

Chapter 3, Problem 3:

A.

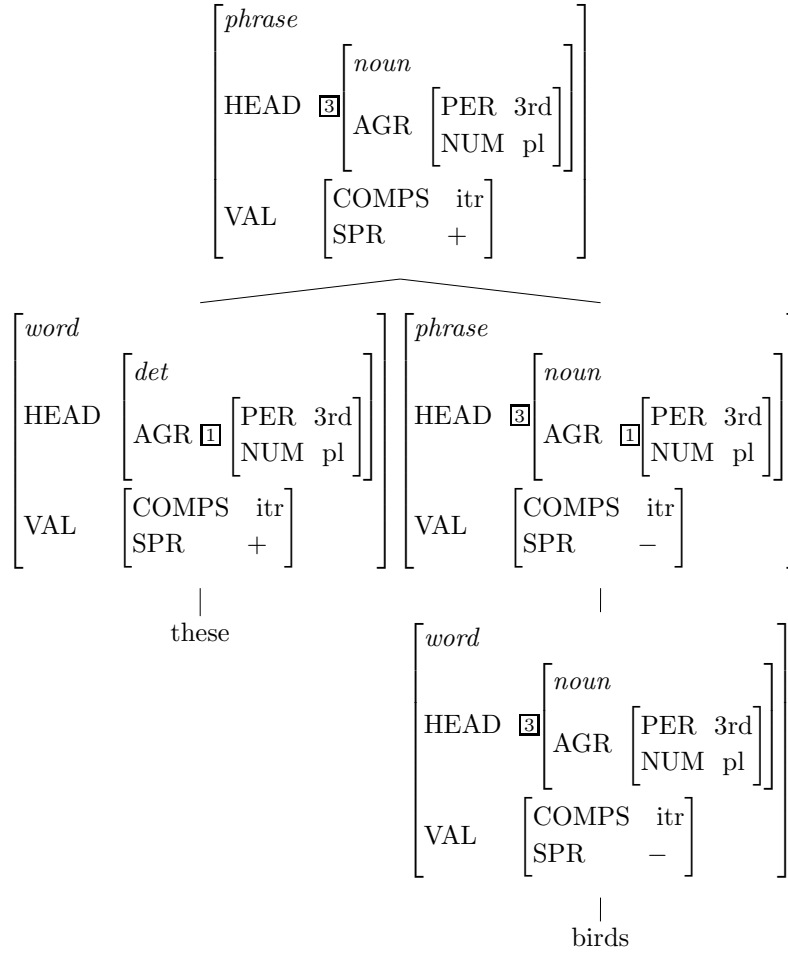
$$\left\langle \text{this} , \begin{bmatrix} \text{word} \\ \text{HEAD} \begin{bmatrix} \text{det} \\ \text{AGR} \begin{bmatrix} \text{NUM} & \text{sg} \\ \text{PER} & \text{3rd} \end{bmatrix} \end{bmatrix} \\ \text{VAL} \begin{bmatrix} \text{COMPS} & \text{itr} \\ \text{SPR} & + \end{bmatrix} \end{bmatrix} \right\rangle$$

$$\left\langle \text{these} , \begin{bmatrix} \text{word} \\ \text{HEAD} \begin{bmatrix} \text{det} \\ \text{AGR} \begin{bmatrix} \text{NUM} & \text{pl} \\ \text{PER} & \text{3rd} \end{bmatrix} \end{bmatrix} \\ \text{VAL} \begin{bmatrix} \text{COMPS} & \text{itr} \\ \text{SPR} & + \end{bmatrix} \end{bmatrix} \right\rangle$$

B. Head-Specifier Rule 2:

$$\begin{bmatrix} \text{phrase} \\ \text{VAL} \begin{bmatrix} \text{COMPS} & \text{itr} \\ \text{SPR} & + \end{bmatrix} \end{bmatrix} \rightarrow \begin{matrix} \text{Det} \\ \begin{bmatrix} \text{AGR} & \boxed{\text{I}} \end{bmatrix} \end{matrix} \mathbf{H} \begin{bmatrix} \text{phrase} \\ \text{HEAD} \begin{bmatrix} \text{noun} \\ \text{AGR} & \boxed{\text{I}} \end{bmatrix} \\ \text{VAL} \begin{bmatrix} \text{SPR} & - \end{bmatrix} \end{bmatrix}$$

C.



We have redundantly specified all of the features and the identities in this diagram. The identities indicated by $\boxed{3}$ are due to the Head Feature Principle. The identity indicated by $\boxed{1}$ is due to the agreement added into Head-Specifier Rule 2 in part B.