

November 29, 2005

## CLASS 24: EMPTY CATEGORIES

Recall the basics of Binding Theory:

**Principle A:** An anaphor must be bound in its governing category.

**Principle B:** A pronoun must be free in its governing category.

**Principle C:** An R-expression must be free.

**Binding:** X binds Y iff

- (i) X c-commands Y, and
- (ii) X is coindexed with Y

**Governing category (GC):** The governing category for an element Y is the minimal IP containing

- (i) the element Y,
- (ii) a governor for Y.

## BINDING THEORY AND EMPTY CATEGORIES

What kind of an object is a DP trace?

If traces are R-expressions:

- then they should be subject to Principle C of the Binding Theory

If traces are anaphors or pronouns:

- then they should be subject to Principle A or Principle B of the Binding Theory, respectively.

Let's construct some examples to see if we can tell if any of the Binding Theory applies to traces.

## A-MOVEMENT

Is the trace of A-movement an R-expression?

1) [<sub>IP</sub> Mary<sub>i</sub> was kissed *t<sub>i</sub>*]

In (1), *Mary* binds *t* because *Mary* c-commands and is coindexed with *t*.

Principle C says that an R-expression must be free. But *t* is not free and yet (1) is acceptable, so we can conclude that:

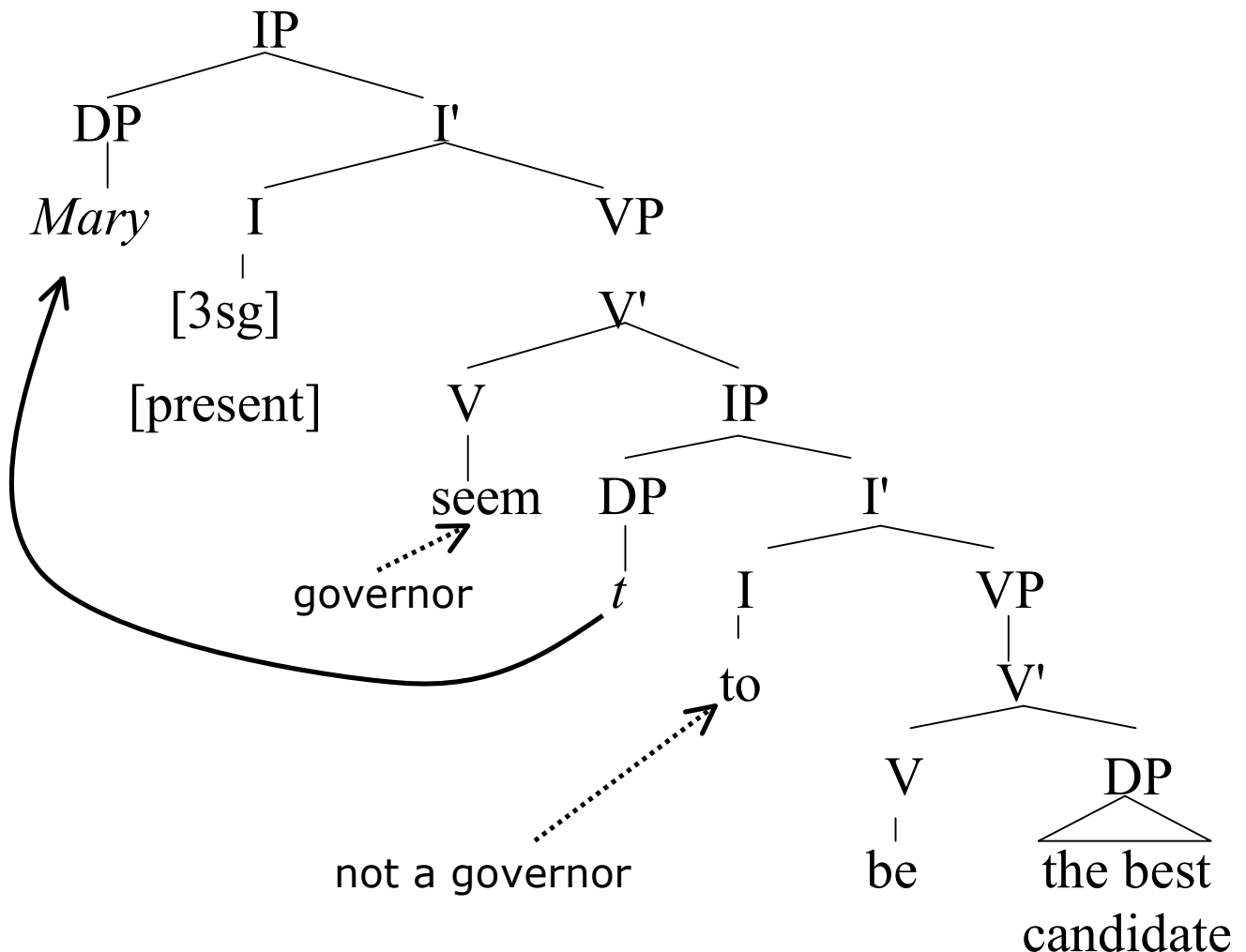
- *traces* of A-movement are not R-expressions

This leaves open the question of whether *t* is an anaphor or a pronoun.



2) [<sub>IP</sub> Mary<sub>i</sub> seems [<sub>IP</sub> t<sub>i</sub> to be the best candidate]]

What is the governing category of the trace in (2)? Remember that non-finite Infl (*to*) is not a governor, and IP of a non-finite Infl is not a barrier to government.



*t* is bound within its governing category.  
Therefore, A-movement traces are anaphors.

With the assumption that A-movement traces are anaphors, can we explain this bad sentence?

3) \*John<sub>i</sub> seems [that [<sub>IP</sub> it was arrested  $t_i$  by the police]]  
 ↑ \_\_\_\_\_ |

Anaphors and A-movement traces must be bound within their governing category. In (3), the trace's governing category is the embedded IP since *arrested* governs the trace.

Its binder *John* is not inside this governing category, and therefore we have a Principle A violation.

## A'-MOVEMENT

Do A'-movement traces behave the same way as A-movement traces?

Before we continue we will introduce one additional stipulation: DPs in A'-positions are invisible for the Binding Theory. [The Binding Theory is about A-binding.]

4) [<sub>CP</sub> who<sub>i</sub> [<sub>IP</sub> t<sub>i</sub> left]]?

What is the governing category of *t* in (4)? The IP. But if the GC is IP, and if *t* is an anaphor, then we should have a Principle A violation because there is not a binder inside the GC.

We clearly don't have any violation (because the sentence is good.)

Furthermore, since *who* is invisible to the Binding Theory (because it is in an A'-position), we can't tell if (4) is satisfying Principle B (because it is not bound in its GC), or Principle C (because it is free =not bound.)

Solution: construct an example in which the trace is bound by a pronoun in an A-position (which is bound by a DP in an A'-position).

5) \*Who<sub>i</sub> does he<sub>i</sub> think [<sub>CP</sub> t'<sub>i</sub> that [<sub>IP</sub> Mary likes t<sub>i</sub>]]?  
 ↑ \_\_\_\_\_ | ↑ \_\_\_\_\_ |

In (5) the lower trace is bound by the pronoun *he*. Notice that this configuration does not violate Principle B since the GC of *t* is the lower IP and it is free within its GC.

(5) should have the status of (6):

6) Who<sub>i</sub> thinks [<sub>CP</sub> that Mary likes him<sub>i</sub>]?

But (6) is good, while (5) is bad. It looks as if the trace in (5) cannot be bound by the pronoun in subject position.

(This configuration is often called "Strong Crossover" because the effect is very strong. Unlike with WCO, the coindexed pronoun c-commands the wh-trace.)

As long as the pronoun is not coindexed with the trace, the example is fine.

(7) Who<sub>i</sub> does he<sub>j</sub> think [<sub>CP</sub> t'<sub>i</sub> that Mary likes t<sub>i</sub>]?

What types of things must not be coindexed with something in an A-position that c-commands them?

**ANSWER: R-EXPRESSIONS**

Principle C is violated in (5) since the pronoun binds the *wh*-trace.

5) \*Who<sub>i</sub> does **he**<sub>i</sub> think [<sub>CP</sub> t'<sub>i</sub> that Mary likes t<sub>i</sub>]?

Compare:

8) \*He<sub>i</sub> thinks that Mary likes someone<sub>i</sub>

## TYPES OF DPS AND EMPTY CATEGORIES

We originally thought the Binding Theory applied to three different types of DPs.

1. Anaphors
2. Pronouns
3. R-expressions

Now we will reduce these three labels to two by saying that there are really two features:

- + / – anaphor
- + / – pronominal

Now, an anaphor is an item that is +anaphor and –pronominal;

a pronoun is –anaphor and +pronominal;

an R-expression is –anaphor and –pronominal.

Features	Type of DP
+a, –p	anaphor
–a, +p	pronoun
–a, –p	R-expression
+a, +p	? ( <i>cannot exist</i> )

Now we see that the Binding Theory also applies to at least two kinds of empty categories – A-traces and A'-traces.

Features	Type of DP	Type of ec
+a, –p	Anaphor	A-trace
–a, +p	Pronoun	??
–a, –p	R-expression	A'-trace
+a, +p	<i>cannot exist</i>	??