

EMPTY OBJECTS IN DUTCH*

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1. Introduction

Since the early 1970s, it was generally believed that Dutch and German are SOV languages. This consensus came to an end thanks to the development of Kayne's antisymmetry theory (Kayne (1994)) as applied to the analysis of Dutch by Jan-Wouter Zwart (Zwart (1993); see also Kaan (1992), Koster (1994), Den Dikken (1996)). According to the new theory, all languages --including Dutch and German-- are underlyingly SVO, while the familiar SOV order is a derived order. This SOV order still serves as the basis for the verb second order found in Dutch and German main clauses, so that the classical arguments are still valid.

According to the new theory, the OV order is derived from VO by a rule of object shift, necessary to check the features of the object (Vanden Wyngaerd (1989)). More recently, it was proposed that English does the same type of feature checking by pied piping the whole VP, which accounts for a host of differences in word order between English and Dutch (Koster (1999)).

In the classical SOV theory of Dutch, most complements were generated to the left of the verb (VP → XP V), sometimes with the exception of CP complements. The problem is that CP complements, by and large, only appear to the right of the verb:

- (1) a. *Peter heeft [_{CP} dat hij zou komen] gezegd
Peter has that he would come said
b. Peter heeft gezegd [_{CP} dat hij zou komen]
"Peter has said that he would come"

Most linguists derived (1b) by applying an absolutely obligatory rule of Extraposition to the underlying structure [CP V]. Since there is very little evidence for this extraposition rule, a minority of linguists assumed a "base-generated" order V - CP (De Haan (1979), Hoekstra (1984), Koster (1978)).

Unfortunately, base-generation of the order V - CP leads to an insurmountable problem that seemed to make obligatory Extraposition necessary after all. The problem is that the structure [V - CP] can, if the V is infinitival, be embedded under a verb selecting infinitives. According to another tenet of the classical generative analysis of Dutch, infinitival complements, generated to the left of their matrix V, either undergo Extraposition or Verb Raising (Evers (1975)). Under Verb Raising, the complements of the infinitive remain to the left of the matrix verb. Example (2a) involves Extraposition, (2b) Verb raising:

* I would like to thank Jan-Wouter Zwart for helpful comments on an earlier draft of this article. All remaining errors are mine.

- (2) a. dat hij t_j probeerde [*het boek te lezen*]_j
 that he tried the book to read
 "that he tried to read the book"
 b. dat hij het boek t_i [probeerde *te lezen*]_i]
 that he the book tried to read

The crucial problem is that certain verbs, like *schijnen* ("seem"), only allow Verb Raising (3b), while extraposition of the complement must be excluded (3a):

- (3) a. *dat hij scheen [het boek te lezen]
 that he seemed the book to read
 b. dat hij het boek t_i [scheen *te lezen*]_i]
 that he the book seemed to read
 "that he seemed to read the book"

The complement of the infinitive *lezen* ("read") in (3b) is a direct object, a DP (*het boek* ("the book")). Suppose now that the complement of the infinitive is not a DP but a base-generated CP:

- (4)a. *dat hij t_i [_{CP} dat hij ziek was] [scheen *te zeggen*]_i]
 that he that he sick was seemed to say

Unlike other complements, the CP cannot stay to the left of the matrix verb, hence the ungrammaticality of (4a). In order to derive a grammatical sentence, obligatory Extraposition would be necessary after all, which completely undermines the original motivation for the post-verbal base-generation of CP-complements. Thus, only the following variant is grammatical:

- (4)b. dat hij t_i t_j [scheen *te zeggen*]_i] [_{CP} dat hij ziek was]_j
 that he seemed to say that he sick was
 "that he seemed to say that he was sick"

In short, all variants of the standard analyses of Dutch seemed to require the hardly motivated rule of obligatory Extraposition. Such a rightward movement rule is incompatible with Kayne's antisymmetry theory, which I assume throughout this article.

In the alternative theory, developed by Zwart and others, the problem simply does not arise, because all complements, DP, CP, or whatever, are generated to the right of the V. DPs are moved to the left for purposes of feature checking, while, in principle, CPs can simply remain in their base position. Unlike rightward Extraposition, leftward movement of DPs is compatible with Kayne's theory. Since the new theory simply leaves the CP where it is, we do not have to worry anymore about the lack of empirical evidence for a rule of obligatory Extraposition. Nor do we have to deal any longer with anomalies like (4a). In the new theory, all clausal complements are generated to the right of their matrix verbs, so that we can only derive the grammatical alternative to (4a) (= 4b):

- (5) dat hij [scheen [te zeggen [_{CP} dat hij ziek was]]]
 that he seemed to say that he sick was
 "that he seemed to say that he was sick"

The elimination of the problematic obligatory rule of CP Extraposition is a strong argument in favor of the newer SVO analyses of Dutch. Nevertheless, it appears that things are not that simple as we might hope, because there seem to be cases in which CP Extraposition is optional. Such cases will be discussed in the remainder of this article.

2. Optional complement extraposition?

In the standard cases we just considered, CP Extraposition was thought to be obligatory. However, there are also cases that seem to suggest an optional rule of complement Extraposition:

- (6) a. Jan heeft gezegd [dat hij ziek was], gisteren
John has said that he sick was yesterday
"John said that he was sick, yesterday"
b. Jan heeft gezegd, gisteren, [dat hij ziek was]
John has said yesterday that he sick was
"John said yesterday that he was sick"

Sentence (6b) is definitely somewhat more marked than (6a) but nevertheless acceptable for most speakers of Dutch under the right kind of intonation. Since the CP is the complement of the verb, while *gisteren* ("yesterday") is a VP-external adverbial, and under the further assumption that complements are adjacent to their heads in underlying structures, an extra optional rule of Extraposition seems unavoidable under the classical analyses.

Such an optional rule would be incompatible at first sight with both Chomsky's minimalism and Kayne's antisymmetry theory. Minimalism requires obligatory movement for feature checking, while antisymmetry theory excludes rightward Extraposition altogether.

Also under the recent alternatives discussed in the Introduction to this article, the alternation (6a-b) is a problem. How can we derive (6b) at all, if (6a) represents the underlying order?

The solution can be found along the lines of a theory developed for other forms of optional extraposition, namely those forms traditionally known as Extraposition from NP:

- (7) a. Hij heeft [een boek [dat hij niet kende]] gekocht
he has a book that he not knew bought
"He bought a book that he didn't know"
b. Hij heeft [een boek] gekocht [dat hij niet kende]
he has a book bought that he not knew

As I have shown elsewhere, Kaynean stranding analyses (i.e., analyses moving the head of the relative clause, while stranding the CP) do not work for Extraposition from NP in Dutch. According to the proposed alternatives, all extraposition phenomena involve specification relations, which are a subcase of more general rules of parallel construal which also determine (part of) the properties of coordinate structures (see Rijkhoek (1998), De Vries (1999), Koster (1995) and (forthcoming (a) and (b))). According to the theories in question, extraposition phenomena do not involve movement at all, but are construed in parallel to some XP to their left.

This is also what we find in certain forms of coordination in Dutch:

- (8) a. Hij heeft [Jan en Piet] gezien
 he has John and Peter seen
 "He has seen John and Peter"
 b. Hij heeft [Jan] gezien [en Piet]
 he has John seen and Peter

For a number of reasons, it is impossible to derive (8b) from (8a) by a rule of extraposition. In fact, we do not find the properties of "Move" at all. It is, for instance, possible to connect "extraposed" coordinated elements to non-c-commanding positions:

- (9) Hij heeft [_{PP} met *Jan* (*t_i*)] gesproken *en Piet_i*
 he has with John talked and Peter

A movement analysis for such cases would involve extraposition out of a PP, normally an absolute island in Dutch. Kaynean stranding of *en Piet*, with leftward movement of *Jan* would, of course, not work either because it would involve movement into a PP.

As shown by Edith Kaan (1992), exactly the same can be observed about the relation between relative clauses and their heads:

- (10) Hij heeft [_{PP} met de man (*t_i*)] gesproken [*die alles wist*]_{*i*}
 he has with the man talked who everything knew
 "He talked with the man who knew everything"

Further embedding of the head is possible and no condition of subjacency can come to the rescue here:

- (11) Hij heeft [met [de vader [van *de man*]]] gesproken *die alles wist*
 he has with the father of the man talked who everything knew

In short, both traditional rightward Extraposition and Kaynean stranding analyses are impossible for extraposition phenomena (including certain coordinations) in Dutch.

According to the alternative of parallel construal, it is possible to expand standard syntactic structures to the right with asyndetic specifications, i.e., constricts mediated by an invisible head (indicated by a colon) which share many properties with coordination.

For the constricts in question, I follow Kayne's representation of coordination (1994), according to which the first conjunct asymmetrically c-commands the second:

- (12) [XP [and XP]]

Colon phrases for specifications are represented along the same lines, where : is the head of the phrase:

- (13) [XP [: YP]]

Semantically, the colon indicates set intersection (as in relative clauses) or set union (as in appositives), depending on context. It is, in other words, a Boolean operator.

What (12) and (13) appear to have in common, next to a host of other properties, is the possibility of having a phrase ZP containing XP rather than the XP itself in the Spec position:

- (14) a. [[ZP ...XP...] [and XP]]
 b. [[ZP ...XP...] [: XP]]

This is fully analogous to Pied Piping as found in, for instance, Wh-movement (for "massive" Pied Piping, see, among others, Van Riemsdijk (1994) and Koopman and Szabolcsi (1998)):

- (15) [PP With [the brother [of [which man]]]]_i [+ wh [did you talk t_i]]?

In this case, too, the Wh-phrase to be checked against the features of the head is embedded in some other phrase. A very similar percolation property we find in parallel construal as in (11), repeated here as (16):

- (16) Hij heeft [met [de vader [van *de man*]]] gesproken *die alles wist*
 he has with the father of the man talked who everything knew

The specifying relative clause can be construed with the head directly in the Spec, as in (17):

- (17) Hij heeft met de vader van [[*de man*] [: [*die alles wist*]]] gesproken

Alternatively, the target can be embedded in a larger phrase, as in (16), where the relative clause is the complement of **:**, while its Spec is a phrase containing the target, namely the AgrOP:

- (18) ... [[AgrOP ... *de man* ...] [: [CP *die alles wist*]]]

In general, parallel construal can specify all phrases contained by the same minimal CP. Semantically speaking, we can assume the following interpretive equivalence:

- (19) **Parallel construal equivalence under Pied Piping**

$$\dots[\dots[\beta\dots\alpha\dots] [\omega \delta]] = \dots[\dots[\alpha [\omega \delta]]]$$

- where: (i) α , β , and δ are XPs
 (ii) ω is a Boolean operator (*and*, **:**, etc.)
 (iii) β 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:

- (20) 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 (20b), *Peter* (= δ) has *John* (= α) as the immediate Spec of the operator, the head *and* (= ω). In (20a), the same target *John* 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 equivalent (in accordance with (19)):

- (21) 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:

- (22) *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* (19, (iv)). However, the sentence is grammatical if *Peter* is coordinated with the more inclusive DP (*de man die Jan kende*), as predicted. The same mechanism accounts for the facts formerly covered by the so-called Right Roof Constraint:

- (23) *[CP Dat hij *de man* kent] is duidelijk [: [*die alles* *wist*]]
 that he the man knows is clear who everything knew

There are many other rightward specifications, such as the equatives of Ross (1969), which have the same properties. I therefore conclude that there is a general class of parallel construals, of which certain forms of coordination and extraposition are subcases. Parallel construal has locality properties (as (19 (iv))) that are related to the locality properties of movement, but different enough to make reduction to movement (in the form of extraposition rules or leftward movement with stranding) impossible.

It is in this general class of parallel construals that, as I will argue, the optional extraposition of complements observed in (6) finds its natural place. As a movement rule, optional Extraposition does not exist.

3. Zero specification

All examples of parallel construal given so far involve specification of lexical XPs. Thus, the coordination examples have a lexical conjunct as their target and Extraposition from NP is

- (28) a. Ik denk dat [het] duidelijk is [dat Jan komt]
 I think that it clear is that John comes
 "I think it is clear that John will come"
- b. Ik denk dat [e] duidelijk is [dat Jan komt]
 I think that clear is that John comes

One might assume that in cases like (28b) the subject is just missing, but Bennis (1986) has convincingly shown that a subject NP (or DP) is necessary in various constructions. Consider, for instance, the following case:

- (29) Ik denk dat [e] [zonder PRO zeker te zijn] duidelijk was [CP dat ...]
 I think that without certain to be clear was that...

Adjuncts introduced by *zonder* ("without") contain a PRO that requires a subject in the matrix-clause for its interpretation. This must be the empty subject [e] in (29). As Bennis points out, there are also cases of reflexives requiring a subject:

- (30) Ik denk dat [e]_i voor zichzelf_i sprak [CP dat...]
 I think that for itself spoke that...

Clearly, the reflexive *zichzelf* requires an antecedent and the only c-commanding antecedent available is the empty subject. Altogether, then, there is strong evidence that Dutch has null subjects specified by a clause.

Extraction is only possible from the specifying clause if the target subject is empty:

- (31) a. *?Wie denk je dat [het] duidelijk is [dat zij -- gezien hebben]?
 wie think you that it clear is that they seen have
- b. Wie denk je dat [e] duidelijk is [dat zij -- gezien hebben]
 who think you that clear is that they seen have
 "Who is it clear that they saw?"

Since both sentences involve parallel construal, it is not entirely expected that they behave differently with respect to the Coordinate Structure Constraint. In English, even the variant with the lexical subject is not that bad (*Who is it clear that they saw?*). Although parallel construal limits the extractability possibilities for each of the terms separately, it cannot be said that the Coordinate Structure Constraint applies without exception, particularly not when the target is an expletive. I will leave this matter for further research.

So far, we have concluded that both objects (as in free relatives) and subjects (as with expletives) can involve zero specification. I will now show that sentential objects can specify empty DPs in general and that this fact provides the solution to the problem of optional complement Extraposition, which, as the cases discussed, is not an instance of movement but of parallel construal with zero specification.

4. Evidence for empty objects

There are certain verbs in English which allow specification of object *it* by a clausal complement (Kiparsky and Kiparsky (1970, 165)):

(32) Bill resents [it] [that people are always comparing him to Mozart]

In Dutch, this kind of construction is more common and, as in English, the presence of the DP (*het* in Dutch) is optional:

(33) Ik betreur (het) dat Peter ziek is
I regret it that Peter sick is
"I regret that Peter is sick"

This kind of object specification is limited to factive verbs. With non-factive verbs, *het* is impossible:

(34) Hij heeft (*het) gezegd dat Peter ziek is
he has (*it) said that Peter sick is
"He said that Peter is sick"

What I would like to claim, however, is that all verbs with sentential complements involve a DP as direct object and that this object is empty in the case of non-factive verbs. A sentence like (34), in other words, is a case of zero specification, with the clausal object construed in parallel with the real object, the empty DP [e]:

(35) Hij heeft [DP e] gezegd [dat Peter ziek is]
he has said that Peter sick is

I have already shown in the preceding section that (in the case of free relatives) empty objects are necessary sometimes. I will now show that ordinary complementation involves such zero specification, too.

The evidence is based on parasitic gaps. Consider the following sentence:

(36)a. Hij heeft [zonder [het] te merken] beweerd [dat het regende]
he has without it to notice asserted that it rained
"Without noticing it, he asserted that it rained"

What is interesting about this sentence is that the CP cannot be interpreted as the specification of *het*. The interpretation of *het* encompasses the verb *beweren* ("assert") i.e., what he did not notice is that he *asserted* that it rained. In other words, (36a) can be paraphrased as follows:

(36)b. Hij heeft zonder *het* te merken *dat hij het beweerde* beweerd dat het regende
he has without it to notice that he it asserted asserted that it rained
"Without noticing that he asserted it, he asserted that it rained"

With non-factive verbs like *beweren* ("assert"), it is impossible to "scramble" the object *het* out of the adjunct phrase introduced by *zonder* ("without"):

- (37) *Hij heeft [het] [zonder [e] te merken] beweerd [dat het regende]
 he has it without to notice asserted that it rained

Surprisingly, factive verbs like *betreuren* ("regret") do have this possibility:

- (38)a. Hij heeft [het] [zonder [e] te merken] betreurd [dat het regende]
 he has it without to notice regretted that it rained

This example is interesting in that *het* has a dual role: It is the object of *betreuren* ("regret"), which is specified by the clause at the end of the sentence. But it also provides a lexical interpretation for the empty object [e] of *merken* ("notice") in the adjunct clause. This empty object must be seen as a parasitic gap licensed by *het*. As before, the interpretation of this object is not just the specifying clause, but something more inclusive, namely *betreurd dat het regende*. In other words, the interpretation includes the verb:

- (38)b. Hij heeft *het* zonder te merken *dat hij het betreurde* betreurd dat het regende
 he has it without to notice that he it regretted regretted that it rained
 "Without noticing that he regretted it, he regretted that it rained"

This makes it impossible that the empty object is licensed by the clause, for instance by Right Node Raising. The DP *het* to the left of the adjunct phrase is absolutely crucial for the empty object --the parasitic gap-- to be licensed.

Consider now the sentence (39a), which can be paraphrased as (39b):

- (39)a. ?Jan heeft [_{DP} e] [zonder [e] te merken] beweerd [dat het regende]
 John has without to notice asserted that it rained
 "Without noticing it, John asserted that it rained"
 b. Jan heeft zonder te merken *dat hij het beweerde* beweerd dat het regende
 John has without to notice that he it asserted asserted that it rained
 "Without noticing that he asserted it, John asserted that it rained"

Judgments about sentence (39a) vary somewhat from speaker to speaker, but in my speech it is fully grammatical. All speakers find it better than a similar sentence with an intransitive verb (and therefore without a sentential complement):

- (40) **Jan heeft [zonder [e] te merken] geslapen
 John has without to notice slept

The crux of the argument is that (39a) is fully analogous to (38a), i.e., the interpretation of the empty object in the adjunct phrase (introduced by *zonder*) is not just provided by the sentence-final clause, because the interpretation must include the verb *beweren*. In other words, the clause cannot license the parasitic gap, which requires a c-commanding DP as in (38a). Since there is no lexical DP, there must be an empty DP.

All in all, then, we have clear evidence that also non-factive verbs can (in fact, must) have a DP as object, which can be specified by a clause. If ordinary sentential complementation involves zero specification, we have the key to a solution of the problem of optional complement extraposition.

5. Conclusion

As is well-known, movement to the Spec of AgrOP (or to some Accusative Phrase for case checking, see Koster (1999)) may involve scrambling across an adverbial like *gisteren* ("yesterday") in Dutch:

- (41) Hij heeft [_{AgrOP} *het* AgrO [*gisteren* [*gezegd*]]]
he has it yesterday said
"He has said it yesterday"

The result of this operation is that the object ends up in a higher position than the adverbial. As I will argue elsewhere (Koster (forthcoming (b))), parallel construal works in such a way that the hierarchical order to the left of the verb can be mirrored to the right of the verb. Thus, in a sentence like (42), with *gisteren* ("yesterday") to the right of the verb, the object *het* can still be higher in the tree:

- (42) Hij heeft *het* *gezegd*, *gisteren*
he has it said, yesterday
"He said it, yesterday"

A verb like *zeggen* ("say") can also have a sentential complement, which can be seen (as concluded in the preceding section) as a specification of an empty DP:

- (43) Jan heeft [_{DP} *e*] *gezegd*, *gisteren*, [*dat hij ziek was*]
John has said yesterday that he sick was
"John said yesterday that he was sick"

As in (41), the DP object is in the Spec of AgrOP (or some Accusative Phrase) in (43), i.e., in a position hierarchically higher than the adjunct *gisteren* ("yesterday"). Thus, by assuming that sentential complements are not the real complements of verbs but only the parallel specifications of DPs --the true complements--, we account for the grammaticality of (43) and for the fact that we do not observe the strict verb-complement adjacency which we would expect if the clause rather than the DP were the true complement (recall that I am assuming underlying VO order so that the DP is in a derived, non-adjacent position in (43)).

In sum, optional complement Extraposition is not Extraposition (conceived as movement) at all but a case of zero specification and, as such, a regular form of parallel construal.

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