1  Binding theory

Recall that we can consider a sentence’s acceptability contingent on a particular interpretation by specifying the intended (co-)reference with subscripted indices. Two classes of words exhibit contrasting referential possibilities:

<table>
<thead>
<tr>
<th>(possessive) pronouns</th>
<th>reflexives</th>
</tr>
</thead>
<tbody>
<tr>
<td>my</td>
<td>myself</td>
</tr>
<tr>
<td>your</td>
<td>yourself</td>
</tr>
<tr>
<td>him</td>
<td>himself</td>
</tr>
<tr>
<td>her</td>
<td>herself</td>
</tr>
<tr>
<td>it</td>
<td>itself</td>
</tr>
<tr>
<td>our</td>
<td>ourselves</td>
</tr>
<tr>
<td>you</td>
<td>yourselves</td>
</tr>
<tr>
<td>them</td>
<td>themselves</td>
</tr>
</tbody>
</table>

(1)  a. John$_i$ shaves John$_i$
    b. * John$_i$ shaves him$_i$
    d. John$_i$ shaves himself$_i$

Names and non-reflexive pronouns are referential. Reflexives are referentially-dependent on another NP in the sentence.

Reflexive binding is subject to standard agreement conditions: gender, animacy, number.

(2)  a. * She$_i$ shaved himself$_i$
    b. She$_i$ shaved herself$_i$
    c. * [The fur]$_i$ shaved himself$_i$
    d. [The fur]$_i$ shaved itself$_i$
    e. * We$_i$ shaved herself$_i$
    f. We$_i$ shaved ourselves$_i$

→ an agreeing pronoun or name must precede the reflexive. But the binder can’t be too far away!

(3)  a. * John$_i$ thinks $[CP$ that Mary shaves himself$_i$ $]$
    b. * The barbers$_i$ wonder $[CP$ who shaves themselves$_i$ $]$

or too deeply embedded

(4)  a. John$_i$ worried himself$_i$
    b. * $[\text{NP}$ Pictures of John$_i$ $]$ worried himself$_i$
    c. $[\text{Pictures of John}$_i$]$ replicated themselves$_j$ all over the computer screen.

**c-command** Node A c-commands node B if an only if

(i) A does not dominate B and B does not dominate A

(ii) the first branching node dominating A also dominates B
The Binding Theory of Chomsky 81

‘binds’ \( x \) binds \( y \) iff they are coindexed and \( x \) c-commands \( y \)

Principle A A reflexive pronoun must be bound by an antecedent in the smallest enclosing CP (or DP)

Principle B A non-reflexive pronoun cannot be bound to an antecedent in the smallest enclosing CP (or DP)

Principle C Names can never be bound

How can we explain the ungrammaticality of these sentence using this theory?

\[
\begin{align*}
* \text{He}_i & \text{ hurt himself}_i \\
* \text{John}_i & \text{'s sister invited himself}_i \\
* \text{She}_i & \text{ invited Christina}_i \text{ over} \\
* \text{We}_i & \text{ found a letter to ourselves}_i \text{ in the trash.}
\end{align*}
\]

2 Quantifiers

Pronouns can also be bound by determiners. Such determiners quantify over individuals.

(5) Every princess amuses herself.

Lalla Meryem of Morocco amuses herself.
Margarita of the Netherlands amuses herself

is true just in case
Elisabeth of Belgium amuses herself
Aiko of Japan amuses herself

The same structural and agreement constraints apply to binding by quantifiers.

(6) a. * [Every queen and every princess]_i knows that we appreciate herself_i
b. [Every queen and every princess]_i knows that we appreciate her_i
c. [Every queen and every princess]_i appreciates herself_i

Still, some quantifier sentences offer multiple binding possibilities. The b sentences exhibit inverse scope.

(7) Some sherpa accompanied every mountain-climber.

a. There exists a solitary sherpa who traveled with lots of climbers.
b. Each mountain-climber was issued a (possibly) separate sherpa guide.

(8) Every American loves some actress

a. Certain citizens like Winona Ryder, others prefer Emma Thompson...
b. Carrie-Anne Moss is universally adored by all Americans

Negation can also participate in these kinds of scope ambiguity.

(9) No student read two books by Chomsky

a. Students always give up before cracking their second Chomsky book.
b. There are two books that are so obscure that no student anywhere has ever read them.