

1985

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Recommended Citation

Bennis, Hans and Hoekstra, Teun (1985) "Parasitic Gaps in Dutch," *North East Linguistics Society*. Vol. 15 : Iss. 1 , Article 2.

Available at: <https://scholarworks.umass.edu/nels/vol15/iss1/2>

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PARASITIC GAPS IN DUTCH

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1. Introduction*.

This paper consists of two parts. In the first half, we shall discuss the distribution of parasitic gaps in Dutch and compare this distribution with the distribution found in English. It has been noted, e.g. by Engdahl, that the parasitic-gap phenomenon may serve us in analyzing other aspects of clause structure, e.g. constituency relations between adverbial clauses and the sentence nucleus. In the second part of this paper, we shall argue that the parasitic-gap phenomenon in Dutch provides the means to settle an old issue in the syntax of Dutch, viz. the position of the direct object with respect to the verb. This relates to the so-called Adjacency Condition on Case Assignment proposed in Stowell.

2. Background

We shall take as a point of departure the definition of parasitic gaps given in Chomsky (1982): the parasitic gap is a variable, i.e. an empty category

HANS BENNIS & TEUN HOEKSTRA

locally A-bar bound and licensed by a second gap which does not c-command it nor is c-commanded by it. We shall also assume that parasitic gaps do not result from movement, i.e. as was originally assumed in Chomsky (1982).

We furthermore adopt a slightly changed version of Kayne's Connectedness. Without going into details, we shall assume that the canonical government configuration must also hold between the gap and its lexical governor. The reason for this will become clear as we proceed. A second deviation from Kayne's definition is that we assume that major projections on the path must not be in a canonical government configuration, but rather be canonically governed. The consequence of this change is that ungoverned projections, e.g. adjunct clauses, do not allow real gaps, but only parasitic gaps, provided that the path within the adjunct properly connects to the path of some real gap.

3. Parasitic gaps in Dutch

Given the peripheral nature of the parasitic-gap construction and the methodology of GB-theory, grammars of particular languages should not contain any statements specific to the parasitic-gap phenomenon. By the same token, differences in distribution of parasitic gaps between languages should follow from independently motivated differences between the languages. It turns out that the distribution of parasitic gaps in Dutch is much more limited than the distribution found in English. There are three reasons for this:

- a. preposition stranding is much more limited in Dutch
- b. gaps created by P-stranding must be bound by a [+R]-antecedent, whereas NP gaps that are arguments of V must have a [-R]-antecedent.
- c. extraction from sentential complements is much more restricted in Dutch.

We shall discuss a-c in turn. It will become clear that a and c are consequences of the Connectedness Condition in the revised form that we assume here. (cf. Bennis & Hoekstra 1985).

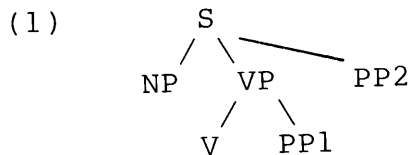
3.1. P-stranding

Van Riemsdijk (1978) has argued that P-stranding is a limited phenomenon crosslinguistically. He invokes the subjacency condition to account for this fact. Those languages that do allow P-stranding are argued to have a marked strategy, either using a COMP in PP (in English)

PARASITIC GAPS IN DUTCH

or using a special strategy (R-movement in Dutch). The subjacency account interacts with the Head Constraint, which may now be interpreted as an early formulation of the ECP. It has been observed by Hornstein & Weinberg (1981) that the strandability of P is to a large extent dependent on the syntactic environment of the PP: S-PPs do not allow stranding whereas VP-PPs do. They postulate a rule of VP-reanalysis to account for the latter possibility, again taking P-stranding as a marked phenomenon. Kayne (1984) elaborates on this proposal and claims that languages may differ with respect to the status of P as a proper governor.

By requiring that each maximal projection on a path from gap to antecedent is canonically governed, we have in fact built in the requirement of Hornstein & Weinberg, i.e. in a structure like (1) only P_{P1} is governed by V and hence only in this case is P-stranding allowed by the Connectedness Condition.



Van Riemsdijk notes that in Dutch, only postpositions may be stranded. There are two distinct kinds of postpositions:

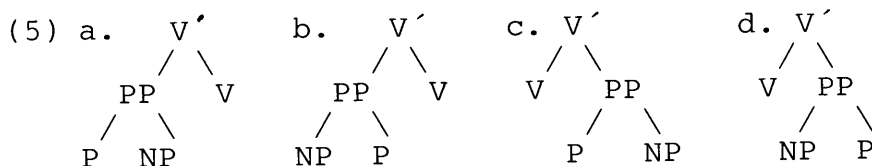
a. basic postpositions. These occur with verbs of motion. The examples in (2) show that these postpositions do indeed allow stranding.

- (2) a. dat Jan op blote voeten de boom in krom
 that John on bare feet the tree into climbed
 b. dat Jan de boom op blote voeten in krom
 that John the tree on bare feet into climbed
 c. dit is de boom die Jan op blote voeten in krom
 this is the tree that John on bare feet into
 climbed

b. "derived" postpositions. This class alternates with prepositions, i.e. they occur as a postposition if the complement is [+pronominal] and [-human]. Under these circumstances, the pronominal form is characterized by a phoneme [r] and are dubbed [+R]-pronouns. Under other circumstances, this class appears as preposition. The phenomenon of a "derived" postposition is illustrated in (3). In (4) we see that these Ps can be stranded by moving the R-form.

- (3) a. dat ik over Jan/dat onderwerp sprak
that I about John/that subject talked
b. dat ik over hem sprak
that I about him talked
c.*dat ik over het sprak
that I about it sprak
d. dat ik eR over sprak
that I there about talked
- (4) Waar heb je over gesproken
Where have you about talked

PPs in Dutch can occur on both sides of V. However, P-stranding is possible only if the PP is in preverbal position. So, out of the four theoretical possibilities in (5), only (5b) is allowed.



On the assumption that the canonical-government configuration in Dutch is right-to-left, Dutch being an OV-language, (5c) and (5d) are out by the Connectedness Condition because the PP does not stand in a canonical-government configuration with respect to V. If a canonical-government configuration is also required at the lowest level, (5a) is also out by the Connectedness Condition.

We see then that P-stranding in Dutch is possible only if P is a postposition and the PP is preverbal. Both conditions follow from the Connectedness Condition. There is a further condition, however. The distribution of stranded Ps is much more restricted than that of the corresponding full PPs. This is illustrated in (6).

- (6) a. dat ik met Jan over dit onderwerp spreek
b. dat ik over dit onderwerp met Jan spreek
c. waar heb je met Jan over gesproken
d.*waar heb je over met Jan gesproken

The descriptive generalization is that the stranded P must be left adjacent to V, or to a verbal complex. We shall not go into a discussion of what constitutes a verbal complex here (cf. Hoekstra in prep.). We propose to account for this descriptive generalization by assuming that a P must not only be governed by V, but even be properly governed in Dutch to function as a proper

PARASITIC GAPS IN DUTCH

governor itself. In this respect, Dutch Ps differ from both English Ps which always qualify as a proper governor for an empty category in its complement, and French Ps which are never proper governors. Proper government requires minimal c-command. We shall return to this issue in the second part of the paper. Here we note that this requirement has the consequence that Ps only license gaps if they are properly governed by V, so that per V only a single stranded P is allowed. Summarizing the discussion in this subsection, we can state the following requirements on P-stranding in Dutch.

- (7) a. the P must be postpositional
- b. the PP must be preverbal
- c. the P must be properly governed by V

This statement is rather redundant, but that is of no consequence, since the requirements are in fact consequences of more general theoretical principles.

3.2. Combinations of gaps

Their status as variables has as a consequence that a parasitic gap and its licensing gap may not stand in a c-command relationship. In many parasitic-gap constructions in English this requirement is satisfied by having the gaps contained in PPs. We saw above that gaps in Dutch come in two varieties: [+R]-gaps inside PPs and [-R]-gaps in other cases. Since V and P are the only categories that take NP complements, these other cases involve gaps that depend on V. Since [+R] gaps can only be bound by a [+R]-antecedent and [-R]-gaps cannot be bound by a [+R]-antecedent, the combination of real gap and parasitic gap must involve either two [+R]-gaps or two [-R]-gaps. Since two [-R]-gaps in a single clause must necessarily stand in a c-command relationship, this latter possibility only occurs if the gaps are contained in different clauses. The same holds for [+R]-gaps, since, as we saw, only a single [+R]-gap can occur in a single clause, because each [+R]-gap requires the presence of a properly governing P, i.e. of a V. These restrictions on combinations of gaps drastically limit the distribution of parasitic gaps in Dutch when compared to English. Constructions of the type in (8) are impossible in Dutch.

- (8) a. This is a guy that close friends of admire
- b. Who did you send pictures of to

PARASITIC GAPS IN DUTCH

assume that the requirement for government of A-bar positions is less strict than government of A-positions. We shall assume that canonical government only holds for A-positions, whereas normal government suffices for empty categories in A'-positions.

A number of properties of extraction in Dutch follow from the hypothesis that successive cyclicity is required in the case of extraction from sentential complements in Dutch, but not in English. First, sentential complements are more island-like in Dutch than in English. This can be seen in the case of WH-islands which are very strictly observed in Dutch, much more so than in English. Secondly, since the trace in COMP is not thematically dependent on V, we predict that extraction out of sentential complements is only possible if the governor of the complement has the capacity of governing into a sister projection. Kayne (1984) claims that this is only true for V. Consequently, we predict that no extraction is allowed in the case of sentential complements to adjectives. This prediction is correct. Thirdly, it is predicted that there will be no subject-object asymmetries in extraction from sentential complements. This prediction is also correct.

This analysis of extraction, in combination with the assumption that parasitic gaps are not derived by movement, predicts that parasitic gaps cannot be found in sentential complements with the licensing gap in a higher clause. This appears to be correct. We return to this below. It will be clear, however, that this again has a limiting effect on the distribution of parasitic gaps in Dutch, when compared to English.

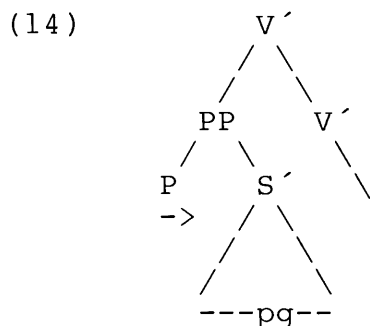
4. Parasitic gaps in Dutch.

After the discussion in section 3, one may wonder whether there are any parasitic gaps in Dutch at all. It is true that some linguists have drawn the conclusion that parasitic gaps are impossible in Dutch. However, parasitic gaps can be found in Dutch, as the following examples illustrate.

- (12) a. Welke boeken heb je [zonder e te
bestuderen] t weggebracht
Which books have you [without to
study] away brought

- b. Dit is de oom die ik [na jaren niet e
gezien te hebben] gisteren t weer
ontmoette
This is the uncle that I [after years not
seen to have] yesterday again met
- (13) a. Ik hou niet van vragen waar ik [zonder e
over na te denken] direkt een antwoord t
op moet geven
I like not (of) questions where I [without
about to think] an answer to must give
- b. Waar had je [alvorens een oplossing e voor
te bedenken] een paper t over geschreven
Where had you [before a solution for to
think] a paper about written

In these examples, e indicates the parasitic gap and t the real gap. The examples in (12) involve two [-R] gaps, whereas the examples in (13) involve two [+R] gaps. If the structure of the adjunct clause is as in (14), parasitic gaps should not be allowed, since the g-projection of the governor of the gap inside S' breaks off at the level of S', since S' is governed from the left by P. Therefore, the g-projection of the governor of the parasitic gap would not connect to the path of the real gap. In this respect Dutch differs from English: extraction from adjunct clauses is impossible in English, because no g-projection can be built. The reason for this is that the adjunct PP is not governed. However, due to the orientation of government, it is predicted that parasitic gaps are allowed in adjunct clauses. The examples in (15) bear this out.



- (15) a. This is the kind of food that you must cook
t [before you eat e]
- b. Which book did you return t [before you
could read e]

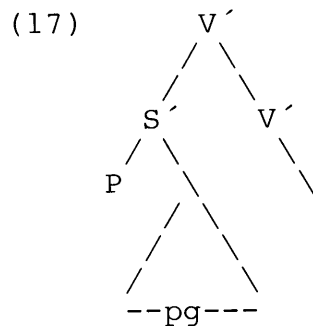
The prediction that parasitic gaps are not allowed in

PARASITIC GAPS IN DUTCH

adjunct clauses in Dutch is confirmed as far as tensed adjunct clauses are concerned. Thus, the Dutch counterparts of the examples in (15) are indeed ungrammatical, as is shown in (16).

- (16) a. *Dit is het soort voedsel dat je t moet
koken [voor [dat je e eet]]
b. *Welk boek heb je t terug gebracht [voor
[dat je e kon lezen]]

The grammaticality of the examples in (12) and (13) is therefore mysterious: the P is in the way, as at were. Just as in English, Dutch infinitival clauses may be introduced by a prepositional complementizer, om. However, this element is not allowed if the infinitival clause is a complement to a preposition. Using this impossibility, we argue, therefore, that the problem with (14) can be solved by assuming that the P occupies the COMP position of the S'. This does away with the PP-structure that is in the way of connecting the two paths. Thus, instead of (14), we assume that the structure of infinitival adjuncts is as in (17).



Since S' may be a g-projection of the governor of a gap, the parasitic gap in (17) is licensed if the V' in (17) is part of a path of a real gap. The position of P in COMP is motivated independently. See Bennis & Hoekstra (1985) for further details.

5. Parasitic gaps without real gaps?

In Dutch, we find gaps that look like parasitic gaps, since they occur in positions from which no extraction is allowed, but which do not seem to be licensed by the presence of a real gap. Examples can be found in (18).

- (18) a. Jan heeft die boeken [zonder e te bekijken]
weggelegd
John has those books [without to inspect]
away put
- b. Ik heb deze scriptie [alvorens definitief e
te beoordelen] eerst aan Jan voorgelegd
I have this term paper [before definitively
to judge] first to John shown

The gaps are interpreted as coreferential with die boeken and deze scriptie, respectively. If these phrases are in A-positions, the gaps cannot be considered variables, as they are A-bound. The English counterparts of these constructions are indeed ungrammatical. Nevertheless, we would like to maintain that the gaps in these examples are parasitic, since it would be quite counterproductive to assume the existence of yet another type of empty category.

The phenomenon in (18) relates to a long standing discussion among Dutch grammarians concerning the basic order of the clause. Whereas it is a more or less standard assumption that in its underlying order Dutch has the verb in (near)-clause final position, there is less agreement as to the position of the object vis-a-vis the verb. If the clause contains both an object and an adverbial constituent, both orders are allowed. We have seen analyses that take NP-ADV-V as basic as well as analyses that take ADV-NP-V as basic. Some derive the alternative order by moving the object or by moving the adverbial constituent. Given a framework that dispenses with PS-rules, the order might in principle be left unspecified, i.e. free. However, it turns out that there is empirical evidence that the order ADV-NP-V is basic and this evidence involves parasitic gaps.

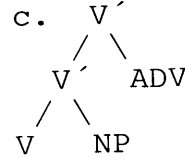
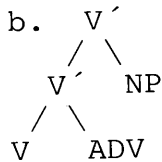
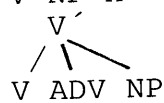
We might want to have recourse to Stowell's (1981) adjacency condition on Case assignment to derive the result that the NP-object is adjacent to V rather than separated from it by an intervening adverb. However, Stowell's condition is of a rather primitive sort: it basically stipulates the adjacency that it seeks to account **for**. Let us suppose therefore that syntactic structure is strictly binary branching, as has been proposed by Kayne. Let us suppose furthermore that Case is assigned under strict government. This means that to the order in (19a) no structure can be assigned that allows the NP to receive Case, i.e. (20a) is out because of the binary branching requirement, whereas the NP is not strictly governed by V in (20b). Therefore, only (19b) is allowed with the structure in (20c).

PARASITIC GAPS IN DUTCH

(19) a. V X NP

b. V NP X

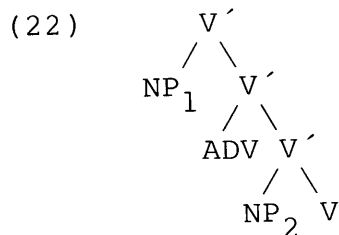
(20) a.



The second advantage of (20c) is that the level of attachment of adjuncts is higher than that of internal arguments. We do not assume a special level for the attachment of adjuncts, but rather assume that they are Chomsky-adjoined to the level of the argument projection. What has been said here for English also holds for Dutch, with the difference that the order is exactly the reverse, due to a different orientation of the assignment of Case. The next question then is how we should account for the order NP-ADV-V, i.e. the mirror image of (19a). This order is clearly allowed in Dutch, as the following examples show.

- (21) a. dat Jan in Amsterdam zijn vriend ontmoette
that John in Amsterdam his friend met
b. dat Jan zijn vriend in Amsterdam ontmoette
that John his friend in Amsterdam met

We are now assuming that (21a) represents the basic order. We propose that the order in (21b) is derived from (21a) by moving the object NP to the left. Where does it land? Clearly, it lands in a non-argument position: it has to be moved to the left of an adjunct, hence to a position to which no thematic role is assigned by the verb. We assume that this movement is indeed not substitution, but a case of adjunction. So, the structure of (21b) looks like (22).



NP₂ is the basic position of the NP object: it receives Case from V under strict government and receives a theta-role. NP₁ is its antecedent: it is in a A-bar position. Hence it receives its theta-role and its Case via its trace NP₂.

So, every order NP-object ADV-V has the structure with a trace between the ADV and the V. The movement involved here we shall call leftward adjunction. It should be noted that there is in fact nothing language particular about this rule: a similar adjunction is found in English, but with a different linear effect. We are of course referring to the rule of Heavy-NP-Shift. Our claim is that leftward adjunction and Heavy-NP-Shift are formally identical. There are other differences between these rules, besides a difference in linear effect, however. Heavy-NP-Shift seems to require a notion of heaviness, which may either mean complexity, extensiveness or newness, awkwardness etc. No such requirement exists in Dutch. Rather the opposite is true: leftward shift is more or less obligatory for pronouns and difficult with precisely those NPs that facilitate Heavy-NP-Shift in English. These differences are a consequence of the different linear effects of these two, formally identical rules. We suggest that a theory of pragmatics has to account for these differences. The two rules are also identical in a further respect, in fact predictably so. Since both rules create a relationship between an argument position and a non-argument position, it is predicted that the path of a parasitic gap may connect to this path. That Heavy-NP-Shift licenses parasitic gaps is well-known. Consider the following example.

- (23) I offended t [by not immediately recognizing
e] my favorite uncle from Cleveland

The sentences in (18) are in fact the mirror image of constructions like (23). The antecedents of the parasitic gaps, die boeken and deze scriptie are in fact in a A-bar position, related to a trace in preverbal position.

This result is interesting for the following reason. On the basis of the sentences in (18) alone one might be inclined to think that the fact that the "controller" of the gap in the adjunct has just been heard could explain their relative acceptability and the contrast with the ungrammaticality of (24), where the gap precedes the antecedent.

- (24) a.*ik heb [zonder e te bekijken] die boeken
 teruggebracht

PARASITIC GAPS IN DUTCH

b.*ik heb [alvorens definitief e te
beoordelen] die scriptie eerst aan Jan
voorgelegd

If we look at the situation in English from this perspective, one would expect that (23) is ungrammatical, whereas (25) should be as acceptable as (18).

(25)*I offended my favorite uncle from Cleveland [by
not immediately recognizing e]

As the comparison of the two languages shows, however, the reasoning based on perceptual ease does not hold water.

6. Conclusion

Due to time limitations we had to go over a number of issues rather quickly. The discussion has made clear, however, that the methodology of parasitic gaps can be upheld. Differences in distribution between Dutch and English did not require any statements specific to parasitic gaps. Dutch allows parasitic gaps precisely in those conditions that we expect.

In the second part of the paper we showed how the parasitic-gap phenomenon allows us to settle issues of constituent structure that had remained undecided for a long time. The phenomenon of parasitic gaps therefore supports the current framework of GB-theory and constitutes an important analytical tool as well.

* The research for this article was part of the Leiden University Research Project "Word Order and Syntagmatic and Paradigmatic Structure", financed by the Dutch Ministry of Education.

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HANS BENNIS & TEUN HOEKSTRA

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