(*draft*)

EXTRAPOSITION AS PARALLEL CONSTRUAL*

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1. Introduction

1.1 The modern consensus about Dutch and German word order

Extraposition phenomena are traditionally accounted for by extraposition rules, possibly as instances of "move alpha". According to the more recent developments of generative grammar, such as Chomsky's minimalism (1995) and Kayne's antisymmetry theory (1994), extraposition rules are problematic and no longer permitted in any obvious sense. In this article, I will show that there are also numerous *empirical* reasons to reject extraposition rules and that extraposition is different from what it was always thought to be. More concretely, I will show that extraposition phenomena do not have the properties of "move alpha" but -- instead-- of parallel construal, as found in coordination and various other constructions.1 It is my hope that by providing such an alternative to the anomalous rules of extraposition, it will become clear that minimalism and antisymmetry theory will not only have one important problem less, but also that these recent theories lead to significant new insight with respect to long-standing empirical problems. Since most of my results have a bearing on Dutch, I will first make a few remarks about the word order of this language in general and indicate how the problem of extraposition relates to this overall picture.

The modern generative consensus about the underlying structure of Dutch and German goes back to the early 1960s, when Emmon Bach and Manfred Bierwisch conjectured that German is underlyingly SOV. This idea was adopted in my own work on Dutch (Koster 1975), which provided further evidence and which was essentially an assimilation of the SOV hypothesis to Joseph Emonds's framework of root and structure-preserving transformations (Emonds 1970). According to this development, the surface SVO structure of Dutch (and German) was derived form the underlying SOV structure by the root transformation of Verb Second. This transformation placed the verb next to an initial XP position, which could be filled by either a subject, a topic, or a Wh-phrase. The assimilation to structure-preservingness was completed by Den Besten (1977), who reformulated the root transformation Verb Second as a structure-preserving substitution, that is, as a rule that substitutes the finite verb for a tense position that is filled in subordinated clauses by tense-related complementizers (like English *that*). When Thiersch (1978) applied similar ideas to German, the SOV consensus was well under way.

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* Apart from the more recent Pied Piping hypothesis about parallel construal at the end of this article, the rest of its content was presented at various conferences and other presentations since February 1995 (Berlin). I would like to thank everybody who has contributed to the improvement of the original version of my proposals, particularly Paulien Rijkhoek and Jan-Wouter Zwart. The ideas of this article have been applied to result clauses in Rijkhoek (1998) and to relative clauses (along somewhat different lines) in De Vries (1999).

1 For an earlier discussion of the problems, see Koster (1978, 48-57), where it is concluded that extraposition phenomena are not characterized by Subjacency (p. 57).

In the second half of the 1980s, the received view led to a widely felt impasse by the proliferation of functional categories such as Infl and Agr. Following the logic of head-final Dutch and German, most students of these languages situated these categories to the right of the VP, which did not generate any insight whatsoever. The impasse was broken when Jan-Wouter Zwart of the University of Groningen successfully argued that all VP-related functional projections in Dutch and German were not to the right of the VP, but to the left, just as in English (as was earlier on conjectured by Travis 1984). This step towards head-initial Dutch and German was considerably reinforced by a theory that was independently developed at the same time, namely Kayne's general antisymmetry theory of word order (Kayne 1994).[1] According to this theory, Dutch and German *must* be underlyingly SVO (at some level of abstraction), so that not only the functional projections but also the lexical projections are head-initial with respect to their complements. A further implication of Kayne's word order theory is that so-called extraposition phenomena -widely assumed for Dutch and German- cannot be based on rightward adjunction.

The proposals made by Kayne and Zwart were further applied to Dutch by Kaan (1992) and developed in considerable detail in Zwart (1993).2 These initial studies, which preserved the "classical" SOV base as a derived structure, showed that head-initial structures not only led to a considerable simplification of the account of Dutch verb clusters, but also to various new insights. The same was not immediately obvious for German verb clusters, which are currently the natural target of a substantial research effort (see for instance Den Dikken (1996), Zwart (1993 and 1996) and Lattewitz (1998)).

Other problems concern the obligatory precedence of objects, predicative APs and particles with respect to the verb. The problem of object precedence (OV) was essentially solved on the basis of Vanden Wyngaerd's (1989) rule of Object Shift. This rule can be used to derive surface OV order (in embedded clauses) by the movement of the object to [Spec, AgrOP] for reasons of Case. The problem of the obligatory movement of the other constituents (AP, particle) was faced in Koster (1994). Recently, these approaches were further developed and led to new insights about the nature of the OV/VO distinction as it exists between Dutch (German) and English (see Koster 1999a, b and Koster & Zwart 2000).3

There is, however, yet another problem that stands in the way of a general acceptance of a head-initial account of Dutch and German word order: extraposition phenomena. As already mentioned, Kayne's word order theory excludes an account of extraposition phenomena in terms of rightward adjunction. Since Kayne's own account of extraposition as a form of stranding does not seem to work, it is fair to say that the extraposition problem is one of the biggest obstacles to the general acceptance of universal head-initial structures. In what follows, I will show that traditional extraposition rules must be rejected and that they can productively be replaced by a non-movement account that is compatible with Kayne's

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1 I do not accept antisymmetry theory *in toto* and accept Chomsky's (1995, ch. 4) criticism of Kayne's use of X-bar *notation* in the establishment of antisymmetry patterns. However, I do accept the empirical generalization that all languages are underlyingly head-initial and that all movement is to the left.

2 Zwart's conclusion that Dutch is head-initial preceded Kaan's work and was presented in Tromsø 1992, eventually published as Zwart (1994).

3 The fact that the universal head-initial hypothesis for apparent head-final languages (like Dutch, German or Japanese) would lead to rather massive leftward movement of VP constituents is sometimes held against the head-initial hypothesis. However, the studies mentioned here indicate that *all* VP-internal material must be licensed and therefore moved to the functional positions to the left of the VP. This is a nice design feature of natural language because the availability of more than one functional position for a given lexical XP considerably increases the expressive versatility of given lexical material.

antisymmetry theory and head-initial base structure.

1.2 Traditional problems of Extraposition

It is sometimes suggested that extraposition phenomena create special problems for Kayne's word order theory, or even for minimalism in general (Büring and Hartmann 1997). Before going into these alleged problems, I would like to point out that extraposition rules in the more traditional sense are themselves very problematic. Major problems concern the obligatory-optional distinction, the NP-CP distributional difference, and the interaction with verb clusters. It is therefore reasonable to say that "extraposition" is more the name of a complex of problems than the name of a successful explanatory pattern. For ease of exposition, I will illustrate the problems with data from Dutch, but in most cases the German facts are similar.

As for the obligatory-optional distinction consider the following difference between obligatory complement extraposition (1a-b) and optional so-called extraposition from NP (2a-b):

(1) a. Peter heeft gezegd [$_{CP}$ *dat hij zal komen*]
Peter has said that he will come
b. *Peter heeft [$_{CP}$ *dat hij zal komen*] gezegd

(2) a. Peter heeft [$_{NP}$ de vrouw [$_{CP}$ *die het boek schreef*]] gezien
Peter has the woman who the book wrote seen
"Peter saw the woman who wrote the book"
b. Peter heeft [$_{NP}$ de vrouw] gezien [$_{CP}$ *die het boek schreef*]

With some exceptions, failure of complement extraposition leads to ungrammaticality (1b), while extraposition from NP is by no means necessary (2a). For this reason alone, it seems unlikely that we have to do with a unitary phenomenon. To make things worse, Dutch also has the often overlooked fact of optional complement extraposition, as illustrated by (3a-b):

(3) a. Peter heeft gezegd [$_{CP}$ *dat hij zal komen*] **tijdens de pauze**
Peter has said that he will come during the break
b. Peter heeft gezegd **tijdens de pauze** [$_{CP}$ *dat hij zal komen*]

Under the traditional assumption that the adjunct *tijdens de pauze* ("during the break") is to the right of the VP, these phenomena show a second form of complement extraposition, which differs from what we see in (1) by the fact that it is optional. Optional complement extraposition is also what we find in English:

(4) a. Peter said [*that he would come*] **during the break**
b. Peter said **during the break** [*that he would come*]

A solution for optional complement extraposition was proposed in Koster (1999c) and I will not discuss it any further here.

The lack of motivation for obligatory complement extraposition sometimes led to the conclusion that extraposed complements are base-generated in the VP (Koster 1978, De Haan

1979, Hoekstra 1984). This base-hypothesis was never generally accepted because of the fact that NP complements, which can be assigned exactly the same theta-roles as CP-complements, occur on the opposite side of the verb, namely to its left:

(5) a. Peter heeft [$_{NP}$ *het*] gezegd
Peter has it said
"Peter has said it"
b. *Peter heeft gezegd [$_{NP}$ *het*]

From the point of view of uniform theta-role assignment, the base-hypothesis has the undesirable consequence that NP and CP with the same theta role are licensed on different sides of the verb.

This is only the least of the problems for the base-hypothesis. A bigger problem is that under the traditional OV-analysis of verb clusters in Dutch, we would still need obligatory CP-extraposition *after* verb cluster formation (Verb Raising (VR) in the sense of Evers 1975):

(6) a. Peter zou willen zeggen [*dat hij zal komen*]
Peter would want to say that he will come
b. Peter [[[zeggen [*dat hij zal komen*]] willen] zou]
Peter say that he will come wanted to would
c. *Peter [*dat hij zal komen*] zou willen zeggen
d. *Peter zou [*dat hij zal komen*] willen zeggen
e. *Peter zou willen [*dat hij zal komen*] zeggen

As can be observed in (6a), CP-complements appear to the right of the verb cluster. In fact, this is the only permissible position of the CP-complement, as is demonstrated in (6c-e). The underlying structure under the traditional base-hypothesis would be like (6b), with the italicized CP-complement to the right of its verbal head *zeggen* ("say"). Since obligatory extraposition would be necessary after all (to derive the correct order (6a)), we could just as well have obligatory extraposition to begin with, so that the relevant theta-roles could be uniformly assigned to a position to the left of the V.

All in all, then, traditional extraposition is little more than a collection of descriptive problems, with no explanation whatsoever for the various obligatory-optional distinctions. Contrary to what, for instance, Büring and Hartmann (1997) suggest, some of these problems have found a solution in the minimalist framework insofar as it incorporates the word order theory of Kayne (1994) and the ideas of Zwart (1993). Such theories also face some new problems, which I will address next.

1.3 Problems of extraposition in a minimalist framework

Traditional extraposition rules (also analyzed as instances of "move alpha") are incompatible with both Chomsky's minimalist framework and Kayne's word order theory. Obligatory complement extraposition is problematic in the minimalist framework because it is obligatory without an obvious strong feature (or checking configuration) to trigger the movement. Optional complement extraposition and the equally optional extraposition from NP are also problematic because the minimalist framework excludes optional movement operations in general. As was pointed out by Zwart (1993), a strong argument in favor of a head-initial

analysis of Dutch (and German) can be based on the fact that it partially solves both the traditional and the minimalist problems of extraposition. Under the VO hypothesis, both the NP and the CP can be analyzed as complements to the right of V in the underlying order [$_{VP}$ V - XP], where CP and NP are alternative realizations of XP. Starting from this base structure, the NP is obligatorily moved to the left, to [Spec, AgrOP], in the sense of the Vanden Wyngaerd hypothesis cited above. The CP, which does not stand in need of Case-licensing, can stay *in situ* (but see Koster 1999c).1 This analysis explains the difference between NP and CP distribution. By doing away with obligatory complement extraposition altogether, there is no longer a trigger problem for "move alpha" in these cases.

Surprisingly, the problem with verb clusters disappears completely under this new SVO base-hypothesis, at least for Dutch. Thus, the only order permitted in (6), namely (6a), is just the base-order:

(7) Peter [$_{VP}$ zou [$_{VP}$ willen [$_{VP}$ zeggen *dat hij zal komen*]]]
Peter would want-to say that he would come

The other order in (6) cannot be derived because there are no triggers to move CP-complements to the left, to a position within the verb cluster.

In sum, it seems to me that an important argument in favor of the SVO analysis of Dutch and German is that it largely solves the problems of obligatory CP-complement extraposition. What the new analysis does not solve, however, is the complex of problems associated with *optional* extraposition (both of complements and from NPs). The best known alternative account of optional extraposition phenomena is Kayne's stranding analysis, which will be the topic of the next section.

2. Kayne's stranding theory

2.1 Kayne's alternative for extraposition

Kayne (1984) proposes an alternative for traditional extraposition rules. This so-called stranding theory of optional extraposition concerns data like the following (Kayne's actual analysis is different, as I will indicate in a minute):

(8) a. Hij heeft [$_{NP}$ de vrouw]$_i$ gezien [$_{NP}$ [$_{NP}$ t_i] [$_{CP}$ die het boek geschreven heeft]]
he has the woman seen who the book written has
b. Hij heeft [$_{NP}$ [$_{NP}$ de vrouw][$_{CP}$ die het boek geschreven heeft]] gezien

According to the traditional extraposition hypothesis, (8b) represents the underlying structure, while (8a) shows the order derived by extraposing the CP-complement from the NP. According to the alternative analysis, both structures could be derived from the following

1 In Koster (1999c), it is argued that CP complements of verbs are *never* in complement position but always specify an (usually empty) NP in object position, which is obligatorily licensed in a case position like the Spec of AgrOP. This hypothesis preserves the idea that *all* VP-internal material is obligatorily licensed in some functional position and at the same time it solves several facts indicating that CP complements are not in what used to be called their base position. I assume that all so-called CP complements are in fact parallel specifications of the actual complements, namely NPs (or DPs).

underlying pattern:

(9) Hij heeft gezien [$_{NP}$ [$_{NP}$ de vrouw][$_{CP}$ die het boek geschreven heeft]]
he has seen the woman who the book written has

Subsequently, one can either move the whole NP to the left (resulting in (8b)) or only the head NP of the relative clause (resulting in (8a)). In the latter case, we would derive the "extraposition" pattern by stranding the CP.

Actually, Kayne's hypothesis involves slightly more complex structures, in which the NP is raised from the relative clause to a position next to the D-head of a dominating VP (see also Bianchi 1999 for the most elaborate account):

(10) He has seen [$_{DP}$ the [$_{CP}$ woman$_i$ [$_{C'}$ who$_i$ [$_{IP}$ Bill mentioned t_i]]]]

On the basis of the serious problems pointed out by Kaan (1992), and Büring and Hartmann (1997), it seems unlikely that this hypothesis will survive in unmodified form. I will summarize the problems and develop an alternative that seems to solve them.

2.2 Problems with Kayne's stranding analysis

The problems with the stranding hypothesis can be summarized as follows and will be discussed in turn:

(11) **Problems with Kayne's stranding analysis**

a. def article + head (*the woman* in (10)) is not a constituent
b. no solution for optional complement extraposition
c. no repeated stranding at middlefield
d. extraposition from subjects
e. CP extraposition from PPs
f. VP-preposing (Kaan 1992)

Consider Kayne's derived structure (10) for relative clauses with definite head (indicated by the article *the*) once more (repeated as (12)):

(12) He has seen [$_{DP}$ the [$_{CP}$ woman$_i$ [$_{C'}$ who$_i$ [$_{IP}$ Bill mentioned t_i]]]]

This structure is very problematic because the article *the* and the raised head of the relative clause (*woman*) do not form a constituent. This makes it impossible to derive structures in which *the woman* (usually seen as a DP) is separated from the relative clause by leftward movement of the DP. However, even in English such separations are possible according to many speakers:

(13) He has seen *the woman*, yesterday, *who Bill mentioned*

Although speakers of English and Romance sometimes show a preference for indefinite NPs in such contexts, "separated" definite DPs are completely normal in Dutch:

(14) Hij heeft *de vrouw* gezien *die Wim genoemd had*
he has the woman seen who Bill mentioned had

If we apply Kayne's analysis to Dutch in unmodified form, this sentence could not be derived by moving *de vrouw* ("the woman") and stranding the relative clause, since *de* and *vrouw* would not be a constituent. I therefore conclude that optional extraposition of relative clauses cannot be accounted for on the basis of a structure like (10).

But a structure like (9) would not lead to the desired result either. Recall that the second problem (11b), optional complement extraposition, involves examples like the following ((3) above, repeated here as (15)):

(15) a. Peter heeft gezegd [$_{CP}$ *dat hij zal komen*] **gisteren**
Peter has said that he will come yesterday
b. Peter heeft gezegd **gisteren** [$_{CP}$ *dat hij zal komen*]

Since *gisteren* ("yesterday") is VP-external material, only (15a) can be a possible base structure (if we follow Chomsky's (1986) complement-adjacency condition). According to Kayne's theory, it is impossible to derive the extraposed variant (15b) from (15a) by rightward adjunction. There is, however, no obvious way to analyze (15b) as an instance of stranding. One could, of course, derive (15b) from the equally grammatical (16a), by moving the verb to the left (across the adjunct *gisteren* ("yesterday")), as in (16b):

(16) a. Peter heeft **gisteren** gezegd [$_{CP}$ *dat hij zal komen*]
b. Peter heeft [gezegd]$_i$ **gisteren** [$_V$ t$_i$] [$_{CP}$ *dat hij zal komen*]

Such an analysis would be completely *ad hoc* and have no trigger. Moreover, the movement in question would be optional, which goes against standard minimalist assumptions. I therefore reject verb movement and see no way to derive (15b) by some plausible form of stranding (see Koster 1999c for a proposal about optional complement extraposition).

There are other facts which make the stranding analysis of extraposition implausible. According to a minimally adequate version of the stranding analysis, the "separation" is brought about by extracting the head of the relative clause (17a) instead of moving the entire combination head plus relative clause as in (17b):

(17) a. Hij heeft [$_{NP}$ de vrouw]$_i$ gezien [$_{NP}$ [$_{NP}$ *t*$_i$] [$_{CP}$ die het boek geschreven heeft]]
he has the woman seen who the book written has
b. Hij heeft [$_{NP}$ [$_{NP}$ de vrouw][$_{CP}$ die het boek geschreven heeft]] gezien
he has the woman who the book written has seen

This analysis does not even have initial plausibility because the source structure (18a) is ungrammatical for a familiar reason:

(18) *Hij heeft gezien [$_{NP}$ [$_{NP}$ de vrouw][$_{CP}$ die het boek geschreven heeft]]
he has seen the woman who the book written has

This structure is ungrammatical because in a an SOV language like Dutch, NP objects do not in general follow the verb. However, after extraction of the head of the relative clause, the

postverbal structure (in (17a)) still shows the forbidden sequence *V-NP. In fact, stranding of material is always impossible in postverbal position in Dutch, even from PPs, which, unlike NPs, are possible in postverbal position in Dutch:

(19) a. Hij heeft gewerkt [$_{PP}$ er mee]
he has worked there with
"He worked with it"
b. *_Waar_ heeft hij gewerkt [$_{PP}$ _t_ mee]?
where has he worked with

Since this ban on the stranding of material in postverbal position is entirely general in Dutch, the stranding analysis of optional extraposition is without initial plausibility.

Büring and Hartmann (1997) have rightly pointed out that if one has a choice (as shown in (17)) between moving either the relative clause with its head (17b) or only the head (17a), it becomes a mystery why this option is no longer available after movement to the so-called middlefield (roughly the stretch between I and V in German and Dutch) has taken place (as in (17b)). In fact, in all contexts in which head plus relative clause legitimately occur together, the head can *never* be extracted:

(20) a. *[De vrouw]$_i$ heeft hij [t_i [die het boek geschreven heeft]] gezien
the woman has he who the book written has seen
b. *[De vrouw]$_i$ werd [t_i [die het boek geschreven heeft]] gezien
the woman was who the book written has seen

NPs can be topicalized in Dutch, but not when they are the head of a relative clause (as in (20a)). Nor can the head of a relative clause undergo NP movement in passive (20b). All of these facts seriously undermine the stranding hypothesis.

Another problematic fact discussed by Büring and Hartmann (1997) is the possibility of having optional extraposition from subjects (illustrated here with a Dutch example):

(21) [Een vrouw]$_i$ heeft het boek geschreven [t_i [die alles wist]]
A woman has the book written who everything knew

In the case of optional extraposition from object NPs, we could at least say that the source (18) contains the combination head plus relative clause as its object in a legitimate position, namely the complement position (O in VO) to the right of the verb. The source structure of (21), however, would have the head plus its relative clause to the right of the VP as a *subject* position. This is not a known subject position in Dutch nor even in Universal Grammar according to Kayne's own (1994) assumptions. In short, optional extraposition from subjects is another serious problem for the stranding analysis.

There are also facts that count against both the traditional extraposition analysis and Kayne's alternative, as was pointed out by Kaan (1992) (and, in part at least, also in Koster 1978, 48-57).

First, consider "extraposition" from NPs with PPs. The following sentence is entirely grammatical in Dutch:

(22) Hij heeft [$_{pp}$ met [$_{NP}$ *de vrouw*]] gesproken [[$_{NP}$ *t*] [die alles wist]]
he has with the woman talked who everything knew

This kind of fact contradicts the stranding analysis, because it would entail movement of the NP *de vrouw* ("the woman") to a non-c-commanding position (inside of the PP). There are no other known examples of movement of an NP (DP) into a PP, particularly not if the landing site is a theta-position (as in (22)).

It is important to bear in mind that (22) also is a serious counterexample to the traditional extraposition analysis, because, apart from some unique and exceptional configurations, PPs are very strong islands in Dutch (see Van Riemsdijk 1978 and Koster 1978, 1987). In fact, the NP head of the relative clause can be arbitrarily deeply embedded in Dutch (Koster 1978, 47-58):

(23) Hij heeft [$_{PP}$ met [$_{NP}$ de moeder [$_{PP}$ van [$_{NP}$ *de vrouw*]]]] gesproken [[$_{NP}$ *t*] [die alles wist]]
he has with the mother of the woman talked who all knew
"He talked with the mother of the woman who knew everything"

It is just impossible to derive a structure like (23) by any known kind of movement analysis, stranding, extraposition, or whatever: movement of the head would be "lowering" and always violate the principle of c-commanding landing sites, while movement of the relative clause would always violate the known locality principles on movement. In short, (23) is the strongest possible indication so far that optional extraposition does not involve movement at all.

Further evidence for the non-movement character of extraposition comes from the VP-preposing facts of Dutch. As pointed out by Den Besten and Webelhuth (1990), it is possible to prepose a VP in Dutch *or* whatever is left of it after scrambling (leftward Object Shift) (actually not a VP but a more inclusive constituent):

(23) a. [$_{VP}$ Hem het boek gegeven] hebben wij [$_{VP}$]
him the book given have we
b. [$_{VP}$ Het boek gegeven] hebben wij *hem* [$_{VP}$]
c. [$_{VP}$ Gegeven] hebben wij *hem het boek* [$_{VP}$]

In (23a), both the indirect and direct object are moved along with the VP. In (23b), the indirect object *hem* ("him") is scrambled out of the VP and its remnant (which includes the direct object *het boek* ("the book")) can still be preposed. In (23c), both indirect object and direct object have been extracted, so that only the bare minimum of the VP (which only includes its verbal head) is preposed.

As is to be expected, clausal complements can also be moved along under VP movement:

(24) a. Hij heeft niet [$_{VP}$ betreurd [dat zij zal komen]]
he has not regretted that she will come
"He did not regret that she will come"
b. [$_{VP}$ Betreurd [dat zij zal komen]] heeft hij niet

If such examples involve VP-preposing, they show that extraposed complements are part of the VP. Interestingly, the complement can also appear at the end of the VP:

(25) $[_{VP}$ Betreurd t_i] heeft hij niet [dat zij zal komen]$_i$

Usually it was assumed that (25) involves extraposition *after* VP-proposing, which would, by the way, be another instance of optional complement extraposition. However, extraposition is not allowed in a Kaynean framework. Unless CPs are scrambled to the left in Dutch, there would be only one possibility left, namely moving the verb (in (25)) without the CP complement. Another form of stranding, in other words.

However, there is plenty of evidence that the rule in question in Dutch does not affect the V but a larger constituent, which also involves the complements of the V. In general, VP-internal constituents can *only* be stranded if there is an independent process, such as scrambling, which separates these constituents from the VP. APs, for instance, can often not be scrambled away from the VP (or rather the PredP, according to the analysis of Koster 1994 and 1999a):

(26) a. Hij is niet vaak ziek geweest
he is not often sick been
"He was not often sick"
b. *Hij is *ziek* niet vaak *t* geweest

Since scrambling is not possible, we predict that the AP cannot be stranded under VP-preposing:

(27) a. $[_{VP}$ ziek geweest] is hij niet zo vaak
sick been is he not so often
b. *$[_{VP}$ *t* geweest] is hij niet zo vaak *ziek*

It is simply not true that in general the verb can be preposed independently of its complements. It is only possible to move the whole VP (or PredP or AgrOP), which creates an optical illusion of V-movement only if the complements have been moved out of the VP by independent processes like (leftward) scrambling or (rightward) extraposition.

Examples like (25) are not decisive counter-evidence against a Kaynean stranding analysis, because the verb in question, *betreuren* ("regret") is a factive verb and factives do allow scrambling in Dutch:

(28) Hij heeft $[_{CP}$ dat zij zal komen] altijd betreurd
he has that she will come always regretted

In other words, since (25) might involve leftward scrambling of the CP out of the VP, it might be VP-preposing after all in a Kaynean analysis, completely analogous to what we saw for scrambling of NPs and VP-preposing in (23).

There is a variant of sentences like (24a), however, which does provide decisive evidence against a stranding analysis (and also against classical extraposition). Many factive verbs in Dutch can have an optional object *het* ("it") preceding the CP complement (see verbs like *resent* with similar possibilities in English as shown by Kiparsky and Kiparsky 1970):

(29) Hij heeft *het* $[_{VP}$ betreurd [dat zij zal komen]]
he has it regretted that she will come
"He regretted that she will come"

As soon as this extra *het* appears, the CP can no longer be scrambled:

(30) *Hij heeft het [dat zij zal komen]$_i$ betreurd t_i
he has it that she will come regretted

Scrambling is not possible in any other order either: as soon as *het* is present, the CP has to stay in its post-verbal position. Unlike what we see for the relative clause and its head, the word *het* and the complement cannot form a constituent either, but otherwise the properties of this construction lead to the same issues as relative clause extraposition.

The range of possibilities for VP-preposing for this construction is very interesting:

(31) a. [$_{VP}$ *het* betreurd *dat zij komt*] heeft hij niet
it regretted that she comes has he not
b. [$_{VP}$ *het* betreurd] heeft hij niet *dat zij komt*
it regretted has he not that she comes
c. [$_{VP}$ betreurd] heeft hij *het* niet *dat zij komt*
regretted has he it not that she comes
d. *[$_{VP}$ betreurd *dat zij komt*] heeft hij *het* niet
regretted that she comes has he it not

All variants are grammatical, except the last one (31d). For (31a), ignoring its many problems for a minute, a Kaynean analysis could assume a stranding analysis (leftward movement of *het* and stranding of the clause *dat zij komt*). For (31b) and (31c), however, there is no obvious stranding analysis available. As we concluded above, stranding of VP-material under VP-preposing is only possible if the stranded material was moved out of the VP. However, rightward extraposition is not a Kaynean option and scrambling is also impossible here because of the presence of *het* ("it"). This makes (31b) and (31c) strong counterexamples to a stranding analysis of extraposition.

The last example (31d) is unexpected both under a stranding analysis and under an analysis involving classical extraposition. Whether *het* has been separated from *dat zij komt* by stranding or by extraposition, in both cases *het* could be further scrambled out of the VP and one would expect the possibility of preposing the remnant VP, as in the Den Besten-Webelhuth examples (23).

We find very similar facts for relative clauses:

(32) a. Hij heeft [de vrouw]$_i$ [$_{VP}$ betreurd [[t_i] [die alles wist]]]
he has the woman regretted who everything knew
"He pitied the woman who knew everything"
b. *[$_{VP}$ Betreurd [t_i [die alles wist]]] heeft hij *de vrouw*$_i$ [$_{VP}$] niet
regretted who everything knew has he the woman not
c. [$_{VP}$ *de vrouw* betreurd [*die alles wist*]] heeft hij niet [$_{VP}$]
the woman regretted who everything knew has he not

Particularly example (32b) seems to show the same pattern as (31d): a VP with extraposed material cannot be preposed, unless it also contains the NP construed with the extraposed material (*het* in (31d), *de vrouw* in (32b)). Following earlier observations along these lines by Baltin (1978, 1981), Guéron (1980) and Reinhart (1980), Kaan (1992) has pointed out that a

generalization can be made which I will refer to as Kaan's generalization (see also Rochemont and Culicover 1990, 36). In my own formulation, it comes down to the following (where *source* stands for NPs "split off" by the extraposition operation):

(33) **Kaan's generalization**
VPs with optionally extraposed elements are syntactically inert unless they contain the source of the extraposition as well

As pointed out by Kaan, this generalization also applies when PPs are extraposed from NPs (DPs):

(34) a. Ik heb [*een man uit India*] gezien
I have a man from India seen
b. Ik heb [*een man t*] gezien *uit India*
I have a man seen from India
c. *[$_{VP}$ Gezien *uit India*]$_i$ heb ik [*een man t*] [$_{VP}$]$_i$
seen from India have I a man

In (34c), the source of the PP extraposition (*een man*) has been scrambled out of the VP, which makes it impossible to prepose the VP. This kind of example cannot be explained by assuming that the extraposed PP is no longer part of the VP, because if the source is moved along with the VP, the extraposed material does not cause any problem:

(35) [$_{VP}$ *Een man* gezien *uit India*]$_i$ heb ik niet [$_{VP}$]$_i$
a man seen from India have I not

Kaan's generalization is unexplained and unexpected, both under the assumptions of traditional extraposition and under Kayne's alternative stranding analysis.

So far, then, we must conclude that extraposition is highly problematic, both from the point of view of the classical analysis as from the point of view of Kayne's alternative.

3. A return to classical extraposition?

Since Kayne's stranding analysis does not seem to work for extraposition phenomena in Dutch and German, Büring and Hartmann (1997) have proposed not only to return to classical extraposition but to reject Kayne's antisymmetry theory in general. This reaction is ill-advised, because Kayne's particular analysis of extraposition is not crucial for his theory in general and, as I implicitly indicated above, I consider classical extraposition rules beyond repair as well. The problems with classical extraposition rules can be summarized as follows:

(36) **Problems of classical extraposition**

Theoretical problems:

a. incompatible with minimalism
b. incompatible with Kayne's antisymmetry theory

Empirical problems:

a. obligatory with V-clusters (if Dutch and German are OV)
b. meets Right Roof Constraint (rather than Subjacency)
c. source can be deeply embedded in NPs and PPs
d. islandhood (CNPC) of (some) extraposed clauses
e. VP-preposing (Kaan's generalization)

3.1 Theoretical problems

From the point of view of most current theoretical frameworks, "extraposition" is not the name of a type of explanation but of a cluster of research problems. It is a residue of earlier theories of transformational grammars, which had no ban on rightward movement or on triggerless free rightward adjunction.

According to Chomsky's minimalism (1995), movement rules are obligatory and serve the purpose of feature checking. Many extraposition rules are optional and therefore immediately problematic from this point of view. Moreover, it has never been made clear what feature checking would be involved in extraposition. Büring and Hartmann (1997) claim that extraposition is triggered by the alleged fact that *finite* sentences may not be governed by V^0 or I^0. Under the unmotivated *ad hoc* assumption that in German (or Dutch) Vs only govern to the left, a CP complement has to be moved out the forbidden configuration CP-V.

This kind of account is not only a restatement of the problem, it also is empirically inadequate, because *non-finite* clauses introduced by the complementizer *om* ("for") cannot be to the left of a V either in Dutch:

(37) a. Hij heeft geprobeerd [om het boek te lezen]
he has tried C the book to read
"He has tried to read the book"
b. *Hij heeft [om het boek te lezen] geprobeerd
c. *Hij heeft [om het boek --] geprobeerd te lezen

Unlike other infinitival complements to the left of the matrix V (according to pre-minimalist analyses), the verbs of infinitival clauses introduced by *om*, cannot undergo V-raising, as shown by (37c). The only option for these complements would be obligatory extraposition, as shown by (37a-b). Since the complements in question are non-finite, extraposition cannot be forced upon them via a general ban on government from above (an *ad hoc* idea anyway).

In short, classical extraposition is not a possible rule in the minimalist framework as long as no solution is found for the optional-obligatory dichotomy and for the feature checking problem.

Naturally, classical extraposition rules are also excluded in Kayne's antisymmetry framework, because the latter only allows leftward movement.

As a matter of fact, extraposition rules are problematic from almost any theoretical perspective as developed in generative grammar over the past 20 years or so. Unlike NP-movement and Wh-movement (and their many instantiations), for instance, extraposition was never plausibly formulated as a structure-preserving rule. For this and other reasons, it also is an impossible rule from the point of view of the theory of the Configurational Matrix as developed in Koster (1987) and (1999a).

In short, classical extraposition rules are no longer an option according to various current theories of generative grammar.

3.2 Empirical problems

Given the fact that classical extraposition rules are not possible from the point of view of the major current theories of Universal Grammar, it is only reassuring to see that such rules (or illegitimate instantiations of "move alpha") also lead to insurmountable empirical problems, both with and without the traditional OV analysis of Dutch and German. One problem we already considered (in connection with OV-structure; see (6)) is the fact that extraposition would have to be obligatorily repeated with verb clusters in order to place the complement in the only permitted position, namely at the very end of the verb cluster. Büring and Hartmann's ban on V-governed clauses could not come to the rescue here because, after applying extraposition once, it would no longer be governed according to their assumptions, so that obligatory extraposition would stop.

Extraposition of the complement from the most deeply embedded VP all the way up to the right periphery of the root clause (at the end of the verb cluster) would not only be unmotivated but possibly also involve the passing of clause boundaries. There is strong evidence, however, that extraposition is strictly clause-bound. In traditional terminology, it obeys the Right Roof Constraint:

(38) a. *[$_{CP}$ Dat hij [$_{NP}$ de vrouw t_i] kent] is duidelijk [*die alles weet*]$_i$
that he the woman knows is clear who everything knows
b. [$_{CP}$ Dat hij [$_{NP}$ de vrouw t_i] kent [*die alles weet*]$_i$] is duidelijk

Only (38b) is grammatical because, contrary to what we see in (38a), the extraposed clause stays in the minimal CP containing it. This strictly clause-bound character of extraposition is not a property of movement rules. Wh-elements, for instance, can easily be extracted from clauses (39a), even if the Spec of the embedded CP contains another Wh-element:

(39) a. [Welk boek]$_i$ is duidelijk [$_{CP}$ dat hij t_i gelezen heeft]
which book is clear that he read has
"Which book is it clear that he read?"
b. [Welk boek]$_i$ is duidelijk [$_{CP}$ welke jongen$_j$ t_j t_i gelezen heeft]
which book is clear which boy read has

Although one might argue that normal, leftward movement is also clause-bound *in the unmarked case*, we never find such sharp ungrammaticality as when extraposition violates the Right Roof Constraint (as in (38a)).

On the other hand, with the exceptions for PPs studied by Van Riemsdijk (1978), both PPs and NPs are very strong islands for movement in Dutch:

(40) **Welke vrouw*$_i$ heb je [$_{PP}$ met [$_{NP}$ de moeder [$_{PP}$ van t_i]]] gesproken?
which woman have you with the mother of talked

These structures precisely show the multiple-island contexts from which extraposition is fine, as we saw in (23), repeated here for convenience:

(41) Hij heeft [$_{PP}$ met [$_{NP}$ de moeder [$_{PP}$ van [$_{NP}$ *de vrouw*]]]] gesprokenen [[$_{NP}$ *t*] [die alles wist]]
he has with the mother of the woman talked who all knew
"He talked with the mother of the woman who knew everything"

We can only conclude the obvious, namely that extraposition does not have the standard properties of movement (as was also concluded in Koster 1978, 48-57).

Another class of unsolved problems for the traditional extraposition analysis is formed by so-called freezing phenomena:

(42) a. **Welk boek*$_i$ heeft hij [[$_{NP}$ de vrouw] die t_i geschreven had] ontmoet?
which book has he the woman who written had met
b. **Welk boek*$_i$ heeft hij de vrouw ontmoet [$_{CP}$ die t_i geschreven had]

Sentence (42a) was originally accounted for by Ross's Complex NP Constraint (Ross 1967) and later on by Subjacency (Chomsky 1973). However, extraposition (as in (42b), although destroying the context for Subjacency, still shows the same island phenomena. One could give such problems a name, such as the Freezing Principle, a really adequate theory would account for (42a) and (42b) in exactly the same way.

A last and formidable problem for traditional extraposition rules can be found in what we called Kaan's generalization, the fact that VPs become inert after optional extraposition of CP or PP (see (34), repeated here as (43)):

(43) a. Ik heb [*een man uit India*] gezien
I have a man from India seen
b. Ik heb [*een man t*] gezien *uit India*
I have a man seen from India
c. *[$_{VP}$ Gezien *uit India*]$_i$ heb ik [*een man t*] [$_{VP}$]$_i$
seen from India have I a man

As far as I know, this kind of fact has remained completely unexplained under traditional assumptions.

3.4 Preliminary conclusion

All in all, then, I conclude that traditional extraposition is just as problematic as the more recent, Kaynean alternatives to it. As for Kaan's generalization, extraposition appears to behave as certain forms of coordination:

(44) a. Zij heeft Jan *en Peter* gezien
she has John and Peter seen
b. Zij heeft Jan gezien *en Peter*

With two coordinated NPs in Dutch (44a), the second can optionally appear to the right of the verb (44b). This form of coordination, which cannot be accounted for by rightward

movement, shows exactly the behavior of VPs with extraposed elements under Kaan's generalization as demonstrated in (43):

(45) a. Zij heeft *Jan* gezien *en Peter*
she has John seen and Peter
b. *[VP Gezien *en Peter*] heeft zij *Jan*
seen and Peter has she Jan

These facts suggest a fresh approach to extraposition phenomena which accounts for the fact that extraposition does not have the properties of movement but properties similar to certain forms of coordination.

4. Parallel construal

4.1 Introduction: parallel conjuncts

In general, I will assume, phrase structure takes two forms: primary phrase structure and parallel structure. Formally speaking, both are the same, namely consisting of a Spec, a head and a complement. The difference is in the way things are licensed. Primary phrase structure has a functional part and a lexical part embedded in it. All lexical elements must be licensed in some functional position to their left, a consequence of universal head-initial structure (Kayne 1994).

The elements of parallel structure are not directly licensed in this way, but at the most indirectly, by linking them to elements of the primary phrase structure. Traditionally, coordination has been seen as a form of such parallel structure but I will argue in this article that parallel structure is a much broader phenomenon, also encompassing extraposition phenomena. Parallel construal, independently necessary for coordination, appears to be the solution for extraposition phenomena and to be free of the problems we discussed for both the traditional rightward movement analysis and Kaynean stranding alternatives.

Consider a simple case of coordination in Dutch, along the lines of (45a):

(46) Zij heeft *Marie* gezien *en mij*
She has Mary seen and me
"She saw Mary and me"

The coordinated part *en mij* is in parallel construction with *Marie.* I will call *Marie* the target and *mij* the parallel extension. Object Shift has placed *Marie* in a Case-checking position to the left of the verb (from its underlying position to the right of the verb). The accusative Case of *mij*, the parallel extension, is not in a direct checking relation, like *Marie*, but only indirectly, by its linking to *Marie.* In the simplest cases, target and parallel extension are adjacent:

(47) Zij heeft *Marie en mij* gezien
she has Mary and me seen
"She has seen Mary and me"

It does not seem to be possible to derive (46) from (47) by a rule of rightward conjunct

extraposition. Apart from the theoretical objection against rightward movement, it is generally impossible to move parts of a coordinate structure separately. Thus, *Marie* cannot be topicalized in (47) and leave *mij* behind:

(48) **Marie* heeft zij *en mij* gezien
Mary has she and me seen

Following the pattern of Ross's Coordinate Structure Constraint, the two conjuncts cannot be separated by movement.

Another argument against conjunct extraposition is the complications it would lead to for agreement. Thus, two coordinated NPs require a plural suffix (*-en*) on the verb:

(49) *Jan en Peter* ging*en* weg
Jan and Peter went away

However, with the second conjunct to the right of the verb, the singular form of the verb is required:

(50) a. *Jan* ging weg *en Peter*
John went away and Peter
b. **Jan* ging*en* weg *en Peter*

If extraposition is a movement rule, it would leave a trace behind. In general, this trace, coding the pre-movement situation, determines agreement:

(51) *Who*$_i$ do you think t_i know(s) Mary?

Whether the verb *know* shows the singular or the plural form depends on the number of *who*, therefore on the pre-movement situation or the trace. If the same would hold for (49) and (50), we would expect (50b) rather than (50a), since the pre-movement structure (49) would indicate a plural verb ending.

All in all, then, I conclude that coordinate structures like (46) cannot be derived by a movement rule of conjunct extraposition.

4.2 The properties of singular parallel construal (SPC)

4.2.1 NP conjuncts

Although Gapping is a form of parallel construal, it does not have the same properties as the addition of parallel conjuncts discussed in the preceding paragraph. I will give an example of the difference later on. Gapping usually involves more than one constituent ("remnant") in the incomplete parallel clause. The kind of parallel construal discussed here involves only one parallel constituent added to the primary structure. I will refer to this form of parallel construal as singular parallel construal (SPC).

I will now illustrate the properties of two different forms of SPC and show that it has exactly the right properties to account for optional extraposition. Standard coordination involves two constituents of the same type. Thus, an NP can only be coordinated with an NP,

etc. If we assume the structure for coordination as proposed by Kayne (1994), the first conjunct is in the Spec position and the second conjunct in the complement position of a head like *and*:

(52) [NP [and NP]]

We could say that the first NP checks the features of *and* (or [*and* NP]), expressing the fact that an XP of given type in the complement position requires an XP of the same type in the Spec position. Usually, the whole parallel structure has the categorial status of the Spec. Thus, the whole structure (52) is an NP.

The most remarkable property of SPC is that the checking can be done by a more inclusive phrase, for instance by a VP or AgrOP containing the NP. Example (53a) illustrates the simplest case (checking by an NP), while (53b) illustrates the slightly more elaborate case in which an AgrOP containing an NP fulfils the checking role:

(53) a. Hij heeft [[$_{NP}$ *Jan*] [en [$_{NP}$ *Marie*]]] gezien
he has John and Mary seen
"He saw John and Mary"

b. Hij heeft [$_{AgrOP}$ [$_{AgrOP}$ [$_{NP}$ *Jan*] [AgrO [$_{VP}$ gezien]]] [en [$_{NP}$ *Marie*]]]
He has John seen and Mary

The structure (or its head features) that must be checked is the same in both cases, namely [en [$_{NP}$ Marie]]. But whereas in (53a) the checking is done by a simple NP, the target NP in (53b) is embedded in a more inclusive phrase, namely the AgrOP that has this NP in its Spec (for Case checking).

Embedding of a checking phrase in a more inclusive phrase is a very common phenomenon in grammar and in other contexts known as Pied Piping. Thus, the Wh-features of a head can be checked by a simple Wh-phrase (the NP of (4a)), but it can also be embedded in a more inclusive phrase (the PP of (54b)):

(54) a. [$_{CP}$ [$_{NP}$ *who*]$_i$ [[+wh] [did [you talk with t_i]]]]

b. [$_{CP}$ [$_{PP}$ with [$_{NP}$ *whom*]]$_i$ [[+wh] [did [you talk t_i]]]]

In general, I would like to argue that Pied Piping is a much more common phenomenon than so far realized and that (53b) is an instance of it.

As in all cases of Pied Piping, upward percolation is not unlimited. In the case of SPC, the minimal CP is the limit, which accounts for the Right Roof Constraint on SPC:

(55) *[$_{CP}$ dat hij *Jan* gezien heeft] is duidelijk *en Marie*
that he John seen has is clear and Mary

In this case, the checking phrase (*Jan*) is embedded in a subject clause CP that does not contain the elements to be checked (*en Marie*). Clearly, extension of checking phrase by Pied Piping does not go beyond clause boundaries.

However, within the minimal CP all constituents can be used for extension of the checking phrase. In (56), for instance, the subject (*Jan*) is the checking phrase and, through Pied Piping, it can be extended to the whole IP containing it:

(56) Ik denk [$_{CP}$ dat [[$_{IP}$ *Jan* weg ging] [en *Marie*]]]
I think that John away went and Mary
"I think that John and Mary went away"

Crucially, the checking phrase can also be embedded in stacked NPs and PPs:

(57) Ik heb [[$_{PP}$ met *Jan*] gesproken] [en *Marie*]]
I have with John talked and Mary
"I talked with John and Mary"

The PP does not block the extension to a more inclusive checking phrase because the procedure remains within the boundaries of the minimal CP.

In this respect, SPC is not as strictly local as Gapping, which is also CP-bound and never allows antecedents embedded in another phrase:

(58) *Ik heb [$_{PP}$ met *Jan*] gesproken en jij *Marie*
I have with John talked and you Mary

Gapping follows a Major Constituent Constraint, which means that an antecedent cannot be embedded in a lexical projection (see Neijt 1979 and Hankamer 1971). A sentence like (58) can be made grammatical by placing *Marie* in a PP, so that full parallelism is restored:

(59) Ik heb [$_{PP}$ met *Jan*] gesproken en jij [$_{PP}$ met *Marie*]
I have with John talked and you with Mary
"I talked with John and you with Mary"

I will not discuss this interesting difference with SPC any further here and instead limit myself to the other properties of SPC, the form of construal relevant for extraposition phenomena.

All forms of parallel construal have the properties of Ross's Coordinate Structure Constraint, which I therefore consider a constraint not just on coordination but on parallel construal in general. Thus, both the parallel constituents and their content are syntactically inert. The first conjunct cannot be moved without the second:

(60) **Jan* heb ik [*t* en *Marie*] gezien
John have I and Mary seen

The following sentence is possible but by no means a counterexample to the claim that SPC has to meet the Coordinate Structure Constraint:

(61) *Jan* heb ik *t* gezien en *Marie*
John have I seen and Mary

This sentence involves topicalization (leftward movement of *Jan*), but it does not violate the Coordinate Structure Constraint because the checking phrase *Jan* has an extension up to its minimal CP, which is coordinated with the NP *Marie*:

(62) [[$_{CP}$ *Jan* heb ik *t* gezien] [en [*Marie*]]]

In this case, the whole CP is in the Spec of [en [*Marie*]].

As in other cases of the Coordinate Structure Constraint, both conjuncts are islands for their subconstituents. Relevant examples are not easy to construct in Dutch, but under certain conditions, an NP can be coordinated with a CP. In those cases, the second conjunct, the CP, is a strong island, as expected:

(63) a. Zij heeft zijn vertrek bevestigd en dat zij het boek geschreven heeft
she has his departure confirmed and that she the book written has
"She has confirmed his departure and that she wrote the book"

b. **Welk boek* heeft zij zijn vertrek bevestigd en dat zij *t* geschreven heeft
which book has she his departure confirmed and that she written has

Last but not least, Kaan's generalization follows from the Coordinate Structure Constraint. Normally, a conjunct or part of it cannot be moved without affecting the other conjunct(s) in the same way ("across-the-board"):

(64) a. Zij heeft [[$_{AgrOP}$ *Jan* [$_{VP}$ gezien]] [en [*Marie*]]]
she has John seen and Mary
"She saw John and Mary"

b. *[Gezien en *Marie*]$_i$ heeft zij *Jan* [$_{VP}$ t_i]
seen and Mary has she John

[Gezien en *Marie*] cannot be preposed without violating the Coordinate Structure Constraint. If the whole AgrOP (rather that the VP) is in the Spec of [en [*Marie*]], the preposed chunk of words does not even form a constituent.

4.2.2 Asyndetic specification

4.2.2.1 Equatives

The case of SPC discussed so far involves coordination with *en* ("and"). It is very important to realize that parallel construal is not the same as coordination. Parallel construal is a more encompassing notion, with coordination only as a subcase. All parallel construals have certain properties in common, for instance indirect licensing via linking and the Coordinate Structure Constraint. However, there are also certain differences, depending on the nature of the connecting head, *and* in the case of conjunction, *or* in the case of disjunction, etc. In general, the connecting heads of parallel construals are Boolean operators of some sort.

Before showing how extraposition fits the general pattern, I would like to discuss a clear case of parallel construal with an empty head, like the *asyndetic* coordination discussed in classical grammar.

The structures I would like to discuss are the equatives, discussed by Ross (1969):

(65) John built *something beautiful*: *a golden igloo*

In this example of parallel construal, *a golden igloo* is not independently licensed, but a further specification of the object *something beautiful*. I will show that this construction has the same properties as the case of conjunction we discussed and I therefore propose a similar structure (the Colon Phrase, after the traditional colon in the written form of these constructions):

(66) **Colon Phrase**

[XP [**:** XP]]

As in the case of SPC discussed in the preceding section, the primary phrase structure element, the checking XP, is in the Spec and the specifying addition is in the complement position of the colon head (which functions as another Boolean operator, leading to the addition of properties).

Equatives can be added at the simplest level, namely immediately adjacent to the NP to be specified ((69a), or, slightly more natural, introduced by the word *namelijk* ("namely"), (69b):

(67) a. Jan heeft *iets moois, een gouden iglo,* gebouwd
John has something beautiful a golden igloo built
b. Jan heeft *iets moois*, namelijk *een gouden iglo*, gebouwd
John has something beautiful, namely a golden igloo, built

Alternatively (and as in the case of conjuncts), Pied Piping can apply, so that equatives can also be added to a larger phrase containing the NP to be specified. Thus, in (70a) the extended checking phrase is the AgrOP and in (70b), which has undergone topicalization, the whole minimal CP

(68) a. Jan heeft [[$_{AgrOP}$ *iets moois* [$_{VP}$ gebouwd]] [**:** [*een gouden iglo*]]]
John has something beautiful built a golden igloo
b. [[$_{CP}$ *Iets moois* heeft Jan gebouwd] [**:** [*een gouden iglo*]]]
Something beautiful has John built, a golden igloo

This type of specification is clause-bound again, so that, in other words, the Right Roof Constraint is met:

(69) a. [$_{CP}$ Dat hij *iets moois* gezien heeft, *een gouden iglo*] is duidelijk
that he something beautiful seen has, a golden igloo is clear
b. *?[$_{CP}$ Dat hij *iets moois* gezien heeft] is duidelijk, *een gouden iglo*
that he something beautiful seen has is clear a golden igloo

Also as in the conjunct case of the preceding section, the NP to be specified can be embedded in another phrase, for instance a PP:

(70) Hij heeft [$_{PP}$ over *iets moois*] gesproken, (namelijk) *een gouden iglo*

he has about something beautiful talked (namely) a golden igloo
"He talked about something beautiful, (namely) a golden igloo"

As before, the Coordinate Structure Constraint makes it impossible to move the first element away from the second:

(71) **Iets moois* heeft Jan (namelijk) *een gouden iglo* gebouwd
something beautiful has John (namely) a golden igloo built

Similarly, Kaan's generalization applies to equative construction, as before following from the Coordinate Structure Constraint:

(72) a. Hij heeft [[$_{AgrOP}$ *iets moois* [$_{VP}$ gezien]] [**:** [*een gouden iglo*]]]
he has something beautiful seen a golden igloo
b. *[Gezien, *een gouden iglo*]$_i$ heeft hij *iets moois* t_i

Now the stage has been set, I will show that optional extraposition (from NP) has the same properties, thereby indicating that it is just another case of SPC, on a par with "extraposed" conjuncts and equatives.

4.2.2.2 Optional extraposition

Since optional extraposition (from NP) has no visible connecting head (like *and*) but otherwise has the same properties as the cases of SPC we have considered so far, I will propose the following structure for relative clauses:

(73) [$_{NP}$ [$_{NP}$ een vrouw] [**:** [$_{CP}$ die alles wist]]]
a woman who everything knew

The colon, a Boolean operator, indicates set intersection in the case of restrictive relative clauses and set union in the case of appositives (where, in a more elaborate analysis, the two cases can be distinguished by specification at the level of respectively NP and DP). The relative clause gives a further specification of the head of the relative clause placed in the Spec of the colon.

I assume the same kind of structure for NPs with PP specification, which can also show optional "extraposition":

(74) [$_{NP}$ [$_{NP}$ een man] [**:** [$_{PP}$ uit India]]]
a man from India

The main claim of this article is that these structures are regular cases of parallel construal of the singular kind (SPC) and that therefore extraposition phenomena are nothing other than the predictable reflection of the Pied Piping property of SPCs.

As before, we can construct a simple case (as (73) or (75a)) or a more elaborate case with the head of the relative clause extended to a more inclusive constituent (Pied Piping, as in (75b)):

(75) a. Ik heb [$_{NP}$ [$_{NP}$ *een vrouw*] [**:** [$_{CP}$ *die alles wist*]]] gezien
I have a woman who everything knew seen
"I saw a woman who knew everything"

b. Ik heb [[$_{AgrOP}$ [$_{NP}$ *een vrouw*]] gezien] [**:** [$_{CP}$ *die alles wist*]]

In other words, (75b) has not undergone a movement rule of extraposition, but it is just a regular case of Pied Piping, with the checking phrase (the head *een vrouw*) expanded to the more inclusive AgrOP. This is exactly analogous to the possibility to expand a Wh-phrase for the checking of a Wh-feature, as we saw in (54).

Any more inclusive phrase can fulfil the same role, as long as we stay within the minimal CP, a by now familiar locality property of Pied Piping. Thus, in (76a), Pied Piping of the relative clause head in subject position turns the whole IP into a checking phrase, while after topicalization, the minimal CP itself becomes the checking phrase (or the TopP, in the sense of Zwart 1993):

(76) a. [$_{IP}$ [$_{IP}$ [*Een vrouw*] heeft hem gezien] [**:** [*die alles wist*]]]
a woman has him seen who everything knew

b. [$_{TopP}$ [$_{TopP}$ [*Een vrouw*] heeft hij *t* gezien] [**:** [*die alles wist*]]]
a woman has he seen who everything knew

As before, the Right Roof Constraint applies:

(77) *[$_{CP}$ Dat hij *een vrouw* gezien heeft] is duidelijk *die alles wist*
that he a woman seen has is clear who all knew

As in the previous two cases of SPC, an antecedent cannot be embedded in a CP, but it may definitely be in a PP (or any other constituent within the minimal CP):

(78) Hij heeft [$_{PP}$ met *een vrouw*] gesproken *die alles wist*
he has with a woman talked who everything knew

Not surprisingly, the Coordinate Structure Constraint also applies to relative clauses and their heads. Thus, the head, the first part of the construction, can not be moved away from an adjacent relative clause (under traditional analyses of relative clauses, like the one of Ross 1967, this does not follow from Subjacency):

(79) **Een vrouw*$_i$ heeft hij [t_i *die alles wist*] gezien
a woman has he who everything knew seen

Similarly, it follows from the Coordinated Structure Constraint that "extraposed" clauses are islands:

(80) **Wat*$_i$ heeft hij [*een vrouw* gesproken [**:** [*die* t_i *wist*]]]
what has he a woman talked-to who knew

Recall that this is another fact that, under traditional analyses of relative clauses and

extraposition does not follow from Subjacency. Additional *ad hoc* principles, like the Freezing Principle, were necessary to account for such facts.

A last correct prediction of the new theory proposed here is that Kaan's generalization applies to VPs with extraposed relative clauses:

(81) a. Hij heeft *een vrouw* [gesproken *die alles wist*]
he has a woman talked-to who everything knew

b. *[Gesproken *die alles wist*]$_i$ heeft hij *een vrouw* t_i
talked-to who all knew has he a woman

All in all, there is substantial evidence that extraposition does not have the properties of movement but those of (singular) parallel construal with its possibility to expand checking phrases (Pied Piping).

5. **Conclusion**

As was illustrated at the beginning of this article, traditional extraposition rules are highly problematic, both from a theoretical and an empirical point of view. Chomsky's minimalism does not allow optional movement without feature checking and Kayne's antisymmetry theory does not allow rightward movement. Stranding alternatives, with leftward movement of the relative clause's head, appeared not to work either. The letter had to face serious empirical problems, such as non-c-commanding landing sites, Kaan's generalization and several others.

An alternative was proposed on the basis of parallel construal and Pied Piping. Parallel construal concerns elements that are not directly licensed but only indirectly, by their linking to licensed elements. Parallel construal happens to be rather general, and it not only encompasses forms of coordination but also the specifications found in equatives, "extraposed" PPs and relative clauses (and probably many other constructions, like appositions and right dislocations).

Following Kayne's analysis of coordination, the NP heads of "extraposed" elements were seen as the Specs of certain Boolean heads, like *and* (as found in coordination) and the colon head (**:**) we proposed for equatives and relative clauses. As in many other checking contexts (like, for instance, the checking of Wh-phrases), the checking could be done by the minimal checking phrase, but also by some more inclusive phrase. This maximalization of a checking phrase in some Spec has been known as Pied Piping since the 1960s. As is also clear from other recent work, Pied Piping is a much more common phenomenon than previously realized (see, for instance, Van Riemsdijk 1994, Koopman and Szabolcsi 1998, Koster 1999a, b and Koster and Zwart 2000).

Note that my proposal is purely syntactic. No change is proposed as to the semantics of relative clauses. Particularly, I am *not* claiming that restrictive relative clauses have the same semantics as coordinate structures. The only claim made is that there is a phenomenon called parallel construal with certain syntactic properties, which encompasses construals with varying semantics, depending on the nature of the operator involved (*and*, *or*, colon, etc.).

Descriptively, we can assume the following interpretive equivalence for parallel construals with Pied Piping:

(82) **Parallel construal equivalence under Pied Piping**

...[...[$_{\beta}$...α...] [ω δ]] = ...[...[α [ω δ]]]

where: (i) α, β, and δ are XPs (α an antecedent, δ dependent on α)
(ii) ω is a Boolean operator (*and*, **:** , etc.)
(iii) β (possibly equivalent to α) is the Spec of ω
(iv) the minimal CP containing β contains δ

Applied to the relevant form of coordination in Dutch, this means that the following structures are semantically equivalent (as amply illustrated in the preceding sections):

(83) a. Hij heeft [[$_{AgrOP}$ *Jan* gezien] [en [*Piet*]]]
he has John seen and Peter
"He has seen John and Peter"
b. Hij heeft [$_{DP}$ *Jan* [en *Piet*]] gezien
he has John and Peter seen

In (83b), *Piet* (= δ) has *Jan* (= α) as the immediate Spec of the operator, the head *en* ("and") (= ω). In (83a), the same target *Jan* is embedded in the larger phrase AgrOP. Just as in other cases of Pied Piping, this is a permitted way to satisfy the features of the head *en* ("and").

Asyndetic construal (with **:** as head) works exactly the same way. Thus the following structures are interpretively equivalent (in accordance with (82)):

(84) a. Hij heeft [[$_{AgrOP}$ *de man* gezien] [**:** [*die alles wist*]]]
he has the man seen who everything knew
"He saw the man who knew everything"
b. Hij heeft [$_{DP}$ *de man* [**:** [*die alles wist*]]] gezien
he has the man who everything knew seen

Parallel construal of this type is possible, as long as the minimal CP containing the target does not differ from the minimal CP containing the specification:

(85) *Hij heeft [[de man [**:** [$_{CP}$ die *Jan* kende]] gezien] [en [*Peter*]]
he has the man who John knew seen and Peter

This sentence is ungrammatical if *Peter* is construed with *Jan*, because the minimal CP containing *Jan* does not contain *Peter* (82, (iv)). However, the sentence is grammatical if *Peter* is coordinated with the more inclusive DP (*de man die Jan kende*), as predicted.

Parallel construal with Pied Piping in this sense avoids all theoretical problems of the alternatives (extraposition and stranding). My proposal is compatible with Chomsky's minimalism because "extraposition" is no longer seen as illicit movement (optional and without feature checking as a trigger). It is compatible with Kayne's antisymmetry theory because "extraposition" is no longer analyzed as the forbidden rightward movement.

It also solves all empirical problems of both traditional extraposition and the stranding alternative, such as the possibility of deeply embedded targets, the Right Roof Constraint, freezing phenomena and Kaan's generalization. I therefore assume that parallel construal is

the right solution for extraposition phenomena.

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