Solving Bech's Problem without Movement or Deletion

Bech (1952) notes that the Dutch reduced R-pronoun *er*, which functions as a locative adverbial, expletive subject, or object of a preposition, has a number of properties which set it apart from similar elements in the other Germanic languages. One striking feature is the fact that prepositional object R-pronouns in the Middle Field must precede the preposition and do not form a constituent with it:

(1)   Kim heeft **er**   niet **aan** gedacht   *Kim has not thought about it.*
        Kim has   there not on   thought

Model (1991) coins the phrase *"Bech's Problem"* for a second intriguing property of the reduced R-pronoun *er,* namely the fact that it apparently is able to combine several grammatical functions:

(2)   **Er**   heerst onzekerheid **over**   *There is uncertainty about it.*
        There rules   uncertainty about

Er may only occur sentence initially if it is a subject. At the same time, the preposition *over* requires an object. Thus, one is lead to conclude that *er* in (2) is both a subject and the (dislocated) object of a preposition. To account for the distribution of *er* in the Middle Field, van Riemsdijk (1978) posits a special R-pronoun position, while Model (1991) suggests that *er* should be analyzed as a (second-position) clitic. Bennis (1986) suggests a solution for Bech's problem which involves the (phonologically triggered) deletion of *er* if adjacent to another occurrence of *er*. Van Riemsdijk's and Bennis' proposals are somewhat at odds with current grammatical theory. The discussion in Model is promising, but, as far as we now, has not been worked out in detail. Also, certain empirical facts, such as (3) below (from a Dutch corpus), where a full NP appears between the finite verb and *er*, seem problematic for a second position clitic analysis:

(3)   Leslie herinnerde zijn manager **er**   herhaaldelijk **aan** dat ze   op   moesten schieten.
        Leslie reminded   his manager there repeatedly   of   that they PRT must   rush.
        Leslie repeatedly reminded his manager that they had to hurry up.

In this talk, we present an alternative account, formulated in terms of Head-driven Phrase Structure Grammar (Pollard & Sag, 1994). We take the locative, adverbial, use of R-pronouns, as in (4) below, to be basic.

(4)   Maria bleef   **er**   dertig jaar
        Maria stayed there thirty years

Following a suggestion in Bouma, Malouf, and Sag (1998), adjuncts are introduced lexically, by means of a mapping between (lexical) *argument structure* and *dependency structure*. The first can be thought of as a representation of the thematic grid of a lexical head, while the second encodes all syntactic dependents of a head. Adjuncts are not present in *argument structure*, but may be present in *dependency structure*. Dependents can be realized in syntax as subjects, complements, or *gaps* licencing an unbounded dependency. Adjuncts are normally realized as complements, thus explaining the fact that they may freely appear in the Middle field.

Examples such as (1) are analyzed by assuming that verbal heads whose *dependency structure* contains an R-pronoun, *bind* all occurrences of R-pronouns on SLASH (the feature used in HPSG to store information about unbounded dependencies) of syntactic dependents of that verb. Consequently, the introduction of an adverbial R-pronoun at dependency structure may *bind* an R-pronominal gap introduced by a preposition.

While adverbials are normally realized as complements, we propose that in existential constructions such as (2) and in impersonal passive constructions such as (5), an adverbial may be `promoted' to fill the subject position.

(5)   **Er**   wordt aan een oplossing gewerkt.

there is   on a   solution   worked
One works on a solution.

The subject-status of *er* accounts for the fact that it may occur sentence-initially, while the fact that it is introduced at the level of *dependency structure* accounts for the fact that it binds a gap introduced by a preposition. This explanation for Bech's problem is not unlike certain accounts of parasitic gap constructions.[1]

Finally, we will consider how a lexicalist, constraint-based, approach to R-pronouns might account for certain constraints on the interpretation of sentences containing multiple R-pronouns.

References

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[1] Bennis briefly considers such an analysis, and   rejects it, mainly for theory-internal reasons.