

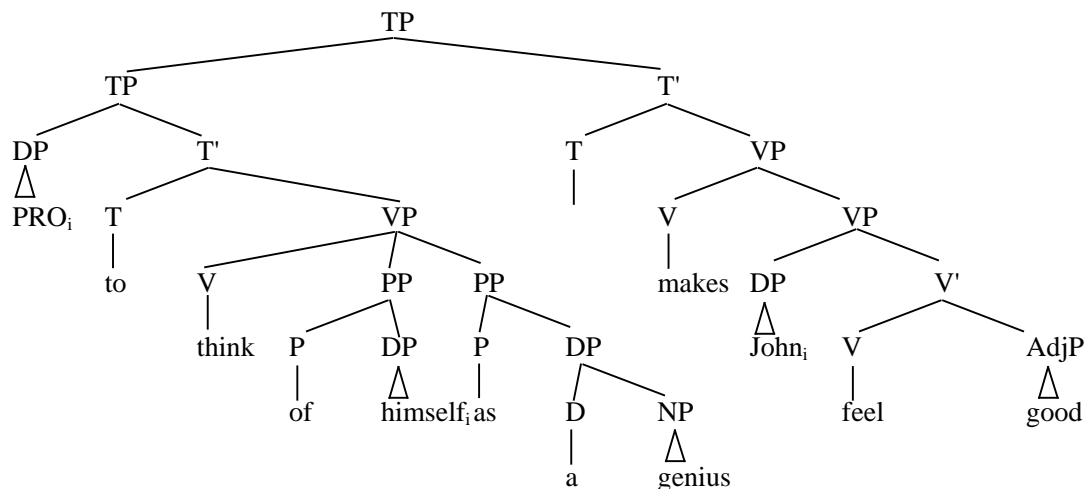
### 1 What's PRO for? let's look at a homework question from last year:

F: Consider the following data:

3.
  - a. To think of himself<sub>i</sub> as a genius makes John<sub>i</sub> feel good.
  - b. \*To think of him<sub>i</sub> as a genius makes John<sub>i</sub> feel good.
  - c. \*To think of John<sub>i</sub> as a genius makes him<sub>i</sub> feel good.
  - d. Relegating himself<sub>i</sub> to the role of onlooker, John<sub>i</sub> let Billy play shortstop.
  - e. Relegating him<sub>i</sub> to the role of onlooker, John made Billy<sub>i</sub> sit on the bench.
  - f. \*Relegating himself<sub>i</sub> to the role of onlooker, John made Billy<sub>i</sub> sit on the bench.
  - g. \*Relegating him<sub>i</sub> to the role of onlooker, John<sub>i</sub> made Billy sit on the bench.

If we assume that infinitives and gerunds may have a PRO subject which can be controlled (i.e. get its reference) from elsewhere in the sentence, the data in (3) make sense given the binding principles A, B, and C. For each sentence, briefly explain why.

In (3 a-c), what we have is an infinitive clause functioning as the subject (the Agent/Causer argument of *make*). The tree for 3a, therefore, will look like this:



*Crucial point:*

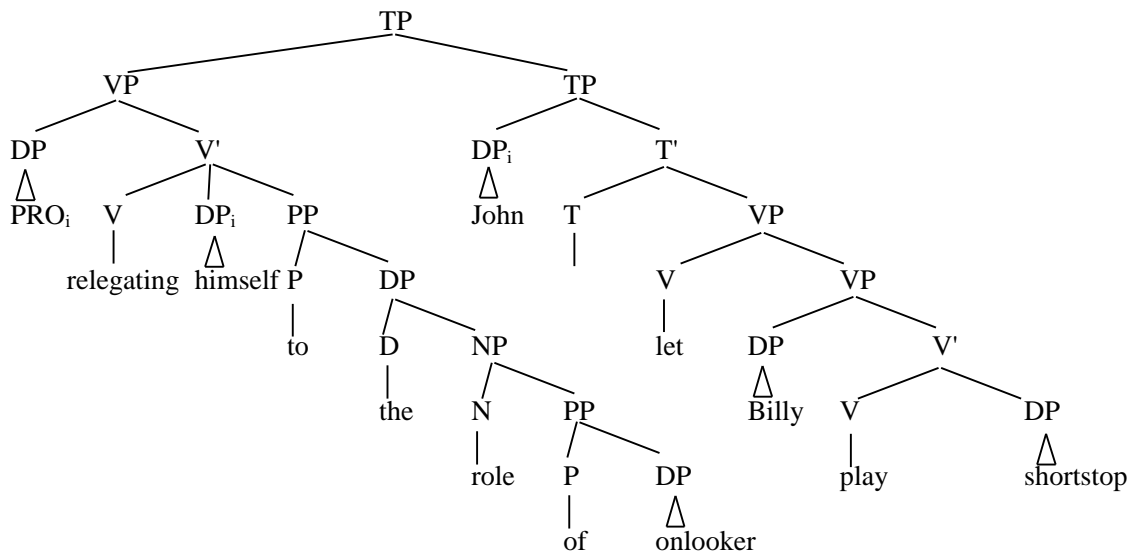
- If there was no PRO, this set of data would be extremely confusing.
- If there *is* a PRO, so everything behaves exactly the way it ought to according to the principles of binding theory we've already established independently.
- Therefore, there is a PRO.

Remember:

- *Binding* occurs when two DPs are co-referential and one c-commands the other
- An anaphor *must* be bound in its binding domain (we'll say 'clause' for shorthand)
- A pronoun *must* be free in its binding domain
- An R-expression must be free.

- If PRO in (a) gets its reference from *John*, then *himself* will corefer with PRO<sub>i</sub> and thereby corefer with *John*. (Notice that this is another case where linear order does not create a condition C violation, again falsifying the alternative proposal for condition C above, and validating the c-command proposal).
  - If PRO in (b) gets its reference from *John*, then trying to coindex *him* and *John* will create a condition B violation — *him* will corefer with *PRO*, which is in its clause and c-commands it.
- (1) If PRO in (c) gets its reference from *him*, and if *him<sub>i</sub>* is intended to refer to John (it's not *bound* by it, but the coindexing indicates that the speaker intends to use *him* to refer to John), then PRO<sub>i</sub> will c-command and be coindexed with *John*, and hence violate condition C.

The situation in (d-g) is similar, except the gerundive clause containing PRO is here an adjunct, not the subject of the matrix clause. The tree will look something like this:<sup>1</sup>



- If *John* controls PRO in (d), then *himself* will be coreferential with and bound by PRO, and hence coreferential with John, and satisfy condition A.
  - If *John* controls PRO in (e), then *him* (coreferential with Billy) will not be bound by anything in its clause, and hence satisfy condition B.
  - If *John* controls PRO in (f), then *himself*, intended to be coreferential with Billy, will not be bound by anything in its clause, and hence will violate condition A.
- Important point here: why can't *Billy* control PRO in this sentence? Obviously it cannot; it doesn't even have the option to. This is part of the mysterious phenomena related to control; an instance of *obligatory control*. Sometimes control is optional, or PRO refers to an arbitrary set of third-person persons or people people (like the "They" in "They say...") *Swimming is fun*, for example, has an arbitrary reference; it roughly means (*For anyone*), *to swim is fun*.
- If *John* controls PRO in (g), then *him*, intended to be coreferential with Billy, is not bound by anything in its clause, and hence will satisfy condition B.

<sup>1</sup> Here I've drawn an adjunct attached to the TP projection, which is not the way we've done it in this class — we've attached them to bar-level projections. In order to get the word order right here using that convention for adjunction, I'd have to project an inaudible CP and adjoin the gerund to the C' projection.

## 2 Also: makes $\theta$ -criterion work:

Theta criterion: Every theta-role must be assigned to some DP.  
Every DP gets one and only one theta-role.

Consider the verb *think* or *relegate*:

1. think            [Agent, Proposition]            X thinks [<sub>CP</sub> that Y]
  - a. John thinks that he is a fool.
  - b. \*It/there thinks that he is a fool
  - c. To think that his mother loves him makes John feel good

→ Where's the Agent theta-role of *think* going in 1c?

2. relegate        [Agent, Theme, Goal]            X relegates Y to Z
  - a. John relegated Mary to the bench.
  - b. \*It/there relegated Mary to the bench.
  - c. Relegating Mary to the bench, John sent in his second-string pitcher.

→ Where's the Agent theta-role of *relegate* going in 1c?

If we have PRO, then PRO is a DP which receives a theta-role, and there is one DP per theta-role and one theta-role per DP.

### 3.0 Back to A-movement for a minute: Passive

1. a. Mary kissed John.  
b. John was kissed (by Mary).

thematic object becomes subject  
subject disappears or is expressed in an oblique phrase  
auxiliary "to be" appears (in English)  
verb appears in passive participle form (indistinguishable from perfective ppl.)

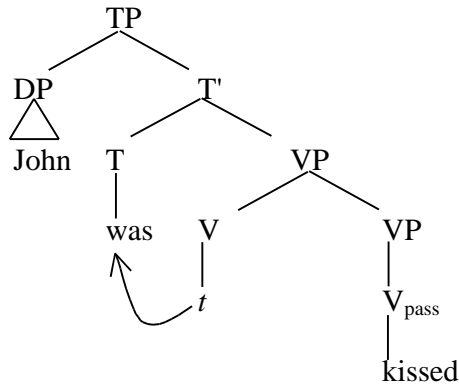
- c. Mary ate the cookies.  
d. The cookies were eaten.

Hypothesis: the passive morphology affects the verb root by

- I: "absorbing" or "eliminating" the subject theta-role
- II: "absorbing" or "eliminating" the verb's accusative case-assigning features

2. 2 possible analytical approaches:

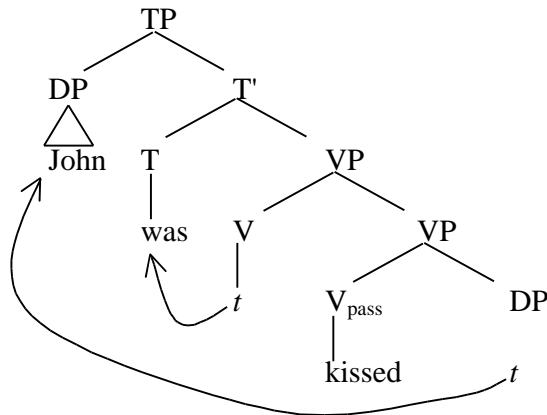
- a) Base-generate the thematic object in subject position



**LFG:** Passive is an operation on the lexical level that changes how arguments are projected into the syntax — the thematic object is never a syntactic object

Syntactic-looking effects like those you saw in your homework are derived not in the "syntax", but at the "functional" level. There is no 'movement'

b) Base-generate the thematic object in object position; move it to subject position to check its Case feature:



**P&P:** Passive is an operation on the lexical level that changes a verb's theta- and case-assignment ability, but the projection of theta-roles into the syntax remains the same — the thematic object is a syntactic object initially, and a syntactic subject later. UTAH — the Universal Theta Role Assignment Hypothesis — holds.

3. An argument from idioms:

For some V+Object idioms, the passive operation preserves the idiomatic interpretation (although not for others):

- a. John let the cat out of the bag.
- b. The cat was let out of the bag.
- c. The company stacked the deck against its female employees.
- d. The deck was stacked against the female employees.
- e. The FBI kept tabs on Jane Fonda.
- f. Tabs were kept on Jane Fonda.

If the idiomatic interpretation depends on the derived subject being interpreted as an object of the VP, in P&P movement is the only way to accomplish this (because "object" and "subject" are structural notions, not primitives of the theory).

4. Other kinds of tests:
  - a. *ne*-cliticization in Italian
  - b. numeral-quantifier-float in Japanese

In Japanese, numeral quantifiers can appear outside the NPs they modify, but there are strict requirements on where such quantifiers can appear. They must be licensed by being adjacent to their host NP, or adjacent to its trace. No other placement is possible for these quantifiers (Miyagawa (1989)). We can thus use numeral quantifiers as a diagnostic for movement from a position—if a quantifier appears non-adjacent to its host, we know that there is a trace of its host in that position

5. a. *Gakusee-ga* kinoo 3-*nin* piza-o tabe-ta  
*Students-N yesterday 3-Cl pizza-A eat-Pst*  
 “Three students ate pizza.”
- b. John-ga pizza-o Mary-ni 2-*kire* age-ta  
*John-N pizza-A Mary-D 2-CL give-Pst*  
 “John gave 2 slices of pizza to Mary”
6. \**Gakusei-ga* piza-o 3-*nin* tabe-ta  
*student-N pizza-A 3-Cl eat-Pst*  
 “Three students ate pizza.”
7. (Test sentence:  
 Pizza-wa paati-de 3-*nin* tabe-rare-ta  
 Pizza-TOP party-at 3-CL eat-PASS-PAST  
 3 pizzas (slices of pizza?) were eaten at the party.

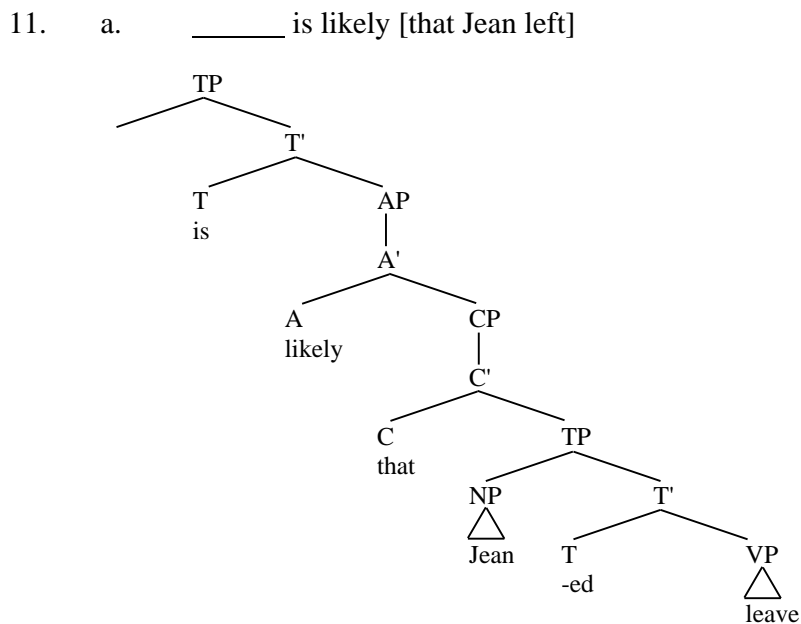
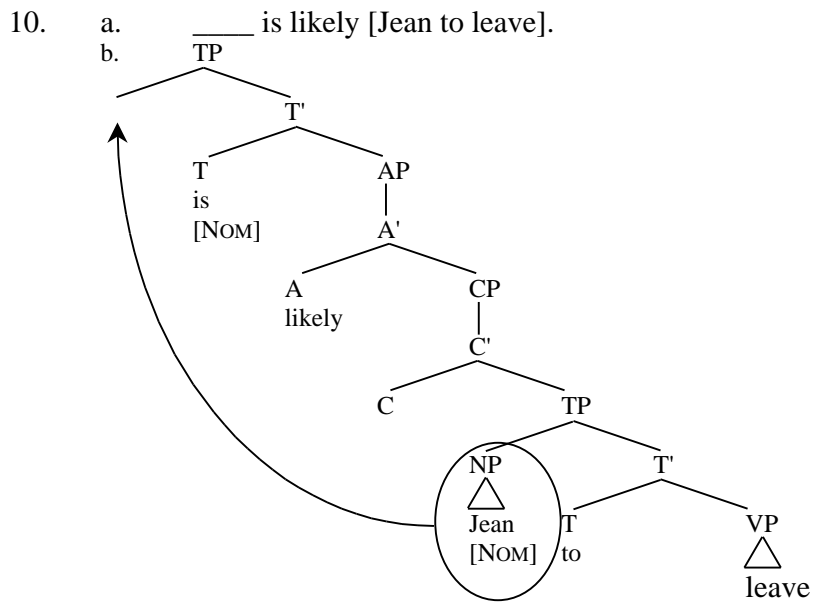
#### 4.0 Raising

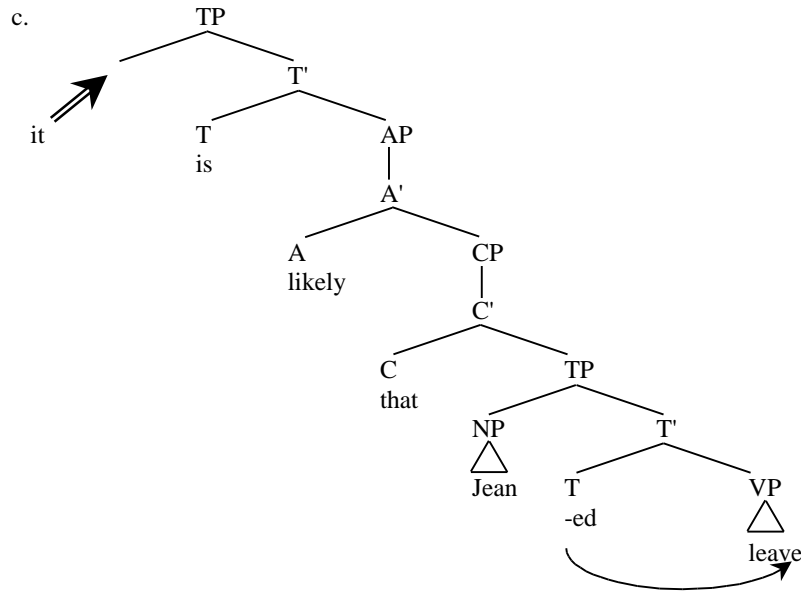
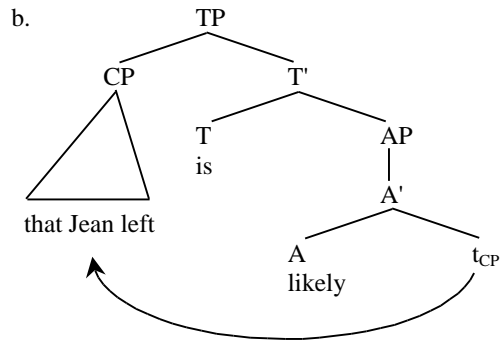
8. a. It was likely that John would leave.
- b. John was likely to leave.
- c. That John would leave was likely.
- d. It seemed that/like John had drunk too much.
- e. John seemed to have drunk too much.
- f. \*That John had drunk too much seemed.
- g. It appears that Mary has dumped him.
- h. Mary appears to have dumped him.
- i. That Mary has dumped him \*appeared/is apparent.

in b, e, and h, thematic subject of the embedded infinitival becomes syntactic subject of raising verb, gets nominative case, agrees with raising verb.

raising verb selects for a propositional internal argument (finite or non-finite), no external argument

9. Here, the movement analysis works for idioms too:
- The cat was likely to be let out of the bag.
  - The deck was likely to be stacked.
  - Tabs were likely to be kept on us.
  - The cat seemed to have been let out of the bag.
  - The deck seemed to have been stacked against us.
  - Tabs seemed to have been kept on us.
  - The cat appears to have been let out of the bag.
  - The deck appears to have been stacked against us.
  - Tabs appear to have been kept on our activities.





**5.0 Raising vs. Control**

16. We've got 2 ways for an infinitive clause to show up:

a. with a PRO subject (controlled from somewhere):  
[PRO To be the only one wearing plaid] embarrassed Mary

or

b. with a trace in subject position marking the base-position of a raised overt DP:  
[Mary]<sub>i</sub> seemed [ t<sub>i</sub> to be the only one wearing plaid]

17. On the surface, these two kinds of infinitive clause look identical. How can we choose between them for clauses like those below?

- |    |                                  |    |                                    |
|----|----------------------------------|----|------------------------------------|
| a. | Mary was unlikely [ to leave ].  | c. | Mary seemed [ to be intelligent ]. |
| b. | Mary was reluctant [ to leave ]. | d. | Mary wanted [ to be intelligent ]. |

18. The crucial difference between PRO infinitives and raising infinitives:
- Infinitive verbs with PRO subjects assign a theta-role to PRO.  
The theta-role of PRO's controller is assigned by some other element.  
*Two DPs, two theta roles* — one for PRO, one for its controller. (the Theta Criterion)
  - Infinitive verbs with traces for subjects assign a theta-role to that trace.  
The subject *does not get* a theta role from any other element. Remember, a moved element and its trace are a *single object* — a *chain*.  
→ One DP, one theta role: the Theta Criterion again.

19. We can use the idiom test. If the overt subject has been moved from its base position, an idiomatic interpretation due to that base position should be acceptable. If the overt subject is assigned a theta-role from the matrix verb/adjective, then an idiomatic interpretation (which depends on only receiving a theta-role from the embedded verb or adjective) should be impossible.

- The deck is likely to be stacked against women employees.
- #The deck is reluctant to be stacked against women employees.
- The cat is likely to have been let out of the bag by then.
- #The cat is reluctant to have been let out of the bag by then.

Also try existential/locative infinitival complements with expletive *there* subjects:

- There was likely to be rioting after the game.
- #There was reluctant to be rioting after the game.
- There seemed to be a dog in the room.
- #There wanted to be a dog in the room.

20. (Subject-to-Subject) Raising verbs: *seem, is likely, appear...*  
(in some lgs: modal verbs, *begin, happen...*)

these verbs assign no theta role to their subject position; they're essentially unaccusative verbs that can take an infinitival clausal complement

(Subject) Control verbs: *want, promise, be reluctant...*

these verbs assign a theta role to their subject position; they take a DP subject which bears its own theta role and a clausal complement which can be infinitival.

these verbs assign a theta role to their subject position; they take a DP subject which bears its own theta role and a clausal complement which can be infinitival.

23. a) *is reluctant*

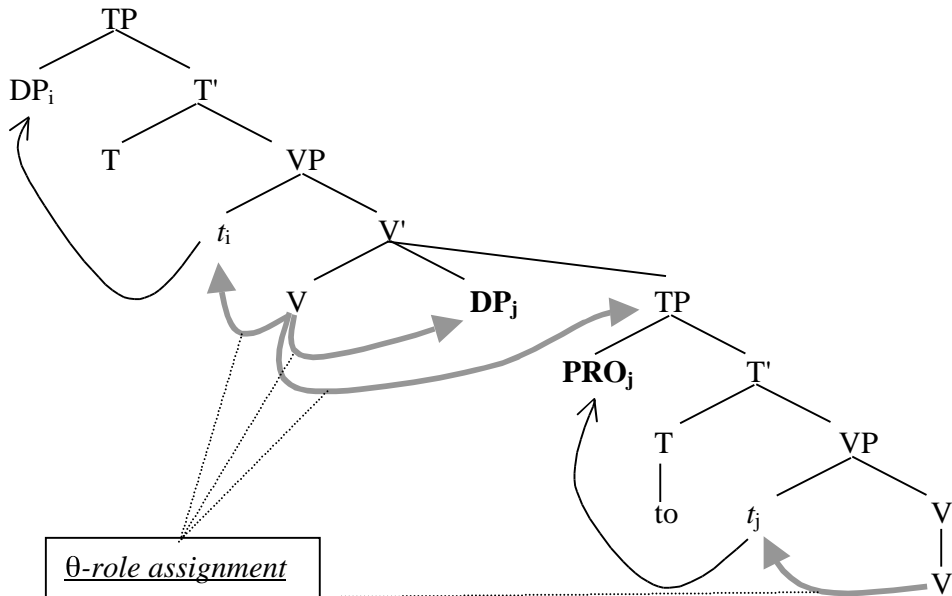
<u>experiencer</u>	proposition
i	k





Matrix verb: three theta-roles: one for subject, one for object, one for embedded clause  
 Embedded verb *leave*: one theta-role for its subject

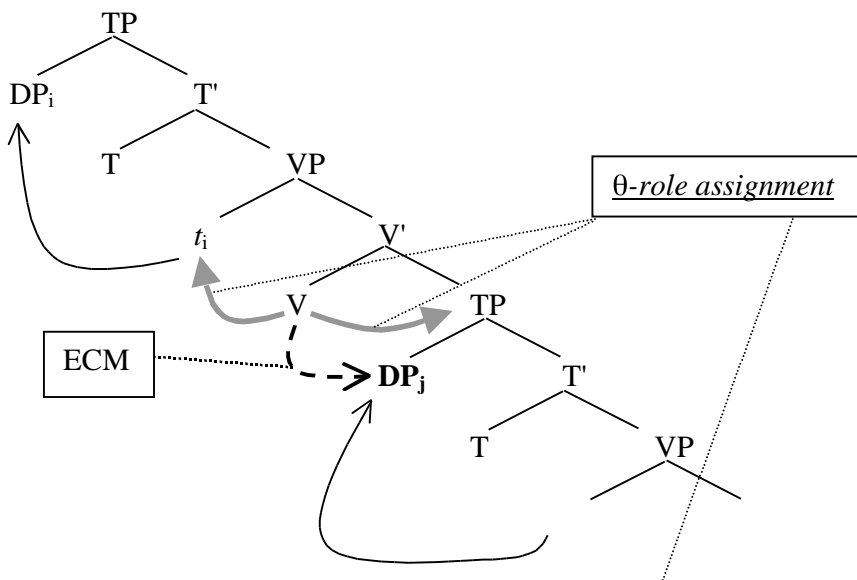
Subject of embedded verb: PRO, crucially *controlled by the object* of the matrix clause.

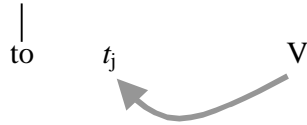


30. The "raising to object" or "exceptional case marking" analysis:

Matrix verb: two theta-roles: one for the subject, one for the embedded clause  
 Matrix verb: accusative case to assign  
 Embedded verb *leave*: one theta role for its subject

Subject of embedded clause receives object Case from the matrix verb, either "exceptionally" (via government of the verb into the embedded clause), or via movement to some object position in the higher clause ("raising to object") (see Roberts on AgrOP)





31. If these are really two different possibilities for sentences like those in 28, our idiom test and expletive test should sort them out into Object Control and ECM verbs.

32. Idiom test:

- a. #John told the deck to be stacked
- b. #John persuaded the deck to be stacked
- c. John wanted the deck to be stacked
- d. John believed the deck to be stacked
- e. #John begged the deck to be stacked

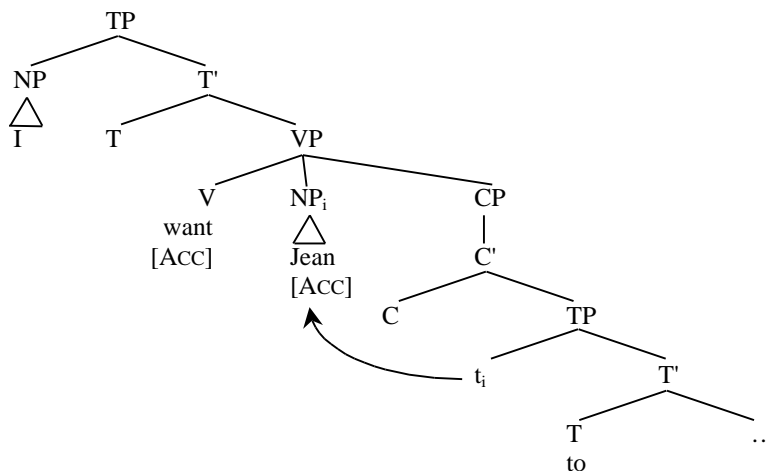
33. Expletive test:

- a. #John told there to be a riot.
- b. #John persuaded there to be a riot.
- c. John wanted there to be a riot.
- d. John believed there to have been a riot.
- e. #John begged there to be riot

So, *tell*, *persuade*, and *beg* are Object Control verbs (just as *be reluctant to* and *promise* above were Subject Control verbs). *Want*, *believe* and *see* (although note problems with *see*) are Exceptional Case Marking or Raising to Object verbs (just as *seem* and *be likely to* were Raising to Subject verbs above).

A question: how do you get overt Raising to Object in English if you don't allow ternary branching or ECM? (In 30 above I exhibited the structure of the clause on an ECM theory; below is a ternary-branching Raising to Object theory). How do you do it without either? For that matter, how do you do ditransitive clauses without ternary branching?

34.



This is left as an exercise for the reader. We'll talk about it more later.

## 7. Prep for today's talk: Kayne's Linear Correspondence Axiom

→ So far we have assumed that at Spell-Out you consult your headedness parameter, flatten out your tree with the heads on the appropriate sides, and pronounce the words in the order they come in, left-to-right across the tree.

→ Kayne hypothesized in 1994 that perhaps there *was* no headedness parameter. What if linear order of elements was *derived* from c-command?

Kayne's LCA (informal version): A terminal node *a* precedes another terminal node *b* iff *a*'s non-terminal mother *A* c-commands *b*'s non-terminal mother *B* and *B* does not c-command *A*: i.e. if *A* *asymmetrically* c-commands *B*.

Let's look at this in the book, as described by Roberts: pp. 50-54