Syntactic Theory
Raising and Control in HPSG

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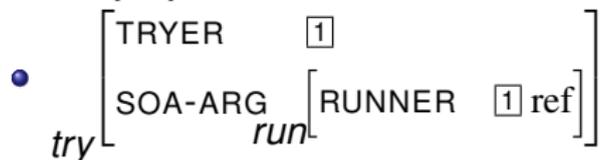
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Equi and Raising

There are reasons for drawing a careful distinction between these two classes of complement-taking expressions. The key difference is that

- Equi verbs (and adjectives) systematically assign one more semantic role than their raising counterparts
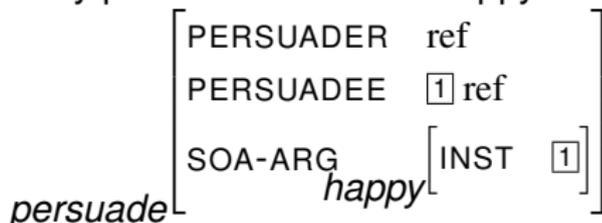
Subject Equi/Raising Verbs

1. - They try to run.
   - $\begin{bmatrix} \text{TRYER} & \boxed{1} \\ \text{SOA-ARG} & run\begin{bmatrix} \text{RUNNER} & \boxed{1}\,\text{ref} \end{bmatrix} \end{bmatrix}$
   try

2. - They tend to run.
   - $tend\begin{bmatrix} \text{SOA-ARG} & run\begin{bmatrix} \text{RUNNER} & \text{ref} \end{bmatrix} \end{bmatrix}$
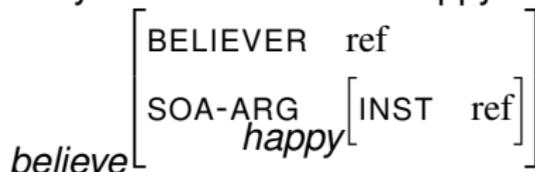
- The subjects of subject-raising verbs are assigned no role in the matrix psoa

Object Equi/Raising Verbs

1. - They persuade him to be happy.
   -
   $$\textit{persuade}\begin{bmatrix} \text{PERSUADER} & \text{ref} \\ \text{PERSUADEE} & \boxed{1}\,\text{ref} \\ \text{SOA-ARG} & \textit{happy}\begin{bmatrix} \text{INST} & \boxed{1} \end{bmatrix} \end{bmatrix}$$

2. - They believe him to be happy.
   -
   $$\textit{believe}\begin{bmatrix} \text{BELIEVER} & \text{ref} \\ \text{SOA-ARG} & \textit{happy}\begin{bmatrix} \text{INST} & \text{ref} \end{bmatrix} \end{bmatrix}$$

- The objects of object-raising verbs are assigned no role in the matrix psoa

Key Property of Subject-Raising Verbs

The subject plays no semantic role in the predication introuced by the SRV itself. Its semantic role (if any) is only in the predication introduced in the complement.
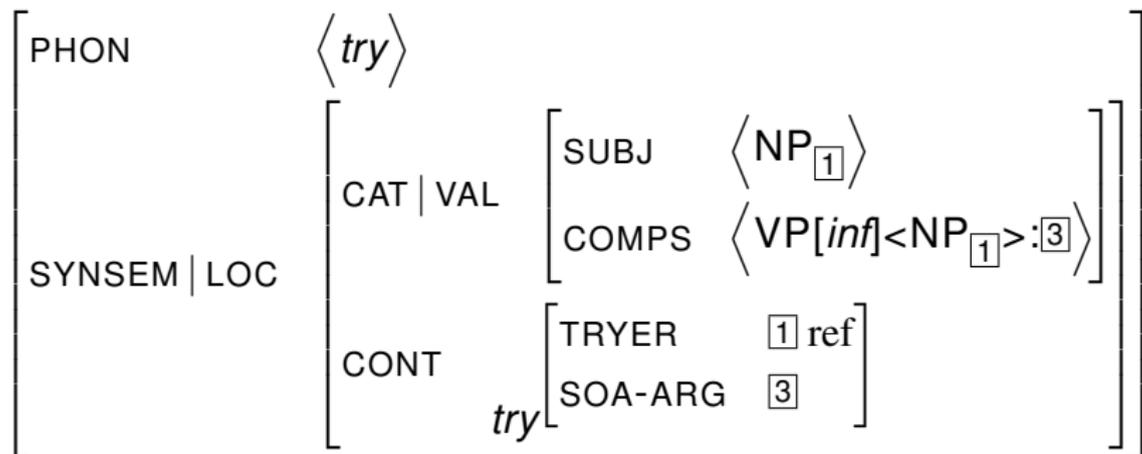
Lexical entry for SRV "tend"

$$
\begin{bmatrix}
\text{PHON} & \left\langle \textit{tend} \right\rangle \\
\text{SYNSEM} \mid \text{LOC} &
\begin{bmatrix}
\text{CAT} \mid \text{VAL} &
\begin{bmatrix}
\text{SUBJ} & \left\langle \boxed{1}\text{NP} \right\rangle \\
\text{COMPS} & \left\langle \text{VP}[\textit{inf}]{<}\boxed{1}{>}{:}\boxed{2} \right\rangle
\end{bmatrix} \\
\text{CONT} & \textit{tend}\begin{bmatrix} \text{SOA-ARG} & \boxed{2} \end{bmatrix}
\end{bmatrix}
\end{bmatrix}
$$

Constraints on the Subject of Subject-Raising Verbs

- SRVs take dummy subjects when and only when their complements do
  - There continue to be seats available.
  - It continues to matter that we lost.
  - *It continues to be seats available.
  - *There continues to matter that we lost.
- Passivizing the complement of an SRV does not change the truth conditions of the whole sentence:
  - Skeptics continue to question your hypothesis.
  - Your hypothesis continues to be questioned by skeptics.

Subject-Equi Verbs

Lexical entry for SEV "try"

$$
\begin{bmatrix}
\text{PHON} & \left\langle \textit{try} \right\rangle \\[2em]
\text{SYNSEM} \mid \text{LOC} &
\begin{bmatrix}
\text{CAT} \mid \text{VAL} &
\begin{bmatrix}
\text{SUBJ} & \left\langle \text{NP}_{\boxed{1}} \right\rangle \\[1em]
\text{COMPS} & \left\langle \text{VP}[\textit{inf}]{<}\text{NP}_{\boxed{1}}{>}{:}\boxed{3} \right\rangle
\end{bmatrix} \\[3em]
\text{CONT} & \textit{try}\begin{bmatrix} \text{TRYER} & \boxed{1}\,\mathrm{ref} \\ \text{SOA-ARG} & \boxed{3} \end{bmatrix}
\end{bmatrix}
\end{bmatrix}
$$

Note that:

- $\boxed{1}$ is a semantic argument in the *"try"* relation
- The subject NP is coindexed with the VP complements' subject

Object-Raising-Verbs

Lexical entry for ORV "believe"

$$
\begin{bmatrix}
\text{PHON} & \left\langle \textit{believe} \right\rangle \\[2em]
\text{SYNSEM} \mid \text{LOC} &
\begin{bmatrix}
\text{CAT} \mid \text{VAL} &
\begin{bmatrix}
\text{SUBJ} & \left\langle \text{NP}_{\boxed{1}} \right\rangle \\[1em]
\text{COMPS} & \left\langle \boxed{2}, \text{VP}[\textit{inf}]{<}\boxed{2}{>}{:}\boxed{3} \right\rangle
\end{bmatrix} \\[2.5em]
\text{CONT} \quad \textit{believe} &
\begin{bmatrix}
\text{BELIEVER} & \boxed{1} \, \text{ref} \\
\text{SOA-ARG} & \boxed{3}
\end{bmatrix}
\end{bmatrix}
\end{bmatrix}
$$

Object-Equi Verbs

Lexical entry for OEV "persuade"

$$
\begin{bmatrix}
\text{PHON} & \left\langle \textit{persuade} \right\rangle \\[4ex]
\text{SYNSEM} \mid \text{LOC} &
\begin{bmatrix}
\text{CAT} \mid \text{VAL} &
\begin{bmatrix}
\text{SUBJ} & \left\langle \text{NP}_{\boxed{1}} \right\rangle \\[2ex]
\text{COMPS} & \left\langle \text{NP}_{\boxed{2}}, \text{VP}[\textit{inf}]{<}\text{NP}_{\boxed{2}}{>}{:}\boxed{3} \right\rangle
\end{bmatrix} \\[5ex]
\text{CONT} & \underset{\textit{persuade}}{\begin{bmatrix}
\text{PERSUADER} & \boxed{1}\ \mathrm{ref} \\
\text{PERSUADEE} & \boxed{2}\ \mathrm{ref} \\
\text{SOA-ARG} & \boxed{3}
\end{bmatrix}}
\end{bmatrix}
\end{bmatrix}
$$

Extra Difference Between Equi and Raising Verbs

- For equi verbs, the VP complement's unexpressed subject is coindexed with one of the other syntactic dependents (the subject for the subject-equi verbs, the object for the object-equi verbs); For raising verbs, the entire SYNSEM of the subject of the VP complement is structure-shared with one of the other syntactic dependents

- Only raising expressions allow expletive "there" — as subject of SRVs, as an object of ORVs

index

ref   *there*   *it*
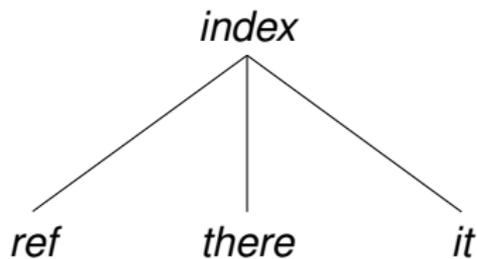
An Example

(On the whiteboard)

- They tend to run.
- Kim$_i$, John persuaded Mary to trust $\_i$.

Summary

- We have shown the differences between Equi and Raising verbs
- Lexical entries for handling subject/object equi/raising verbs are introduced and compared
- The generalization of raising can be captured with a principle which states that any unassigned argument must be raising controllers (not to be discussed in this lecture)

References I

Pollard, C. J. and Sag, I. A. (1994).
Head-Driven Phrase Structure Grammar.
University of Chicago Press, Chicago, USA.