Chapter 7

CASE CHECKING AND THE HSPM I:
ON LEXICAL REACCESS

1. Introduction

According to the Linking-Based Checking Algorithm (LBCA) that we have introduced in the preceding chapter (repeated in Figure 7.1 on the next page), the first task of the HSPM after having linked a DP to an argument structure slot consists of checking whether the DP has the feature values required by its argument structure position or not. Should feature checking result in a mismatch, the next task of the HSPM will be to determine whether or not the CPPM can be locally repaired by replacing the incorrect feature(s) by the correct one(s) (possibly with some automatic readjustments of the CPPM). These two closely related tasks—feature checking and feature repair—comprise the second step of the LBCA.

As the discussion so far has shown, repairing the CPPM by locally replacing offending features on step 2 of the LBCA is usually associated with only minor garden-path effects—garden-path effects which are normally not perceived consciously. Garden-path sentences for which the feature handling step of the LBCA does not lead to the desired result, in contrast, often give rise to noticeable processing difficulties.

A typical sentence for which step 2 alone leads to successful reanalysis is repeated in (1). On first-pass parsing, the first DP in such a sentence is assigned nominative Case and the second DP accusative Case.

(1) Ich glaube, daß Maria gestern ein Buch geschickt wurde.

‘I believe that Maria yesterday a book sent was sent to the Maria yesterday.’

On encountering the clause-final passivized verb with its requirement of a dative object followed by the subject, the HSPM will detect two Case violations: The
Argument Linking
Link each DP within the CPPM to a position within the verb’s argument structure.

Feature Handling
A. Feature Checking
Check the relevant features (Case for subject and objects, number and person for subject).

B. Feature Repair
For each resulting feature mismatch, where a feature mismatch has the form “Feature value $\alpha$ assigned to XP instead of feature value $\beta$”, determine if the lexical material of XP would be compatible with the assignment of $\beta$.
If so, replace $\alpha$ with $\beta$ and - if necessary - adjust the phrase-marker accordingly.

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Figure 7.1. The Linking-Based Checking Algorithm (LBCA)

first DP, Maria, is specified for nominative instead of dative Case; the second DP, ein Päckchen, is specified for accusative Case instead of nominative. For both DPs, the respective lexical items are compatible with the Case requirements of the verb. The SO-structure assigned to a sentence like (1) on first-pass parsing can thus be transformed to the OS-structure required by the verb by two rather simple feature corrections. Accordingly, sentences of this type give rise to only modest garden-path effects.

Given this account, a new question arises immediately: How does the HSPM decide whether or not an offending feature specification can give way to the correct one? Clearly, just noticing that sentence (1) could be cured by assigning dative Case to the first DP and nominative to the second DP is not sufficient. The HSPM also has to determine whether the DPs involved are morphologically compatible with the required Case revisions. Otherwise, the HSPM would be unable to distinguish between a locally ambiguous sentence—which is ungrammatical only temporarily, before reanalysis has taken place—and a corresponding ungrammatical sentence, which is permanently ungrammatical.

What we therefore need is a detailed theory of how the HSPM checks Case features, including the task of determining whether a given Case violation can be cured or not. Developing such a theory is the aim of this and the following chapter. In doing so, we will draw on some of our earlier work (cf. Bader, 2000; Meng and Bader, 2000b), which has provided first insights into the HSPM’s