

Bech's Problem

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0. Introduction

The syntax of R-pronouns is a notoriously difficult area of Dutch grammar. The most problematic aspects of these words involve their distribution (when and where can or must they occur?) and their function(s) within a sentence: many R-pronouns can serve more than one function in a sentence at the same time. Of these R-pronouns the R-pronoun *er* shows the most complex behavior. For an extensive discussion of these and related phenomena see Bech (1952), Van Riemsdijk (1978), Bennis (1980, 1986) and Model (1991).

This paper will deal with the fact that R-pronouns can serve multiple functions in one sentence at the same time, or *Bech's Problem* --- as it has been dubbed by Model (1991) --- and it will concentrate on the R-pronoun *er*. The analysis presented is descriptive in nature, and is formulated within the Principles-and-Parameters Approach. It is based on two central ideas, viz. (1) if a certain grammatical element does not contribute to a syntactic structure, either syntactically or semantically, it need not be present; (2) if no position is available for a grammatical element, the element cannot occur. If both (1) and (2) hold, the relevant structure behaves as if the grammatical element is present, though it does not occur. I will argue that this analysis (which I will call the *non-insertion* analysis) is superior to Bennis's (1980, 1986) *deletion* analysis. Only the case of so-called quantitative *er* serving multiple functions will remain as a residue of the deletion analysis, but none of the objections to the deletion analysis are applicable here.

1. Some basic facts

I will assume the standard classification of the functions of R-pronouns: *expletive*, *locative*, *quantitative* and *prepositional*, and I will use the subscripts *X*, *L*, *Q* and *P* to represent these. Some relevant examples are given in (1):

- (1) a Er_x werd gedanst
 There was danced 'There was dancing going on'
 b Hij woont er_L
 He lives there 'He lives there'
 c Hij ziet er_Q twee
 he sees there two 'He sees two of them'
 d Hij kijkt er_p naar
 he looks there-at 'He is looking at it'

Many of these functions can be combined in one occurrence of *er*, though not all combinations are allowed. Some examples are given in (2): expletive and prepositional use (2a), quantitative and prepositional use (2b), expletive and locative use (2c), expletive, quantitative and prepositional use (2d), etc. (for an overview of all possibilities see Bennis 1980 and Model 1991):

- (2) a Er_{XP} werd naar gekeken
 There was at looked 'It was being looked at'
 b Hij beschuldigde er_{QP} twee van
 He accused there two of 'He accused two (of them) of it'
 c Er_{XL} woont iemand
 There lives someone 'Someone lives there'
 d Werden er_{XQP} twee van beschuldigd?
 Were there two of accused
 'Were two (of them) accused of it?'

The following sentences illustrate combinations that are not possible:

- (3) a $*Er_{XQ}$ waren twee
 There were two 'There were two of them'
 b $*Hij$ legde er_{LP} een artikel over
 He put there an article about 'He put an article about it there'

Furthermore, though the appearance of two occurrences of *er* in one sentence cannot be excluded in general (4a), and though two such occurrences can even occur adjacent to one another in certain sentences (4b), many sentences do not allow the presence of two occurrences of *er*, not only when they are adjacent (4c), but also when they are at a certain distance (4d):

- (4) a Er_x werden er_Q twee gekocht
 There were there two bought 'Two (of them) were bought'
- b Hij keek er_p er_pna naar
 He looked there there-after at 'He looked at it afterwards'
- c *Werden er_x er_Q twee gekocht?
 Were there there two bought?
 'Were two (of them) bought?'
- d * Er_x werd gisteren er_pnaar gekeken
 There was yesterday there-at looked 'It was looked at yesterday'

These, and many more problems, should be accounted for adequately.

2. Distribution of R-pronouns

Though the distribution of R-pronouns is not the topic of this paper, it is required to make some concrete assumptions. I will adopt in essence the theory of the distribution of R-pronouns as sketched in Odijk (1993), which is based on unpublished work by Van Hout (1986). However, I want to emphasize that it is not crucial to adopt this theory for the purposes of this paper. The analysis presented here can be transposed quite simply to e.g. Model's (1991) theory, and in fact it stands out even better there. The theory presented here, however, is incompatible with Bennis's (1986) theory, as will become clear below.

I will very briefly sketch the main features of the distributional theory by Odijk (1993). In this theory it is assumed that there are two positions in the sentence for R-pronouns, one specifically for er_Q , and one corresponding to Van Riemsdijk's (1978) R-position. Quantitative *er* can only occur in the er_Q -position. All other occurrences of *er* must get into the R-position 'if they can'.¹ The latter condition is, of course, not part of the grammar itself, but it expresses a basic generalization, and can serve as a convenient short-hand for dealing informally with the facts. As a consequence of the statement, locative and expletive *er* must occur in the R-position, and prepositional *er* must appear there if it can be separated from its preposition. Other R-pronouns can occur in the R-position, and some must get there to reach SpecCP (this holds for prepositional R-pronouns).

The basic consequence of this theory is that a derivation will block if two R-pronouns end up or pass through the same R-position. The ill-formedness of (4d) follows, since expletive *er* must pass through this position, and prepositional *er* must end up here (since it can be separated from its preposition in this kind of configuration). The well-formedness of (4a) follows, since expletive *er* and

¹ Henk van Riemsdijk pointed out to me that the relevant generalization does not hold for all cases. Though he may be right, I will ignore this in this paper.

quantitative *er* use different positions. Example (4b) is in, because prepositional *er* can (in fact, must) remain in the PP headed by *na*, as is clear from the ill-formedness of **Hij keek er_p gisteren na naar het programma*, lit. *He looked there yesterday after at the program*, which means that expletive *er* can use the R-position. The ill-formedness of (4c) is not accounted for, but this problem will be solved below.

3. Bennis's deletion theory

In this section I will discuss the deletion theory developed by Bennis to account for Bech's problem. Bennis's theory can be summarized very briefly as follows. Bennis assumes that there is an unlimited number of positions for the R-pronoun *er* in each sentence. If two or more occurrences of *er* end up adjacently in these positions, they are deleted in the PF-component. This deletion is motivated by phonological considerations (avoid the phoneme sequence /r@r/).

Bennis's theory faces several problems. First, in Bennis's theory one expects that two adjacent *ers* may be deleted, whatever their functions may be. But deletion is not allowed for the combination of locative or prepositional *er* plus locative or prepositional *er*: **Hij keek er_{pL}naar* (lit. *He looked there-at*), **Hij keek er_p gisteren mee naar* (lit. *He looked there yesterday at with*).² Secondly, there are direct counterexamples to the theory, e.g. (4b), or the sentence *...daar er_x niet over gesproken mocht worden* 'since it could not be discussed', in which the phoneme sequence /r@r/ occurs. In addition, even if the relevant phoneme sequence is not possible, it is unclear why it should be avoided by deletion, and not by various other phonological mechanisms (most of these are actually mentioned by Bennis). Furthermore, Bennis's theory cannot account for all relevant facts, in two respects. First, it cannot account for the ill-formedness of cases where two occurrences of *er* are not adjacent (e.g. 4d). Secondly, it cannot account for cases where the presence of *er* is prohibited though no other occurrence of *er* is present (but a different R-pronoun), as e.g. in (5):

- (5) Daar_p werd (*er_x) over gesproken
 There was there about spoken 'That was talked about'

For these reasons I reject Bennis's theory.

² Non-application of deletion does not yield a well-formed result either: **Hij keek er_pernaar*, **Hij keek er_p er gisteren mee naar*.

4. The non-insertion theory

Let us now consider an alternative theory, the *non-insertion theory*. The basic ideas for this theory are the following. First, it is assumed that only a limited number of positions is available in sentences for R-pronouns, viz. the positions assumed in section 2. Furthermore, it is assumed that elements which do not contribute to meaning and whose presence is not required for syntactic reasons, need not occur. As for the R-pronoun *er*, it is assumed that expletive and quantitative *er* are elements without meaning (see Bennis 1986: 202,212) for a similar point of view), though locative and prepositional *er* are meaningful. This distinction is reflected in the fact that expletive and quantitative *er* do not have variants in other R-pronouns (**daar_x*, **hier_Q*, etc.). Locative and prepositional *er* have a full paradigm: *daar_L*, *hier_L*, *overal_L*, etc.; *daar_P*, *hier_P*, *overal_P*, etc. 'there, here, everywhere'. The assumption that expletive *er* is meaningless is uncontroversial, but the assumption that quantitative *er* is meaningless requires clarification. It is clear that in sentences which contain quantitative *er* the meaning of a pronoun (cf. English (*of*) *them* as in *one of them*) is present. I assume that in a sentence such as *Ik zag er_Q drie* lit. *I saw there three* ('I saw three of them') this meaning is associated with an abstract pronoun which heads the NP containing the numeral *drie*. I will use the notation *EN* ('empty noun') for this abstract head. Since quantitative *er* is meaningless, it can only be present for syntactic reasons. Count NPs headed by *EN* cannot occur just anywhere. They can occur only if their presence is licensed by a 'sufficiently close' occurrence of quantitative *er*, which is inserted in the special position for *er_Q*.³ Similarly, the presence of expletive *er* can be required for syntactic reasons only. I assume that expletive *er* is inserted directly into the R-position, and that it must occur to license an abstract expletive *EC* in the subject position. This abstract expletive element can participate in subject-verb agreement and subject-to-subject raising, and this abstract expletive is related to a possible associate NP inside VP. (See Odijk (1993) for more details.)

Given these assumptions, it is possible to consider all relevant cases. These are enumerated in (6):

- (6) a Q+P/L/X
- b L/P+L/P
- c Q+Q
- d X+L/P

For (6a) I have to continue to assume a deletion analysis, though, as will become clear below, it does not suffer from the defects of Bennis's deletion analysis. The

³ The notion 'sufficiently close' must be given a precise definition, of course, but I will not deal with that issue here.

other cases clearly illustrate the non-insertion theory, but in the case of (6d) it crucially interacts with an independent rule of Dutch grammar.

Let us first discuss case (6a) in more detail.⁴ As already pointed out, in this case the deletion analysis must be maintained. The reason for this is simple: since there are two positions, one for *er_Q* and one for other R-pronouns, two R-pronouns can occur in one sentence provided that one of them is quantitative. It has already been shown above that this assumption leads to problems in the case of examples such as (4c). By assuming a deletion rule which deletes *er_Q* if it is adjacent to another occurrence of *er*, the ill-formedness of (4c) is accounted for, and this part of Bech's problem is accounted for as well, basically in the way Bennis did.

In section 3 I argued that Bennis's deletion analysis has to be rejected because it faces several problems. None of these problems, however, hold for the deletion analysis when it is restricted to deletion of quantitative *er*. The deletion is syntactic, not phonological, and there is no phonological motivation for it. The deletion proposed here can apply only if the R-pronouns are adjacent (cf. 4a). The deletion rule applies only to two occurrences of *er*, not to *er* plus a different R-pronoun:

- (7) Hij zag *(*er_Q*) daar_L twee
 He saw there over-there two 'He saw two (of them) over there'

And finally, there are, to my knowledge, no counterexamples to this deletion rule.

Despite the fact that the objections to Bennis's deletion theory do not apply here, I would prefer an analysis in which all deletion could be eliminated. At the moment, however, I see no way of doing this if Odiijk's (1993) distributional theory is adopted. The deletion rule can be eliminated, however, if Model's distributional theory is adopted. In this theory there is only one position for the R-pronoun *er* (whatever its function). As a consequence, only one occurrence of *er* can occur in sentences. Adopting this theory requires a number of different assumptions (e.g. the postulation of a position for *daar* in 7), and it makes different empirical predictions in a number of cases. Furthermore, it is unclear how a sentence such as (4a) can be generated under Model's theory. One can imagine formulations of rules which achieve the desired effect (e.g. *er_x* can be inserted directly in SpecCP if the R-position is filled with *er* fulfilling a quantitative function), but these are completely ad-hoc.

⁴ Model (1991:304) claims that *er* cannot be both quantitative and locative at the same time and he stars *zij bezit er_{QL} drie*, and marks *Willen er_{xQL} echt maar drie wonen* with two question marks (though there is additional discussion 1991:305). I find examples of *er_{QL}* generally well-formed. Bech (1952) gives *Hij vond er_{QL} vijf* 'He found five of them there' and *Toen lagen er_{xQL} vijf* 'Then, there were five of them over there' as well-formed. Bennis (1986:179,181) also gives relevant examples as fully grammatical.

To summarize, in cases such as (6a) Odijk's distributional theory forces one to assume a(n acceptable) residue of the deletion analysis. Model's theory allows one to apply the non-insertion theory in full, but requires other ad-hoc rules to derive all relevant examples.

I will now turn to a discussion of examples of type (6b). In these cases two meaningful R-pronouns should end up in the R-position, but there is only room for one. As a consequence, the derivation blocks. Non-insertion of one of the R-pronouns is possible, but in that case a sentence with a different meaning will be derived.

Examples of type (6c) illustrate the non-insertion theory in its purest form. Consider the partially derived structures in (8):

- (8) a Hij [twee EN] kocht
 He [two EN] bought
 b [Hoeveel EN] hem [twee EN] gegeven hebben
 [How many EN] him [two EN] given have

In (8a) EN occurs as the head of an NP in the direct-object position. It must be licensed, and it can be licensed by inserting quantitative *er*. The position where quantitative *er* must be inserted is unoccupied, so it can be inserted, yielding ultimately *Hij kocht er twee* 'He bought two (of them)'. Non-insertion will lead to an unlicensed EN, and hence to ungrammaticality (**Hij kocht twee*). Exactly the same holds in (8b). Here the head EN of the NP [twee EN] must be licensed, and it can be licensed by inserting quantitative *er*. In the latter example, however, the EN of the NP [hoeveel EN] occurs as well. This EN must also be licensed. A second occurrence of quantitative *er*, however, cannot be inserted because the position where it must be inserted is occupied. Insertion of quantitative *er*, however, is not necessary for semantic reasons, and actually not for syntactic reasons either in this case, since the other occurrence of quantitative *er* can license EN of the NP [hoeveel EN]. Here we thus have a clear example where on the one hand it is not necessary to insert some element, either for semantic or for syntactic reasons, and on the other it is not possible to insert this element: sentences in which this constellation of facts holds are well-formed (with respect to the relevant phenomenon). Ultimately, the sentence *Hoeveel hebben hem er twee gegeven* 'How many (of them) gave him two (of them)' will be derived.

A similar account can be given for expletive *er* (the cases of 6d), though here an independent rule is involved as well. The basic idea is the same as before: expletive *er* is meaningless. Therefore it need not be present in a sentence for semantic reasons. If it cannot be inserted in a specific configuration, and its syntactic function can be fulfilled by some other element, then it need not appear. This account appears to work immediately at first sight. Consider the following partially derived structures:

- (9) a EC er_p iemand naar keek.
 EC there someone at looked
 b EC er_L iemand woont.
 EC there someone lives

EC is the abstract expletive element occurring in the subject position introduced earlier.⁵ The R-position is occupied by some R-pronoun. Now the abstract expletive EC must be licensed. Normally this is done by inserting *er* in the R-position, but this is not possible here, since this position is occupied. Suppose now that any R-pronoun in the R-position can license EC. Then insertion of expletive *er* is not necessary. EC is licensed by er_p in (9a) and by er_L in (9b), sentences such as *keek er iemand naar* (lit. *looked there someone at*, 'did someone/anyone look at it') and *woont er iemand* (lit. *lives there someone*, 'does someone/anyone live there') can be derived, and sentences such as **keek er er iemand naar* and **woont er er iemand* are correctly excluded.

The problem with this account is that it predicts that these R-pronouns will now normally behave as prepositional or as locative pronouns in such constructions. This, however, is not the case. Normally, prepositional and locative *er* cannot occur sentence-initially in a main clause (they cannot be topicalized), as is clear from (10b,d):

- (10) a De man woont er_L
 The man lives there 'The man lives there'
 b * Er_L woont de man
 There lives the man
 c De man keek er_p gisteren naar
 The man looked there yesterday at 'The man looked at it yesterday'
 d * Er_p keek de man gisteren naar
 There looked the man yesterday at

But in the constructions under discussion *er* can be topicalized (11b):

- (11) a Er keek iemand naar
 There looked someone at 'Someone looked at it'
 b Er woont iemand
 There lives someone 'Someone lives there'

And when expletive *er* occurs on its own, it can be topicalized as well:

⁵ Actually, two different abstract expletives must be assumed, but I will ignore this here. See Odijk (1993).

- (12) a Er_x wordt gedanst
 There is danced 'There is dancing going on'
 b Er_x keek iemand naar dat programma
 There looked someone at that program
 'Someone was watching the program'
 c Er_x woont iemand in Amsterdam
 There lives someone in Amsterdam 'Someone lives in Amsterdam'

This might appear to indicate that in the sentences in (11) prepositional and locative *er* have been dispelled by expletive *er*. That conclusion, however, is not correct, because in all cases where expletive *er* can be distinguished from non-expletive R-pronouns, the non-expletive R-pronouns 'survive':

- (13) a $Daar_p$ keek iemand naar
 There looked someone at 'Someone looked at that'
 b $Daar_p$ werd naar gekeken
 There was at looked 'That was watched'

and a sentence such as (11a) cannot have the meaning of (13a).

Let us consider the facts in (12) in more detail. Expletive *er* can be preposed to a sentence-initial position. This is actually unexpected, since non-expletive *er* cannot be preposed, though it occupies the same position (the R-position). What distinguishes expletive *er* from non-expletive *er*, causing this difference?

It is well-known that for clitics in general an asymmetry with respect to topicalization exists between subject clitics, which can be topicalized, and non-subject clitics, which cannot be topicalized (see Koster 1978). Since *er* is also a clitic, it is natural to relate the asymmetry found with *er* to the asymmetry found with clitics in general. It must be the case then, that an R-pronoun which licenses EC in the subject position counts as a subject clitic, and can be preposed. But note that this assumption automatically also accounts for the examples in (11): in these examples an occurrence of *er* licenses EC, hence it can be preposed.

The assumption that an arbitrary R-pronoun can licence EC in subject position plays a crucial role in this account. One might ask why arbitrary R-pronouns can do so. I have no real answer to this question, but would like to point out that this is not a property specific to R-pronouns, but a property of a certain class of (locative?) adverbial phrases generally. This is illustrated in (14). See Bennis (1986: 215-216, 225-226), from which the discussion here is derived.

- (14) a In het stadion werd gevoetbald lit. In the stadium was soccer-played
 b Werd in het stadion gevoetbald? lit. Was in the stadium soccer-played
 c Hij zei dat in het stadion gevoetbald werd
 lit. He said that in the stadium soccer-played was
 d *Werd gevoetbald lit. Was soccer-played
 e Er_x werd gevoetbald lit. There was soccer-played
 f Werd er_x gevoetbald? lit. Was there soccer-played
 g Hij zei dat er_x gevoetbald werd
 lit. He said that there soccer-played was

In (14a) an (abstract) expletive element is licensed without there being any R-pronoun present. The licenser is the locative PP *in het stadion*. This can be seen in (14d): if the locative PP is left out, the sentence is ungrammatical. One cannot say that (14d) is excluded because the topic position must be occupied, since that is only true for certain sentence types, e.g. for main declarative clauses, but not for yes-no interrogative clauses. (14d), however, is ill-formed under any interpretation. The fact that the PP is in topic position is not essential either, as shown by the well-formed (14b,c). If we compare the behavior of this PP with respect to the abstract expletive element with the behavior of *er* (as in (14d-g)) we see exactly the same behavior.

Of course, PPs such as *in het stadion* do not occupy the R-position at any point in the derivation. Therefore it is possible to have expletive *er* in these constructions as well:

- (15) a In het stadion werd er_x gevoetbald
 lit. In the stadium was there soccer-played
 b Werd er_x in het stadion gevoetbald?
 lit. Was there in the stadium soccer-played?
 c Hij zei dat er_x in het stadion gevoetbald werd
 lit. He said that there in the stadium soccer-played was

5. Conclusion

In this paper I have argued that Bech's problem (multiple functions of a single R-pronoun at the same time) can be accounted for in a natural way if it is assumed that expletive and quantitative *er* are meaningless and serve only syntactic functions. If their syntactic functions can be fulfilled by some other syntactic element, and if there is no position in which they can appear, the structure appears to behave as if these elements were present though they are not. It has been argued that this analysis (the *non-insertion* analysis) is superior to Bennis's (1980, 1986) *deletion* analysis.

The analysis presented remains at the descriptive level. It is to be hoped that this analysis can form the basis of a more explanatory account of Bech's problem. To achieve that result, it will be necessary to characterize the relation between *er* and ENs on the one hand, and *er* and abstract expletives on the other in terms of relations independently required in Universal Grammar.

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