

# Semantics 4

# Binding Theory

Susan likes herself.

Susan likes her.

# Binding Theory

Susan<sub>a</sub> likes herself<sub>a</sub>.

Susan<sub>a</sub> likes her<sub>b</sub>.

# Binding Theory

Susan<sub>a</sub> likes herself<sub>a</sub>.

Susan<sub>a</sub> likes her<sub>b</sub>.

\*Susan<sub>a</sub> likes herself<sub>b</sub>.

\*Susan<sub>a</sub> likes her<sub>a</sub>.

# Binding Theory

Susan<sub>a</sub> likes herself<sub>a</sub>.

Susan<sub>a</sub> likes her<sub>b</sub>.      pronouns cannot  
corefer with anything

\*Susan<sub>a</sub> likes herself<sub>b</sub>.      in the sentence.

\*Susan<sub>a</sub> likes her<sub>a</sub>.

# Binding Theory

- Susan<sub>a</sub> likes herself<sub>a</sub>.  
Susan<sub>a</sub> likes her<sub>b</sub>.  
\*Susan<sub>a</sub> likes herself<sub>b</sub>. in the sentence.  
\*Susan<sub>a</sub> likes her<sub>a</sub>.
- anaphors must corefer with something.  
pronouns cannot corefer with anything
-

# Binding Theory

anaphors must corefer with something?

Susan<sub>a</sub> likes herself<sub>a</sub>.

\*Susan<sub>a</sub> likes herself<sub>b</sub>.

# Binding Theory

anaphors must corefer with something?

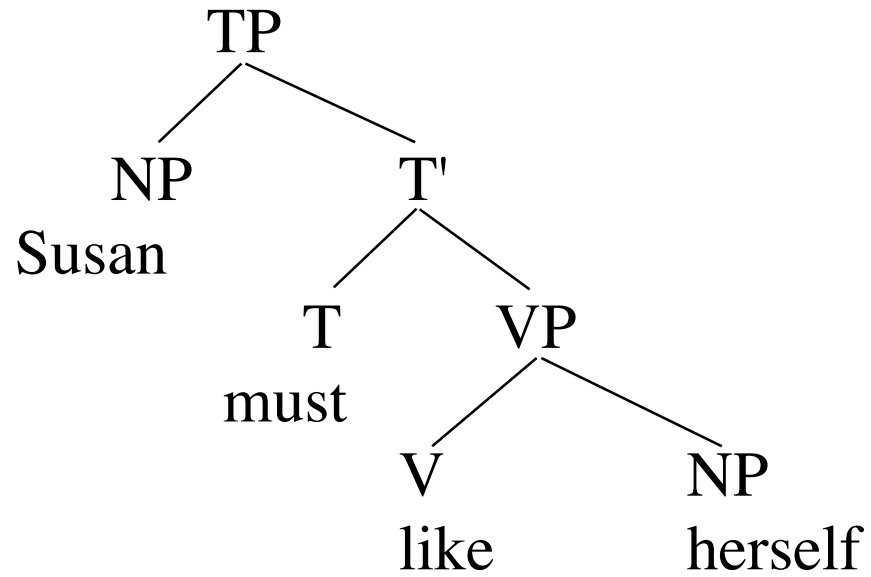
Susan<sub>a</sub> likes herself<sub>a</sub>.

\*Susan<sub>a</sub> likes herself<sub>b</sub>.

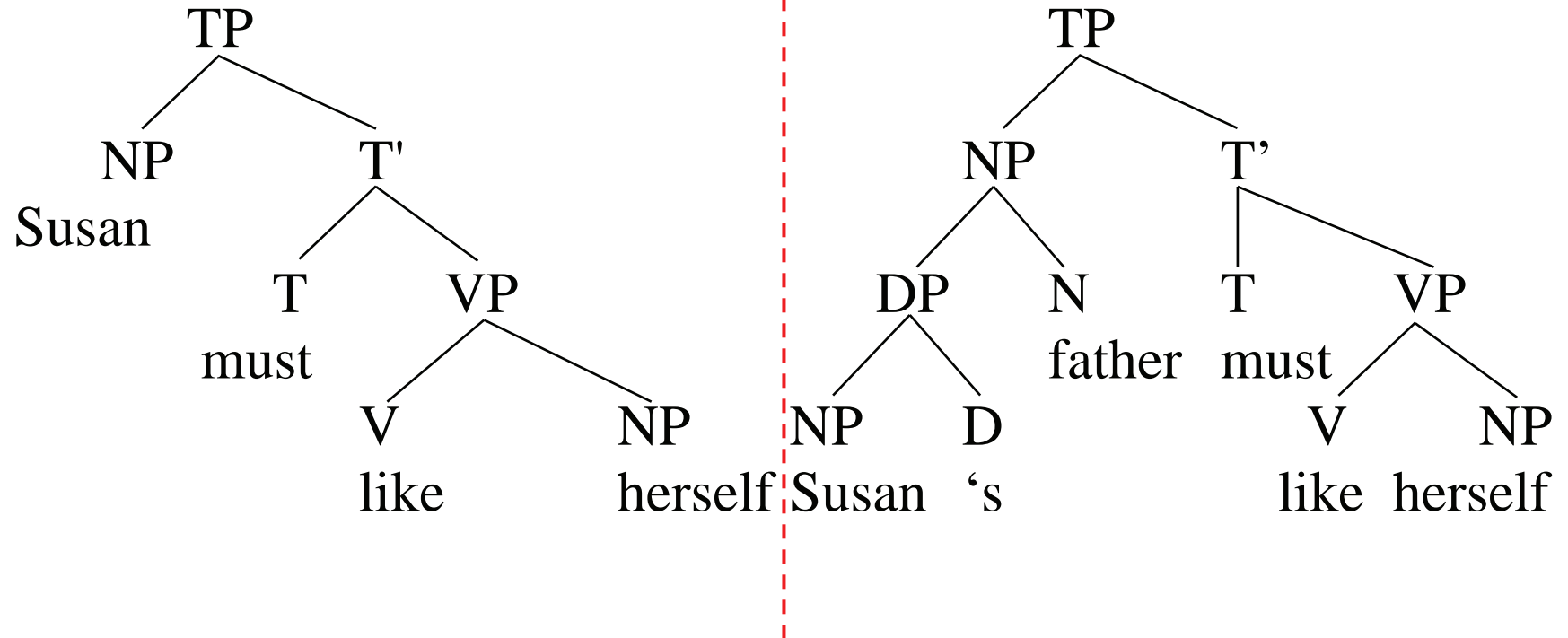
\*Susan<sub>a</sub>'s father likes herself<sub>a</sub>.



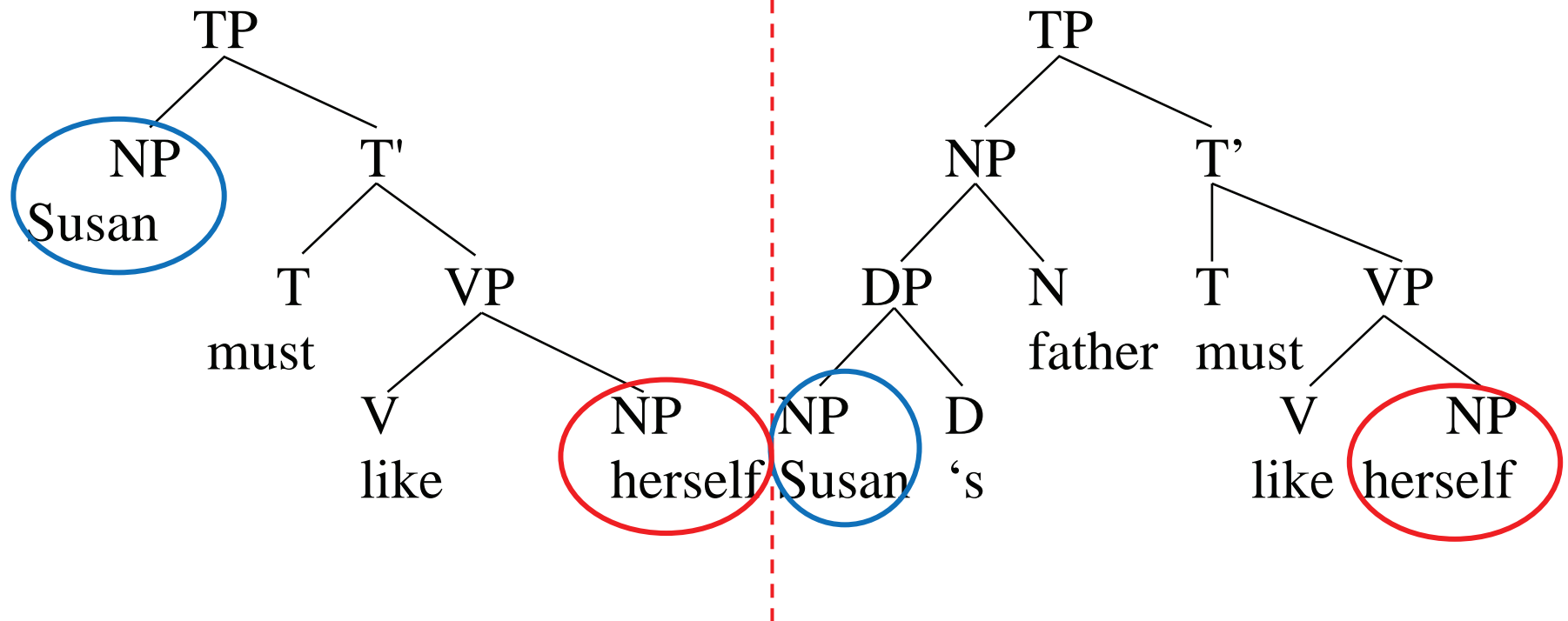
# Binding Theory



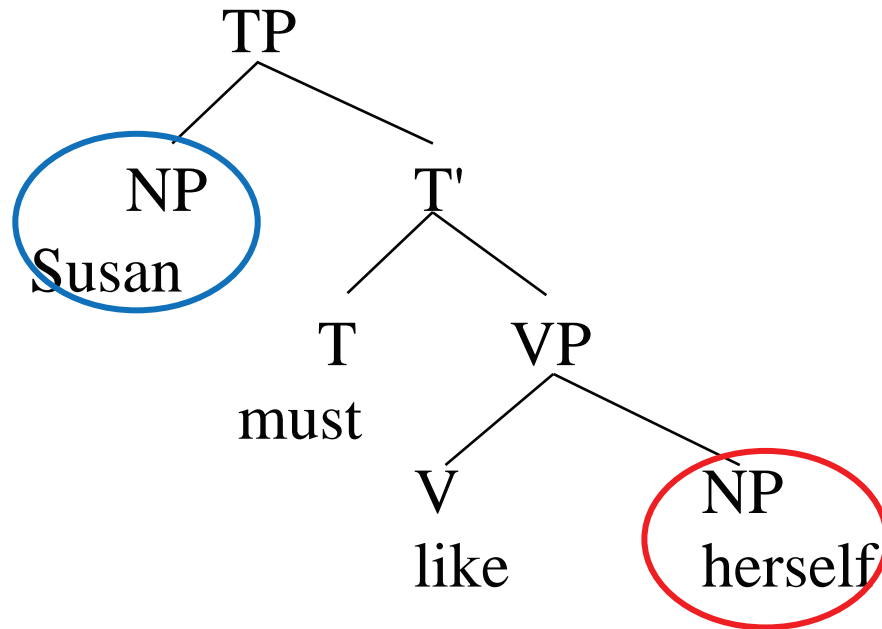
# Binding Theory



# Binding Theory



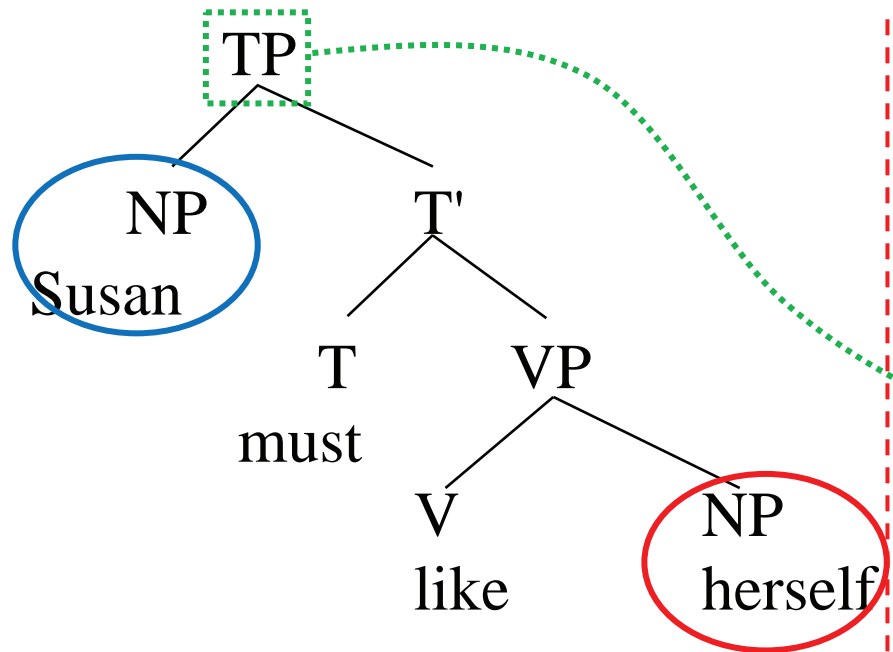
# Binding Theory



## **c-command:**

$\alpha$  c-commands  $\beta$  if  
every node that dominates  $\alpha$   
dominates  $\beta$ .

# Binding Theory

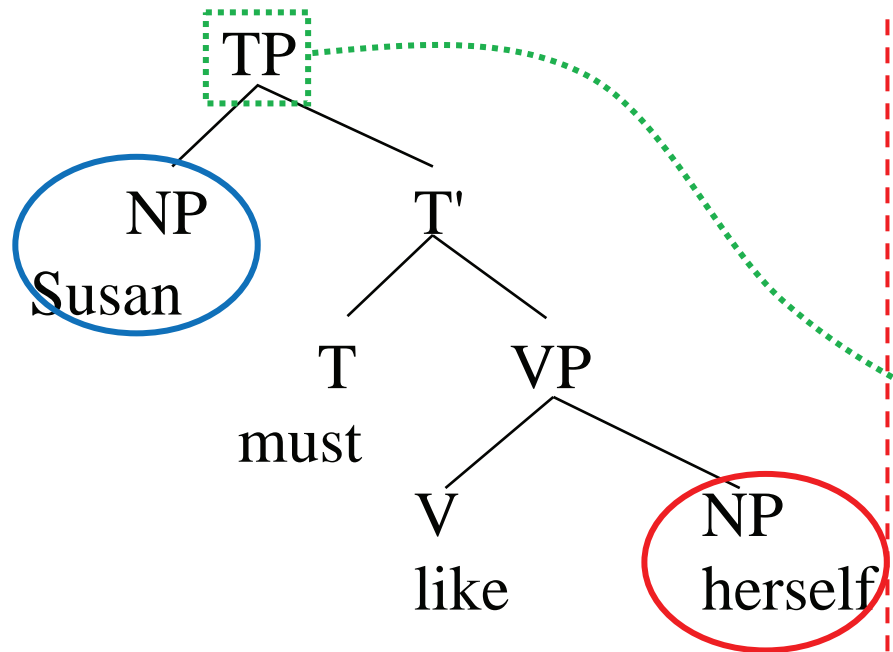


## **c-command:**

$\alpha$  c-commands  $\beta$  if every node that dominates  $\alpha$  dominates  $\beta$ .

**the only node dominating the NP *Susan* also dominates *herself*.**

# Binding Theory



## **c-command:**

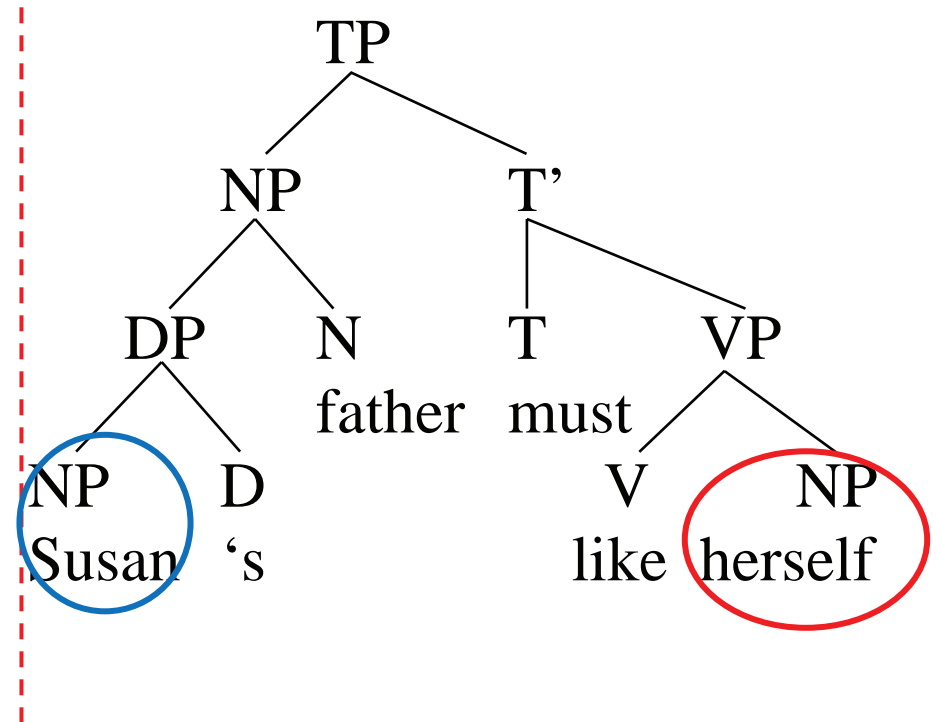
$\alpha$  c-commands  $\beta$  if every node that dominates  $\alpha$  dominates  $\beta$ .

**the only node dominating the NP *Susan***

also dominates *herself*.

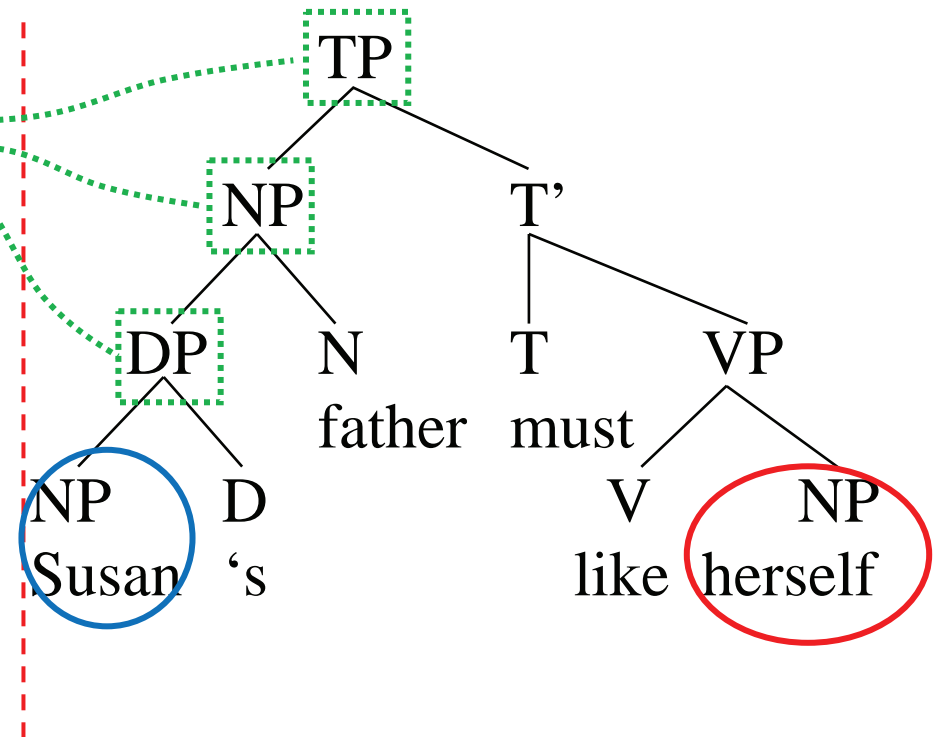
→ *Susan* c-commands *herself*.

# Binding Theory



# Binding Theory

Multiple nodes dominate  
the NP *Susan*,  
and not all of them dominate  
*herself*.

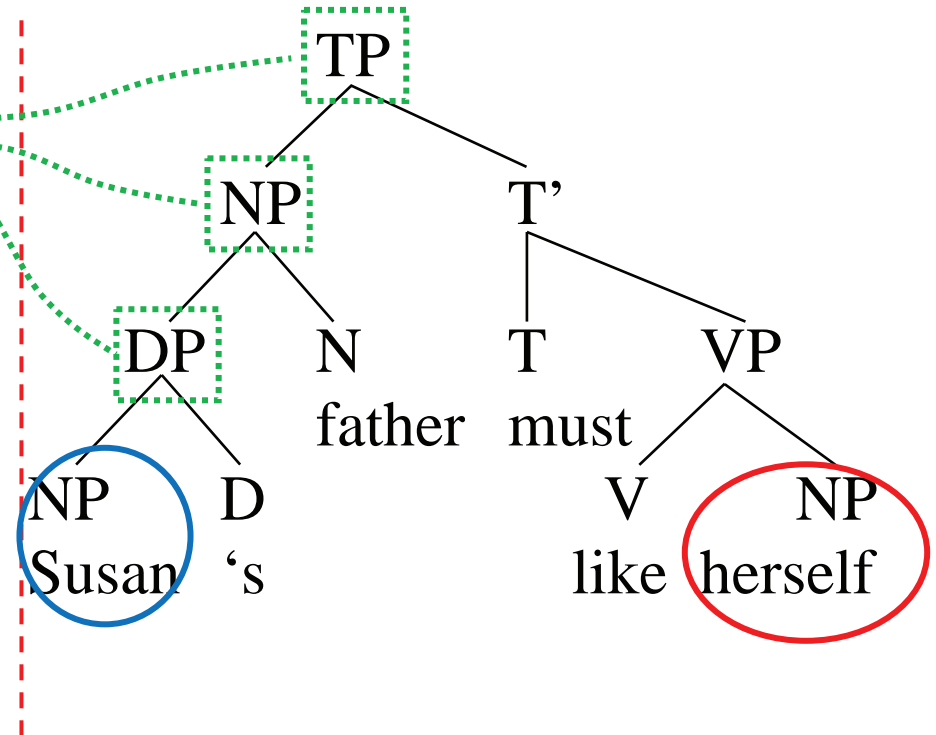




# Binding Theory

Multiple nodes dominate  
the NP *Susan*,  
and not all of them dominate  
*herself*.

→ *Susan* doesn't c-command  
*herself*.



# Binding Theory

anaphors (words like *herself*, *myself*, etc.) must be c-commanded by something that corefers with them.

# Binding Theory

anaphors (words like *herself*, *myself*, etc.) must be c-commanded by something that corefers with them.

$\alpha$  binds  $\beta$  if  $\alpha$  c-commands and corefers with  $\beta$ .

# Binding Theory

anaphors must be bound.

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anaphors must be bound.

anaphors include: reflexives (*herself*)  
reciprocals (*each other*)

[John and Bill] like each other

\* [John and Bill]'s father likes each other

# Binding Theory

anaphors must be bound.

pronouns must be free (=not bound)

Susan<sub>a</sub> likes herself<sub>a</sub>.

\* Susan<sub>a</sub>'s father likes herself<sub>a</sub>.

\* Susan<sub>a</sub> likes her<sub>a</sub>.

Susan<sub>a</sub>'s father likes her<sub>a</sub>.

# Binding Theory

Susan<sub>a</sub> likes herself<sub>a</sub>.

I told Susan<sub>a</sub> about herself<sub>a</sub>.

# Binding Theory

Susan<sub>a</sub> likes herself<sub>a</sub>.

I told Susan<sub>a</sub> about herself<sub>a</sub>.

\*Herself<sub>a</sub> likes Susan<sub>a</sub>.



# Binding Theory

Susan<sub>a</sub> likes herself<sub>a</sub>.

\*Susan<sub>a</sub> thinks I like herself<sub>a</sub>.

# Binding Theory

Susan<sub>a</sub> likes herself<sub>a</sub>.

\*Susan<sub>a</sub> thinks I like herself<sub>a</sub>.

## Principle A:

anaphors must be bound...within TP.

# Binding Theory

\*Susan<sub>a</sub> likes her<sub>a</sub>.

Susan<sub>a</sub> thinks I like her<sub>a</sub>.

## Principle A:

anaphors must be bound...within TP.

## Principle B:

pronouns must be free...within TP.

# Binding Theory

\*She<sub>a</sub> likes Susan<sub>a</sub>.

Her<sub>a</sub> father likes Susan<sub>a</sub>.

## Principle A:

anaphors must be bound within TP.

## Principle B:

pronouns must be free within TP.

# Binding Theory

\*She<sub>a</sub> likes Susan<sub>a</sub>.

Her<sub>a</sub> father likes Susan<sub>a</sub>.

## Principle A:

anaphors must be bound within TP.

## Principle B:

pronouns (and names?) must be free within TP.

# Binding Theory

Susan<sub>a</sub> thinks I like her<sub>a</sub>.

\*She<sub>a</sub> thinks I like Susan<sub>a</sub>.

## Principle A:

anaphors must be bound within TP.

## Principle B:

pronouns (~~and names?~~) must be free within TP.

# Binding Theory

Susan<sub>a</sub> thinks I like her<sub>a</sub>.

\*She<sub>a</sub> thinks I like Susan<sub>a</sub>.

## Principle A:

anaphors must be bound within TP.

## Principle B:

pronouns (~~and names?~~) must be free within TP.

## Principle C:

"R-expressions" must be free.

# Binding Theory

[While she was eating], Susan read a book.

\*She read a book while Susan was eating.

→ not about linear precedence



# **reasons to be happy about binding theory**

Mary decided to leave.

## **reasons to be happy about binding theory**

Mary decided to leave.

how many TPs are in this sentence?

## reasons to be happy about binding theory

[Mary decided [ to leave]].

how many TPs are in this sentence?

## reasons to be happy about binding theory

[Mary decided [ to leave]].

how many TPs are in this sentence?

how does the smaller one satisfy the EPP?

## reasons to be happy about binding theory

[Mary decided [PRO to leave]].

how many TPs are in this sentence?

how does the smaller one satisfy the EPP?

## reasons to be happy about binding theory

[Mary decided [ PRO to leave]].

how many TPs are in this sentence?

how does the smaller one satisfy the EPP?

PRO: an unpronounced pronoun which refers (in this case) to *Mary*.

## reasons to be happy about binding theory

John<sub>i</sub> promised Mary<sub>k</sub> to defend himself<sub>i</sub>

\*John<sub>i</sub> promised Mary<sub>k</sub> to defend herself<sub>k</sub>

\*John<sub>i</sub> told Mary<sub>k</sub> to defend himself<sub>i</sub>

John<sub>i</sub> told Mary<sub>k</sub> to defend herself<sub>k</sub>

## reasons to be happy about binding theory

John<sub>i</sub> promised Mary<sub>k</sub> to defend himself<sub>i</sub>

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- hard to see how to account for these facts assuming only the NPs we can see...



## reasons to be happy about binding theory

John<sub>i</sub> promised Mary<sub>k</sub> [PRO<sub>i</sub> to defend himself<sub>i</sub>]

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- hard to see how to account for these facts assuming only the NPs we can see...

...but we already had a reason (the EPP) to want the embedded clauses to have (invisible) subjects, which we call PRO.

## reasons to be happy about binding theory

John<sub>i</sub> promised Mary<sub>k</sub> [PRO<sub>i</sub> to defend himself<sub>i</sub>]

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John<sub>i</sub> told Mary<sub>k</sub> [PRO<sub>k</sub> to defend herself<sub>k</sub>]

•...but we already had a reason (the EPP) to want the embedded clauses to have (invisible) subjects, which we call PRO.

...and now we have a new reason: PRO is binding the anaphors.

## reasons to be happy about binding theory

[Which picture of himself<sub>i</sub>] did John<sub>i</sub> like best?

- new argument for movement: *John* doesn't c-command *himself* in the sentence as it's pronounced...but it used to, before movement took place. Apparently that's enough.

This phenomenon is called **reconstruction**: treating something, for purposes of interpretation, as though it hadn't moved.

# **Reconstruction**

Which picture did John think that Mary bought?

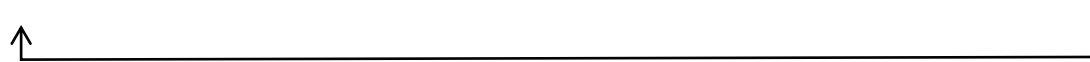
# Reconstruction

Which picture did John think that Mary bought \_\_\_ ?



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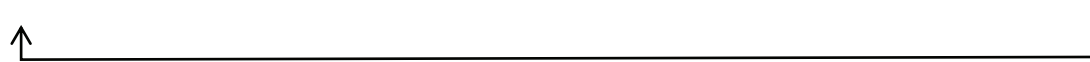


Which picture of himself did John think that Mary bought?



# Reconstruction

Which picture did John think that Mary bought \_\_\_ ?



Which picture did John think \_\_\_ that Mary bought \_\_\_ ?



Which picture of himself did John think that Mary bought?

(\*John thought that Mary bought a picture of himself)

# Reconstruction

Which picture did John think that Mary bought \_\_\_ ?



Which picture did John think \_\_\_ that Mary bought \_\_\_ ?



**movement is successive cyclic!**

Which picture of himself did John think that Mary bought?

(\*John thought that Mary bought a picture of himself)

# **A condition on reconstruction**

Two guards seem to me to be standing in front of every building.

(ambiguous?)

# **A condition on reconstruction**

Two guards seem to me to be standing in front of every building.

(ambiguous? yes.)

Two guards seem to themselves to be standing in front of every building.

(ambiguous?)

# **A condition on reconstruction**

Two guards seem to me to be standing in front of every building.

(ambiguous? yes.)

Two guards seem to themselves to be standing in front of every building.

(ambiguous? no.)

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