Chapter 10, Problem 1: Passive and Binding Theory

The ARG-ST of the lexical sequence for *introduced* that the Passive Lexical Rule produces is the following:

$\left[\text{ARG-ST} \quad \langle\ \text{NP}_i\ ,\ \text{PP}_j\ ,\ \text{PP[FORM by]}_k\ \rangle\right]$

PP_k and its daughter NP_k (the object of *by*) are outranked by the subject of *introduced* (NP_i) and by PP_j and its daughter NP_j (the object of *to*); likewise, PP_j and NP_j are outranked by NP_i. Hence, by Principle A, if the object of *to* is [MODE ana], it must be coindexed with NP_i. This condition is met in the well-formed examples (i) and (v). Similarly, if the object of *by* is [MODE ana], it must be coindexed with NP_i or PP_j — that is, either k=i or k=j. In the well-formed (vii), the former is true; that is, k=i.

Conversely, by Principle B, if the object of *to* is [MODE ref], then it must not be coindexed with NP_i, i.e. $\text{i} \neq \text{j}$. This accounts for the ill-formedness of (ii) and (vi). And if the object of *by* is [MODE ref], then it must not be coindexed with either NP_i or PP_j, i.e. both $\text{k} \neq \text{i}$ and $\text{k} \neq \text{j}$ must be the case. This accounts for the ill-formedness of (viii).

(iii) and (iv) involve a different verb. The ARG-ST of the lexical sequence for the passive *shaved* is:

$\left[\text{ARG-ST} \quad \langle\ \text{NP}_m\ ,\ \text{PP[FORM by]}_n\ \rangle\right]$

By the same reasoning as above, NP_m and PP_n (and therefore also NP_n) are coindexed (i.e. m=n) if and only if NP_n is [MODE ana].