movement to Spec,AgrO, the NP V CP order is always derived. So, the additional word order predicted by the basic SOV hypothesis is not expected in Dutch, because this order is only expected if the verb does not move at all. Therefore, more languages have to be considered in detail.

Another issue of interest is the issue of word order correlations (Greenberg 1963, Dryer 1992). If all languages are basically SVO, the surface order of complement-head must be derived by movement. The question rises why there should be a correlation between movement in a sentence, yielding OV order, and movement inside a PP yielding NP-P order (as expressed in Greenberg's generalization that OV languages tend to be postpositional)?

A possible answer to this question would be to assume, with Chomsky (1992), that the category AGR is one and the same throughout a language, even though there maybe many instantiations of AGR (AgrS, AgrO, and possibly and Agr inside PP as well). By consequence, if a feature of AGR is strong in a language, that will

trigger overt NP-movement to Spec,AGR in all categories having an Agr projection.

This again raises the question of how deviations from the general pattern should be accounted for. I will not go into that question here, except for noting that additional movements may always disturb a pattern.

Questions of typology have not been delt with successfully within the framework of generative grammar thus far. I submit that the recent work by Chomsky and Kayne which inspired this article broadens the scope of the theory of generative grammar so as to include research on typological issues. If surface orders are derived by a minimal set of movement operations, the question rises why the actually attested word orders are not the result of a random application of these operations. In other words, the work done in typology suggests that there is some structure to the occurrence of overt movement, and studying word order correlations may very well enhance our knowledge of the morphological licensing requirements triggering overt and covert movement.

4. Conclusion

In this paper I have argued that in the syntax of Dutch both the lexical projections and the functional projections are head initial. The SVO order of Dutch main clauses is derived from an 'underlying' SOV order, visible in the embedded clauses. However, this order is derived from an underlying SVO order in the Dutch VP, still visible when the object is not an NP but a CP.

In accordance with the Minimalist Program, I argued that object NPs move to the specifier position of AgrOP in the overt syntax of Dutch. In Dutch, CPs lack the morphological features triggering this movement. Therefore, clausal complements have to remain *in situ*, by economy of derivation. Possibly, CPs may have the same morphological features as NPs in other languages. If these languages have overt NP-movement like Dutch, a strict SOV language results.

I have also argued that Small Clause predicates must be licensed in the specifier position of a functional projection, PredP, and that in Dutch the movement of the Small Clause predicate to this licensing position is overt. Assuming that the verb undergoes short movement to the head of the PredP, the adjacency of the Small Clause predicate

and the verb is explained, as well as the non-adjacency of the verb and the clausal complement.

Finally, I have discussed evidence for the presence of functional heads to the right of the VP in Dutch. On closer scrutiny, such evidence was found to be completely absent. This again supports Kayne's observation that movement in the languages of the world is invariably leftward.

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