Chapter 4, Problem 1: Valence Variations

A. The well-formedness of these sentences suggest that *here* and *there* are in fact (pro-) PPs, since that is the category of the complements that would otherwise occur with *put*. So these guys should be specified as, e.g.:

$$
\left\langle \text{here} , \begin{bmatrix} \textit{word} \\ \text{HEAD} \quad \textit{prep} \\ \text{VAL} \quad \begin{bmatrix} \text{SPR} & \langle \, \rangle \\ \text{COMPS} & \langle \, \rangle \end{bmatrix} \end{bmatrix} \right\rangle
$$

B. *Fond* only occurs with a PP complement:

  (i) Alex is fond of pumpkins.

 (ii)*Alex is fond pumpkins.

(iii)*Alex is fond.

so its lexical entry would look like this:

$$
\left\langle \text{fond} , \begin{bmatrix} \textit{word} \\ \text{HEAD} \quad \textit{adj} \\ \text{VAL} \quad \begin{bmatrix} \text{SPR} & \langle \, \rangle \\ \text{COMPS} & \langle \, \text{PP} \, \rangle \end{bmatrix} \end{bmatrix} \right\rangle
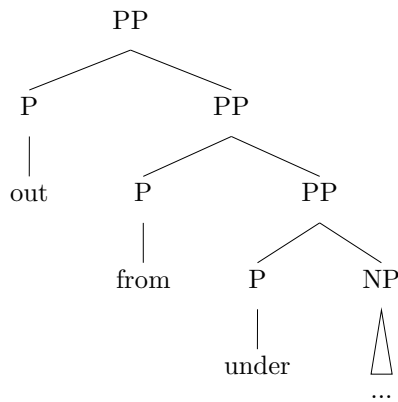$$

Actually, the only PPs that go with *fond* are those headed by the preposition *of*. But we don't know how to formulate such restrictions yet.

C. The key here is the assumption that in all of the well-formed examples with *jump*, the string of words after *jump* form a PP constituent. All of these examples illustrate constraints on what kind of complements the various prepositions take.

- *Out* can appear without a complement (viii), with an NP complement (vi) or with a PP complement ((i), (ii), (iv)). So its lexical entry should be:

$$
\left\langle \text{out} , \begin{bmatrix} \textit{word} \\ \text{HEAD} \quad \textit{prep} \\ \text{VAL} \quad \begin{bmatrix} \text{SPR} & \langle \, \rangle \\ \text{COMPS} & \langle \, (\text{NP} \mid \text{PP}) \, \rangle \end{bmatrix} \end{bmatrix} \right\rangle
$$

This gives us nested structures like:

```
                    PP
                   /  \
                  P    PP
                  |   /  \
                 out P    PP
                     |   /  \
                   from P    NP
                        |    /\
                      under /  \
                            ...
```

- *From* cannot appear without a complement (*(ix)), but it allows an NP complement ((ii),(v)) or a PP complement ((iii), (iv)). So its lexical entry would look like this:

$$
\left\langle \text{from} \ , \begin{bmatrix} word \\ \text{HEAD} \quad prep \\ \text{VAL} \quad \begin{bmatrix} \text{SPR} \quad \langle \ \rangle \\ \text{COMPS} \quad \langle \ \text{NP} \mid \text{PP} \ \rangle \end{bmatrix} \end{bmatrix} \right\rangle
$$

- *Of* cannot appear without a complement (no illustration here) or with a PP complement (*(vii)), but it allows an NP complement (i). Hence:

$$
\left\langle \text{of} \ , \begin{bmatrix} word \\ \text{HEAD} \quad prep \\ \text{VAL} \quad \begin{bmatrix} \text{SPR} \quad \langle \ \rangle \\ \text{COMPS} \quad \langle \ \text{NP} \ \rangle \end{bmatrix} \end{bmatrix} \right\rangle
$$

D.
- *Grew* must combine with an AP complement ((iv), *(v), (vii)). (*(vi) is explained because *happy to me* is not a possible AP – see below.) So its lexical entry should be:

$$
\left\langle \text{grew} \ , \begin{bmatrix} word \\ \text{HEAD} \quad verb \\ \text{VAL} \quad \begin{bmatrix} \text{SPR} \quad \langle \ \text{NP} \ \rangle \\ \text{COMPS} \quad \langle \ \text{AP} \ \rangle \end{bmatrix} \end{bmatrix} \right\rangle
$$

- *Seemed* must combine with an NP or AP complement ((i), (ii), *(iii)) followed by an optional PP. The double PP in (viii) is good because the first one is in the AP *close to me* and the 2nd one is a complement of *seemed*. So the lexical entry for *seemed* should be:

$$
\left\langle \text{seemed} \ , \begin{bmatrix} word \\ \text{HEAD} \quad verb \\ \text{VAL} \quad \begin{bmatrix} \text{SPR} \quad \langle \ \text{NP} \ \rangle \\ \text{COMPS} \quad \langle \ \text{AP}\mid\text{NP} \ (, \ \text{PP}) \ \rangle \end{bmatrix} \end{bmatrix} \right\rangle
$$

- *Happy* appears without a complement (iv), and cannot occur with a PP (at least not with one headed by *to*) (*(vi)). Of course it is an adjective as well, and hence can be the head of a phrase that is the complement of *grow* or *seem*. So its entry looks like this:

$$
\left\langle \text{happy} \ , \begin{bmatrix} word \\ \text{HEAD} \quad adj \\ \text{VAL} \quad \begin{bmatrix} \text{SPR} \quad \langle \ \rangle \\ \text{COMPS} \quad \langle \ \rangle \end{bmatrix} \end{bmatrix} \right\rangle
$$

- *Close* is an adjective that takes a PP in all the examples shown here. There are other examples (e.g. *They grew close*), which suggest that we should write its lexical entry as follows:

$$
\left\langle \text{close} \ , \begin{bmatrix} word \\ \text{HEAD} \quad adj \\ \text{VAL} \quad \begin{bmatrix} \text{SPR} \quad \langle \ \rangle \\ \text{COMPS} \quad \langle \ (\text{PP}) \ \rangle \end{bmatrix} \end{bmatrix} \right\rangle
$$

E.

4

$$
\begin{bmatrix} phrase \\ \text{HEAD } verb \\ \text{VAL} \begin{bmatrix} \text{SPR } \langle\,\rangle \\ \text{COMPS } \langle\,\rangle \end{bmatrix} \end{bmatrix}
$$

[1] $\begin{bmatrix} word \\ \text{HEAD } noun \\ \text{VAL} \begin{bmatrix} \text{SPR } \langle\,\rangle \\ \text{COMPS } \langle\,\rangle \end{bmatrix} \end{bmatrix}$

They

$\begin{bmatrix} phrase \\ \text{HEAD } verb \\ \text{VAL} \begin{bmatrix} \text{SPR } \langle\, [1]\,\rangle \\ \text{COMPS } \langle\,\rangle \end{bmatrix} \end{bmatrix}$

$\begin{bmatrix} word \\ \text{HEAD } verb \\ \text{VAL} \begin{bmatrix} \text{SPR } \langle\, [1]\,\rangle \\ \text{COMPS } \langle\, [2]\,,\, [3]\,\rangle \end{bmatrix} \end{bmatrix}$

seemed

[2] $\begin{bmatrix} phrase \\ \text{HEAD } adj \\ \text{VAL} \begin{bmatrix} \text{SPR } \langle\,\rangle \\ \text{COMPS } \langle\,\rangle \end{bmatrix} \end{bmatrix}$

$\begin{bmatrix} word \\ \text{HEAD } adj \\ \text{VAL} \begin{bmatrix} \text{SPR } \langle\,\rangle \\ \text{COMPS } \langle\, [4]\,\rangle \end{bmatrix} \end{bmatrix}$

close

[4] $\begin{bmatrix} phrase \\ \text{HEAD } prep \\ \text{VAL} \begin{bmatrix} \text{SPR } \langle\,\rangle \\ \text{COMPS } \langle\,\rangle \end{bmatrix} \end{bmatrix}$

$\begin{bmatrix} word \\ \text{HEAD } prep \\ \text{VAL} \begin{bmatrix} \text{SPR } \langle\,\rangle \\ \text{COMPS } \langle\, [5]\,\rangle \end{bmatrix} \end{bmatrix}$

to

[5] $\begin{bmatrix} word \\ \text{HEAD } noun \\ \text{VAL} \begin{bmatrix} \text{SPR } \langle\,\rangle \\ \text{COMPS } \langle\,\rangle \end{bmatrix} \end{bmatrix}$

me

[3] $\begin{bmatrix} phase \\ \text{HEAD } prep \\ \text{VAL} \begin{bmatrix} \text{SPR } \langle\,\rangle \\ \text{COMPS } \langle\,\rangle \end{bmatrix} \end{bmatrix}$

$\begin{bmatrix} word \\ \text{HEAD } prep \\ \text{VAL} \begin{bmatrix} \text{SPR } \langle\,\rangle \\ \text{COMPS } \langle\, [6]\,\rangle \end{bmatrix} \end{bmatrix}$

to

[6] $\begin{bmatrix} word \\ \text{HEAD } noun \\ \text{VAL} \begin{bmatrix} \text{SPR } \langle\,\rangle \\ \text{COMPS } \langle\,\rangle \end{bmatrix} \end{bmatrix}$

Sandy