Dative Shift Alternation: Undergeneration (Maybe)

**The cat gave that dog those aardvarks.**

```
the_rel [ ARG0: x3 ]
cat_rel [ ARG0: x3 ]
give_rel [ ARG0: e2 ARG1: x3 ARG2: x5 ARG3: x4 ]
that_rel [ ARG0: x5 ]
dog_rel [ ARG0: x5 ]
those_rel [ ARG0: x4 ]
aardvark_rel [ ARG0: x4 ]
```

**The cat gave those aardvarks to that dog.**

```
...
give_rel [ ARG0: e2 ARG1: x3 ARG2: x5 ARG3: x4 ]
...
to_rel [ ARG0: e2 ARG1: x5 ]
that_rel [ ARG0: x5 ]
dog_rel [ ARG0: x5 ]
```
One Option: Semantically Vacuous Prepositions

- Unlike the parser, the LKB generator includes support for *epsilon* items;
- all semantically empty lexical items are always activated (by default);
- optionally, grammars supply filter or activation rules for generator efficiency.

\[
\text{prep-lxm-s} \quad \left[ \begin{array}{l}
\text{HEAD} \quad \text{prep} \left[ \begin{array}{l}
\text{MOD} \langle \rangle \\
\text{SPR} \quad \langle \rangle \\
\text{COMPS} \langle \\
\text{SEM} \quad \langle \rangle \\
\text{RELS} \quad \langle \rangle \\
\end{array} \right] \\
\text{phrase} \quad \langle \\
\text{SEM} \quad \langle \rangle \\
\text{RELS} \quad \langle \rangle \\
\end{array} \right] \\
\right]
\]
The Alternative: Lexical Underspecification

Conversely, require *contentful-pred* in all head–modifier structures;

use MRS *munging* post-processor to discard *selected-pred* occurrences.