566 HW5

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1 Chapter 8, Problem 5

1.1 Kim left and but or or and Sandy stayed

No. ✗

1.2 Why

This is unlicensed since in out updated coordination rule in chapter 8 all items but the main coordinator must have the same form. If we treat the final 'and' as our coordinator then the phrases 'Kim Left' and 'Sandy stayed' agree with each other in their form but disagree with all the extra conjunctions like 'but' and 'or. In other words since all the items but the coordinator do not agree, our grammar will not license the mentioned phrase.

But on what grounds?

2 Chapter 8, Problem 6

2.1 Write Head-Specifier and Head-Complement Rules for Japanese

The Head-Specifier does not seem to need to change because items like the determiners are still attaching to the nouns they specify. Based on that the same head-specifier that we have in chapter 8 holds. Written out below.

$$\begin{bmatrix} \textit{phrase} \\ \text{SYN} \quad \begin{bmatrix} \text{VAL} \quad \begin{bmatrix} \text{SPR} \quad \langle\rangle \end{bmatrix} \end{bmatrix} \end{bmatrix} \rightarrow \boxed{1}\mathbf{H} \begin{bmatrix} \text{SYN} \quad \begin{bmatrix} \text{VAL} \quad \begin{bmatrix} \text{SPR} \quad \langle \boxed{1} \rangle \\ \text{COMPS} \quad \langle\rangle \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

The Head-Complement needs to get modified since compliments attach to heads slightly differently. Based on our examples, it appears that in Japanese, the head in a complimented phrases is at the end of the sentence. Thus we modify the rule to what we have below, head at the end.

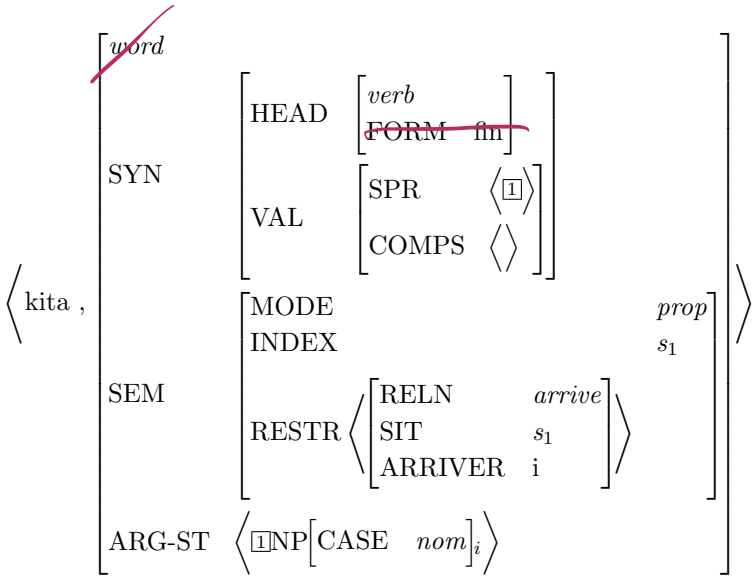
$$\begin{bmatrix} \textit{phrase} \\ \text{SYN} \quad \begin{bmatrix} \text{VAL} \quad \begin{bmatrix} \text{COMPS} \quad \langle\rangle \end{bmatrix} \end{bmatrix} \end{bmatrix} \rightarrow \boxed{1}, \ldots, \boxed{n}\mathbf{H} \begin{bmatrix} \text{SYN} \quad \begin{bmatrix} \text{VAL} \quad \begin{bmatrix} \textit{word} \\ \text{COMPS} \quad \langle \boxed{1}, \ldots, \boxed{n} \rangle \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

what can be input to i-rules?

2.2 Lexical entry for verbs in examples i-iv

$$\left\langle \text{yonda} , \left[\begin{array}{ll} \textit{word} & \\ \text{SYN} & \left[\begin{array}{ll} \text{HEAD} & \left[\begin{array}{ll} \textit{verb} & \\ \text{FORM} & \text{fin} \end{array}\right] \\ \text{VAL} & \left[\begin{array}{ll} \text{SPR} & \langle \boxed{1} \rangle \\ \text{COMPS} & \langle \boxed{2} \rangle \end{array}\right] \end{array}\right] \\ \text{SEM} & \left[\begin{array}{ll} \text{MODE} & \textit{prop} \\ \text{INDEX} & s_1 \\ \text{RESTR} & \left\langle \left[\begin{array}{ll} \text{RELN} & \textit{read} \\ \text{SIT} & s_1 \\ \text{READ} & \text{j} \\ \text{READER} & \text{i} \end{array}\right] \right\rangle \end{array}\right] \\ \text{ARG-ST} & \left\langle \boxed{1}\text{NP}\left[\text{CASE} \quad \textit{nom}\right]_i \boxed{2}NP\left[\text{CASE} \quad \textit{acc}\right]_j \right\rangle \end{array}\right] \right\rangle$$

$$\left\langle \text{ageta} , \left[\begin{array}{ll} \textit{word} & \\ \text{SYN} & \left[\begin{array}{ll} \text{HEAD} & \left[\begin{array}{ll} \textit{verb} & \\ \text{FORM} & \text{fin} \end{array}\right] \\ \text{VAL} & \left[\begin{array}{ll} \text{SPR} & \langle \boxed{1} \rangle \\ \text{COMPS} & \langle \boxed{2} , \boxed{3} \rangle \end{array}\right] \end{array}\right] \\ \text{SEM} & \left[\begin{array}{ll} \text{MODE} & \textit{prop} \\ \text{INDEX} & s_1 \\ \text{RESTR} & \left\langle \left[\begin{array}{ll} \text{RELN} & \textit{give} \\ \text{SIT} & s_1 \\ \text{giver} & \text{i} \\ \text{receiver} & \text{j} \\ \text{item} & \text{k} \end{array}\right] \right\rangle \end{array}\right] \\ \text{ARG-ST} & \left\langle \boxed{1}\text{NP}\left[\text{CASE} \quad \textit{nom}\right]_i \boxed{2}NP\left[\text{CASE} \quad \textit{dat}\right]_j , \boxed{3}NP\left[\text{CASE} \quad \textit{acc}\right]_k \right\rangle \end{array}\right] \right\rangle$$


word
SYN
HEAD
verb
FORM fin
VAL
SPR ⟨1⟩
COMPS ⟨⟩
SEM
MODE prop
INDEX s_1
RESTR
RELN arrive
SIT s_1
ARRIVER i
ARG-ST ⟨1 NP[CASE nom]$_i$⟩
⟨ kita ,

2.3 Lexical entries for the nouns Taroo and hon.

$$\left\langle \text{Taroo} , \begin{bmatrix} \text{SYN} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \textit{noun} & \\ \text{AGR} & \begin{bmatrix} \text{NUM} & \text{sg} \\ \text{PER} & \text{3rd} \\ \text{CASE} & \textit{dat} \end{bmatrix} \\ \text{VAL} & \begin{bmatrix} \text{SPR} & \langle\rangle \\ \text{COMPS} & \langle\rangle \end{bmatrix} \end{bmatrix} \end{bmatrix} \\ \text{SEM} & \begin{bmatrix} \text{INDEX} & \text{i} \\ \text{RESTR} & \left\langle \begin{bmatrix} \text{RELN} & \text{name} \\ \text{NAME} & \text{Taroo} \\ \text{NAMED} & \text{i} \end{bmatrix} \right\rangle \end{bmatrix} \end{bmatrix} \right\rangle$$

$$\left\langle \text{hon} , \begin{bmatrix} \text{SYN} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \textit{noun} & \\ \text{AGR} & \begin{bmatrix} \text{NUM} & \text{sg} \\ \text{PER} & \text{3rd} \\ \text{CASE} & \textit{acc} \end{bmatrix} \\ \text{VAL} & \begin{bmatrix} \text{SPR} & \langle\rangle \\ \text{COMPS} & \langle\rangle \end{bmatrix} \end{bmatrix} \end{bmatrix} \\ \text{SEM} & \begin{bmatrix} \text{INDEX} & \text{i} \\ \text{RESTR} & \left\langle \begin{bmatrix} \text{RELN} & \text{book} \\ \text{INST} & \text{i} \end{bmatrix} \right\rangle \end{bmatrix} \end{bmatrix} \right\rangle$$

2.4 Lexical rule for deriving the inflected forms ending in -o from the nominal lexemes.

For my rule which I am calling the accusative nominal rule I have a helper function F_{ACC} which makes the have the -o ending.

Accusative nominal rule.

$$\begin{bmatrix} \textit{i-rule} & \\ \text{INPUT} & \left\langle \boxed{1}, \textit{cntn-lxm} \right\rangle \\ \text{OUTPUT} & \left\langle \text{F}_{ACC}(\boxed{1}), \begin{bmatrix} \textit{cntn-lxm} & \\ \text{SYN} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{AGR} & \begin{bmatrix} \text{CASE} & \textit{acc} \end{bmatrix} \end{bmatrix} \end{bmatrix} \end{bmatrix} \right\rangle \end{bmatrix}$$

3 Chapter 8, Problem 7

3.1 What is the case of the CAUSER argument in iii

Nom

3.2 What is the case of the CAUSEE argument in iii

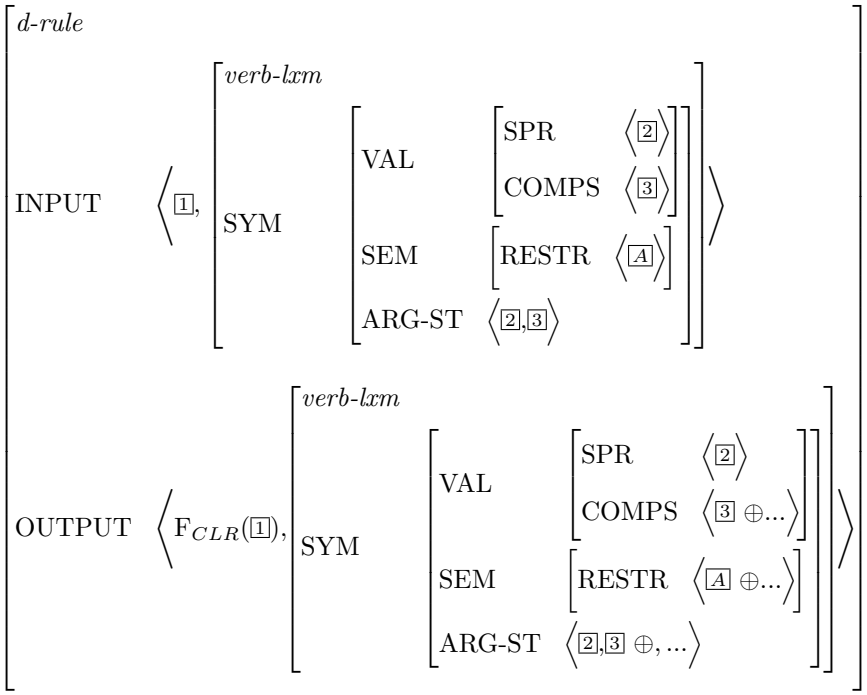
Dat

3.3 Lexical Entry tabesaseta

$$\left\langle \text{tabesaseta} , \begin{bmatrix} \textit{word} & & \\ \text{SYN} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \textit{verb} \\ \text{FORM} \quad \text{fin} \end{bmatrix} \\ \text{VAL} & \begin{bmatrix} \text{SPR} & \langle \boxed{1} \rangle \\ \text{COMPS} & \langle \boxed{2} , \boxed{3} \rangle \end{bmatrix} \end{bmatrix} & \\ \text{ARG-ST} & \left\langle \boxed{1}\text{NP}\left[\text{CASE} \quad \textit{nom}\right]_k, \boxed{2}NP\left[\text{CASE} \quad \textit{dat}\right]_i, \boxed{3}NP\left[\text{CASE} \quad \textit{acc}\right]_j \right\rangle & \\ \text{SEM} & \begin{bmatrix} \text{MODE} & & \textit{prop} \\ \text{INDEX} & & s_2 \\ \text{RESTR} & \left\langle \begin{bmatrix} \text{RELN} & \textit{eat} \\ \text{SIT} & s_1 \\ \text{EATER} & \text{i} \\ \text{CAUSER} & \text{k} \\ \text{MEAL} & \text{j} \end{bmatrix}, \begin{bmatrix} \text{RELN} & \textit{cause} \\ \text{SIT} & s_2 \\ \text{CAUSEE} & \text{i} \\ \text{CAUSER} & \text{k} \\ \text{CAUSED-EVENT} & \text{s}_1 \end{bmatrix} \right\rangle & \end{bmatrix} \end{bmatrix} \right\rangle$$

3.4 Causative Lexical Rule for Japanese

For my rule I have a helper function F_{CLR} which modifies our verb to become a causative verb.



review ans. key and come back with questions!