Ling 165B: Syntax II

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Causative Affixes

Syntactic account to causative verbs I

(1) The towel was wet

(2) They will wet the towel

According to the syntactic account, there are two syntactic atoms in (2):

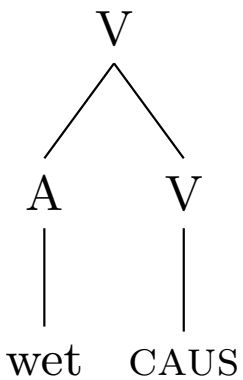
→ the adjective *wet* that takes a DP subject

wet **A** $\underline{\text{DP}_{theme}}$

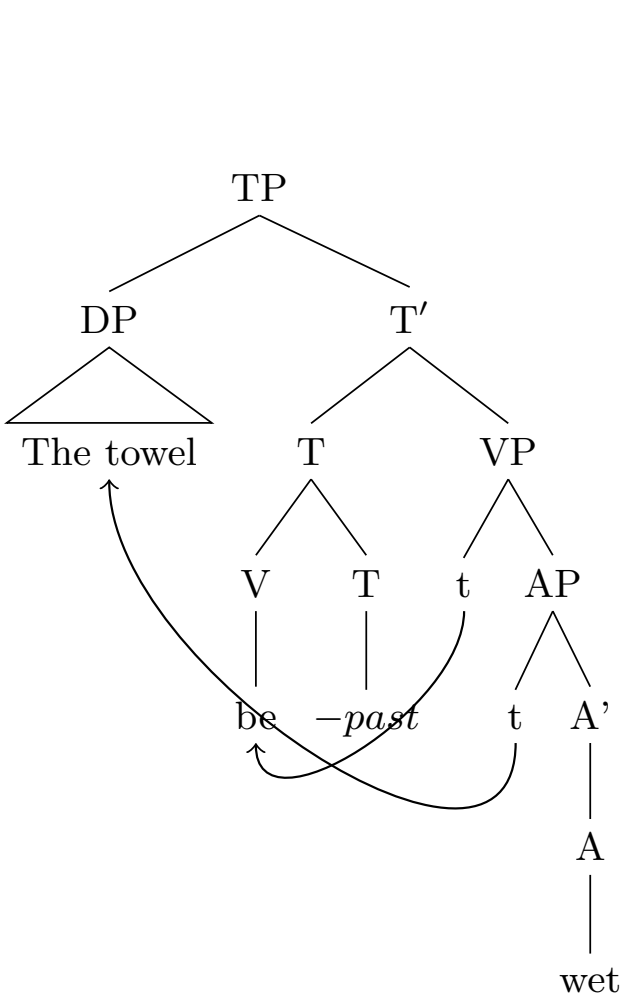
→ the verb CAUS that selects a causer or cause as subject.

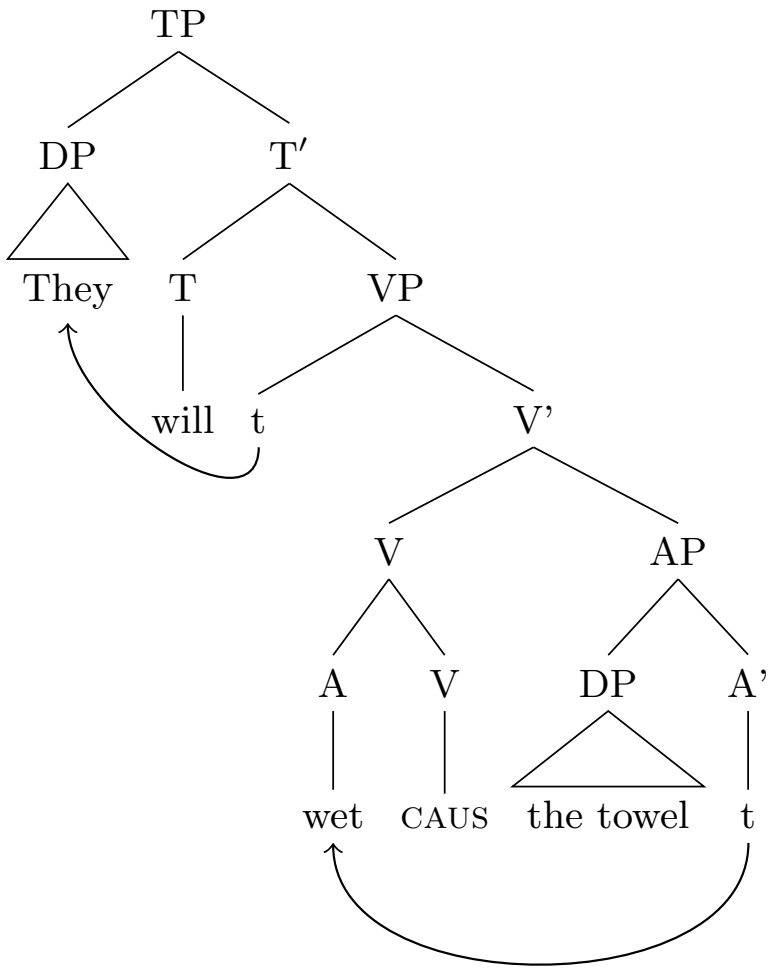
CAUS **V** bound $\underline{\text{DP}_{agent/cause}}$ AP

The verb *wet* is a complex head, which results from head movement.



Syntactic account to causative verbs II





Not only As: anticausative verbs. I

Can CAUS *combine with other categories beside As?*

Yes, there is a large class of verbs in English that alternate between an intransitive use and a causative interpretation.

(3) a. The wood burned
b. Sam burned the wood

(4) a. The ice melted
b. The sun melted the ice

(5) a. The glass broke
b. Someone broke a glass.

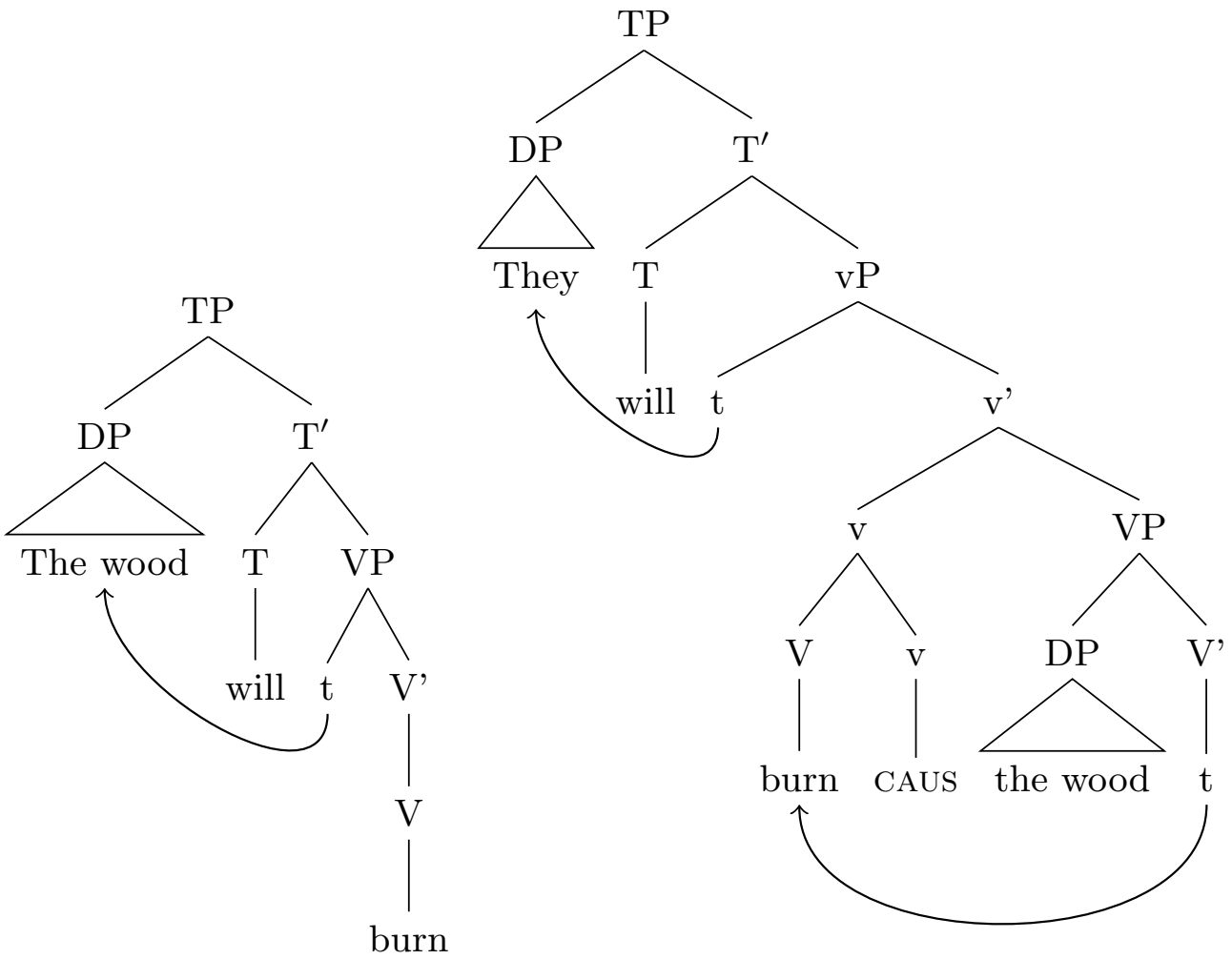
(6) a. The water boiled
b. I boiled the water

→ In their intransitive usages (that is when they occur without a direct object) these verbs are often called inchoative or anticausative verbs.

→ The alternation shown above is referred to as the causative/inchoative alternation.

Not only As: anticausative verbs. II

burn	V		$\underline{\text{DP}_{theme}}$		meaning "be(come) wet"
CAUS	v	bound	$\underline{\text{DP}_{agent/cause}}$	VP	meaning "cause to be(come) V"



Not only As: anticausative verbs. III

→ the CAUS V is referred to as 'little v'.

→ Because what looks like a single verb (causative *burn*) seems to be associated simultaneously with two VPs, this type of structure is said to have a VP shell structure, with a causative v shell combining with an (inchoative) VP.

Silent CAUS and pronounced causatives I

To some extent, silent CAUS and overt causative *make* behave similarly:

(7) a. I clean$_i$-CAUS [$_{AP}$ the table t$_i$]
b. I wet$_i$-CAUS [$_{AP}$ the towel t$_i$]
c. I burn$_i$-CAUS [$_{VP}$ the wood t$_i$]

(8) a. I made [$_{AP}$ the table clean]
b. I made [$_{AP}$ the towel wet]
c. I made [$_{VP}$ the wood burn]

However they don't behave in the exact same way. CAUS is more "picky" regarding the kind of APs or VPs that it allows as complements:

(9) a. I made [$_{AP}$ John happy]
b.*I [[happy$_i$-CAUS]-ed] [$_{AP}$ John t$_i$]

(10) a. They made [$_{VP}$ John laugh]
b.*They [[laugh$_i$-CAUS]-ed] [$_{VP}$ John t$_i$]

Identifying v CAUS as an exact but silent equivalent of *make* overgeneralizes: it predicts that too many forms are possible.

Silent CAUS and pronounced causatives II

The causative/anticausative alternation seems to be typical of change of state verbs (and not of other types of transitive verbs):

(11) a. They ate the rice
b.*The rice ate (*meaning: the rice got into an eaten state*)
c.*They [[eat$_i$-CAUS]-ed] [VP John t$_i$ the rice]

How do we encode this?

One way of encoding this is by modifying the lexical entry for CAUS accordingly, to indicate that it selects a VP or an AP complement of a certain (semantic) kind only (e.g. it must indicate change of state of a particular kind):

CAUS v $\underline{\text{DP}_{agent/cause}}$ AP/VP with certain semantic properties...

Draw tree structures for the following sentences:

(12) a. The ball may drop.
b. The children might drop the ball.

Causative Errors in English-speaking Children I

Starting at the age of 2, children use noncausative intransitive verbs ((13)), transitive verbs ((14)), adjectives ((15)) and locative particles with a causative meaning ((16)) (data form Bowerman (1974)):

(13) Intransitives

a. I come it closer so it won't fall. (= make it come closer; bring it closer) (Christy, 2;3)
b. I want to stay this rubber band on. (= let it stay on; leave it on) (Christy, 3;7)
c. I'm singing him. (= making him sing) (Christy, 3;1)

(14) Transitives

a. No, mommy, don't eat her yet, she's smelly! (= feed her) (Christy, 3;8)
b. Yawny Baby-you can push her mouth open to drink her. (= make her drink) (Eva, 3;7)
c. Don't giggle me. (= make me giggle/laugh) (Eva, 3;0)

(15) Adjectives

a. Don't tight this 'cause I tight this. (= tighten) (Eva, 2;4)
b. I'm gonna sharp this pencil. (= sharpen) (Christy, 3;1)

(16) Locative Particles

a. I wanta...wanta...wanta round it. (= make it go around; turn it) (Christy, 3;0)
b. Up your legs! (= make your legs go up; put your legs up) (Christy, 3;1)

Causative Errors in English-speaking Children II

According to Boweman, children's causative errors are a case of *overgeneralization* which follows the realization that verbs like *open* contain a null feature CAUSE denoting causation.

Inference made by children:

Since:

- *The door opens.* is a grammatical sentence.
- *Daddy makes the door open* is a grammatical sentence, with a causative meaning.
- *Daddy opens the door* is also a grammatical sentence with the same meaning of *Daddy makes the door open.*
- *The dog eats* is a grammatical sentence.
- *Daddy makes the dog eat* is a grammatical sentence, with a causative meaning.

It follows:

- *Daddy eats the dog* is also a grammatical sentence with the same meaning of *Daddy makes the dog eat.*

Atkinson (2010) suggests that children make causative errors because they have not acquired the selectional restrictions on the causative v.

Pronounced causatives and anticausatives I

How do we know whether causative is derived from the anticausative or the other way around?

Wolof (West-Atlantic, spoken in Senegal) has a pronounced causative morpheme *-al*. Many verbs are visibly derived from the inchoative V by adding *-al*:

bax	'boil(inchoat)'	baxal	'boil(caus)'
wow	'dry(inchoat)'	wowal	'dry(caus)'
seey	'melt(inchoat)'	seeyal	'melt(caus)'
fees	'fill(inchoat)'	feesal	'fill(caus)'

Wolof also have a silent anticausative morpheme, *-(k)u* (often called "middle" voice). A few verbs are visibly derived from the transitive base, by adding this middle voice morpheme:

yaq(tr.)/yaqu	'break'
ub/ubu	'close'
ubbi/ubbiku	'open'

Pronounced causatives and anticausatives II

This pattern (where the middle voice is derived from the transitive form) is frequent in many languages.

(17) a. le vent a cassé la branche
the wind has broken the branch
'the wind broke the branch'
b. la branche s' est cassée
the branch SE is broken
'the branch broke' French

(18) a. Nico ha aperto la porta
Nico has opened the door
'Nico opened the door'
b. La porta si è aperta
the door SI is opened
'the door opened' Italian

-ify, *-en* and BECOM I

Next, we turn to derived change of state verbs – that is, verbs that morphologically show that they are composed of subparts.

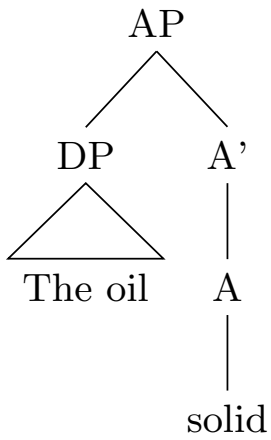
(19) a. the oil is solid

b. the oil will solidify (the oil will become solid)

c. the cold will solidify the oil (the cold will make the oil (become) solid)

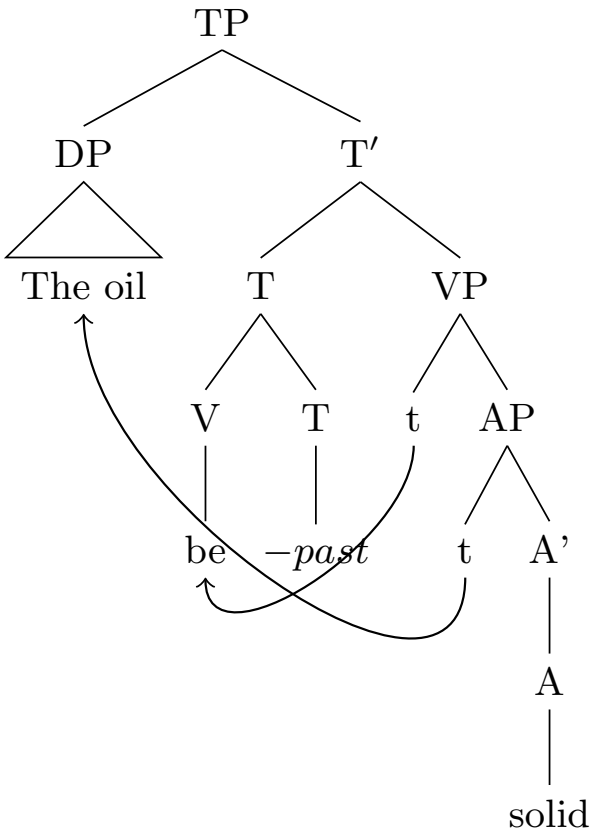
How are these sentences related?

They all share the following small clause, where the argument undergoing change is projected as the subject of the adjective:



-ify, *-en* and BECOM II

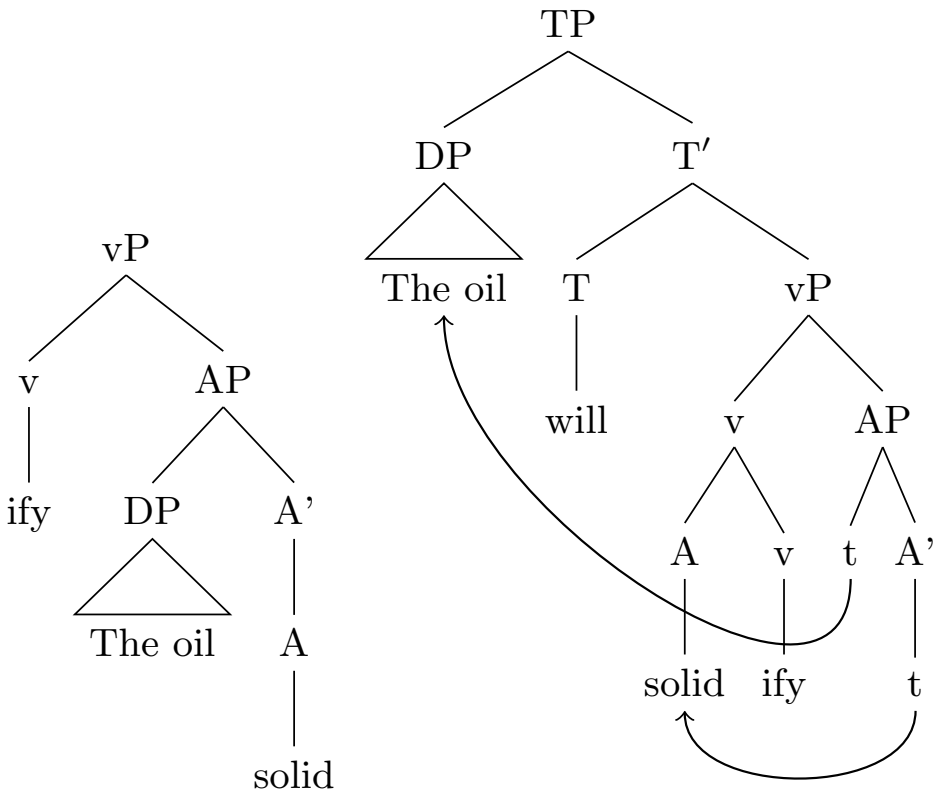
(19-a) is a simple copular sentence, where the subject of the small clause AP raises to spec, TP



-ify, *-en* and BECOM III

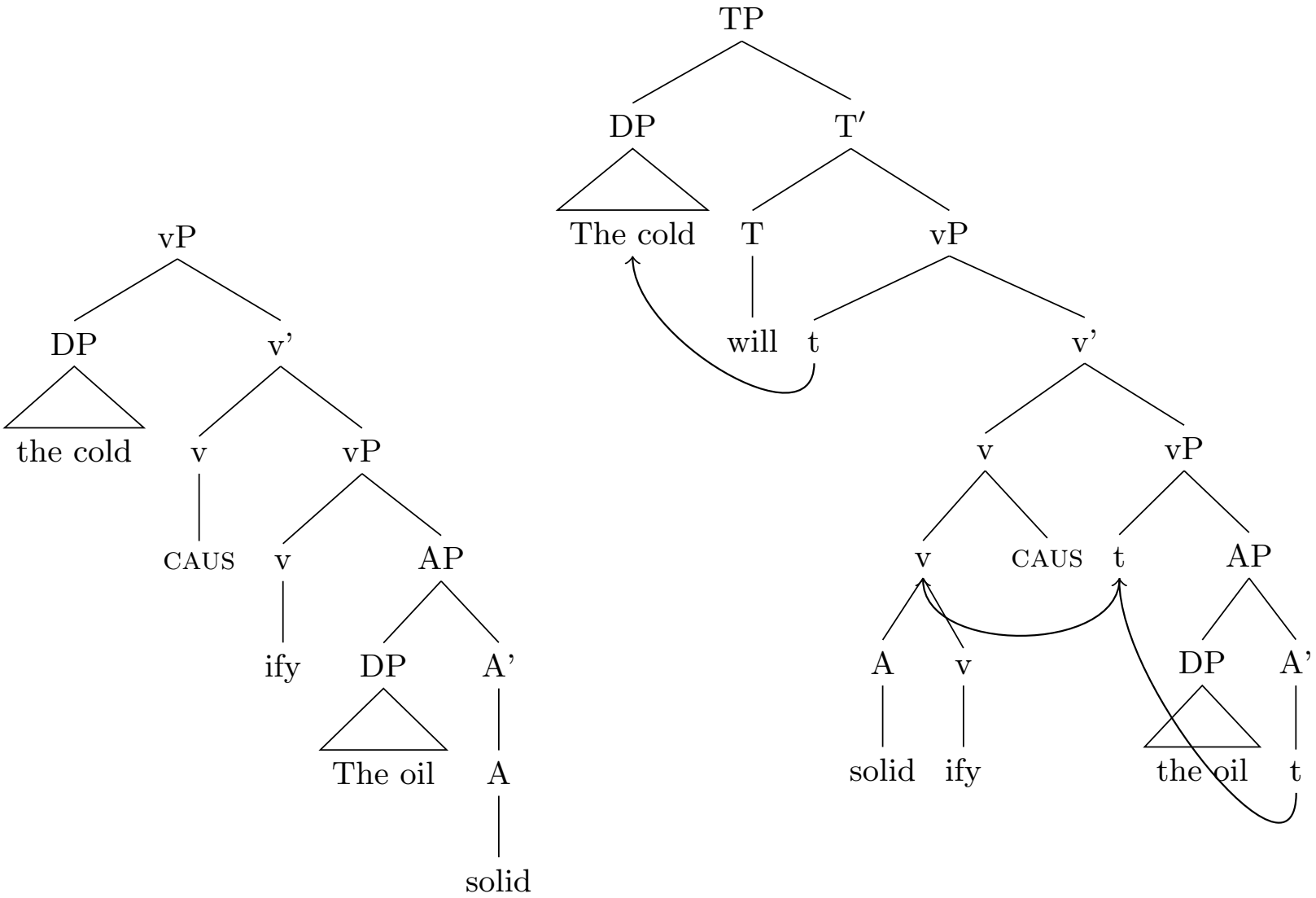
In (19-b) *-ify* takes the adjective to form a change of state verb ('become solid') and behave like the anticausative *burn*.

ify **v** bound AP/NP means 'become'



-ify, *-en* and BECOM IV

In the case of (19-c) we get a VP shell with three layers:



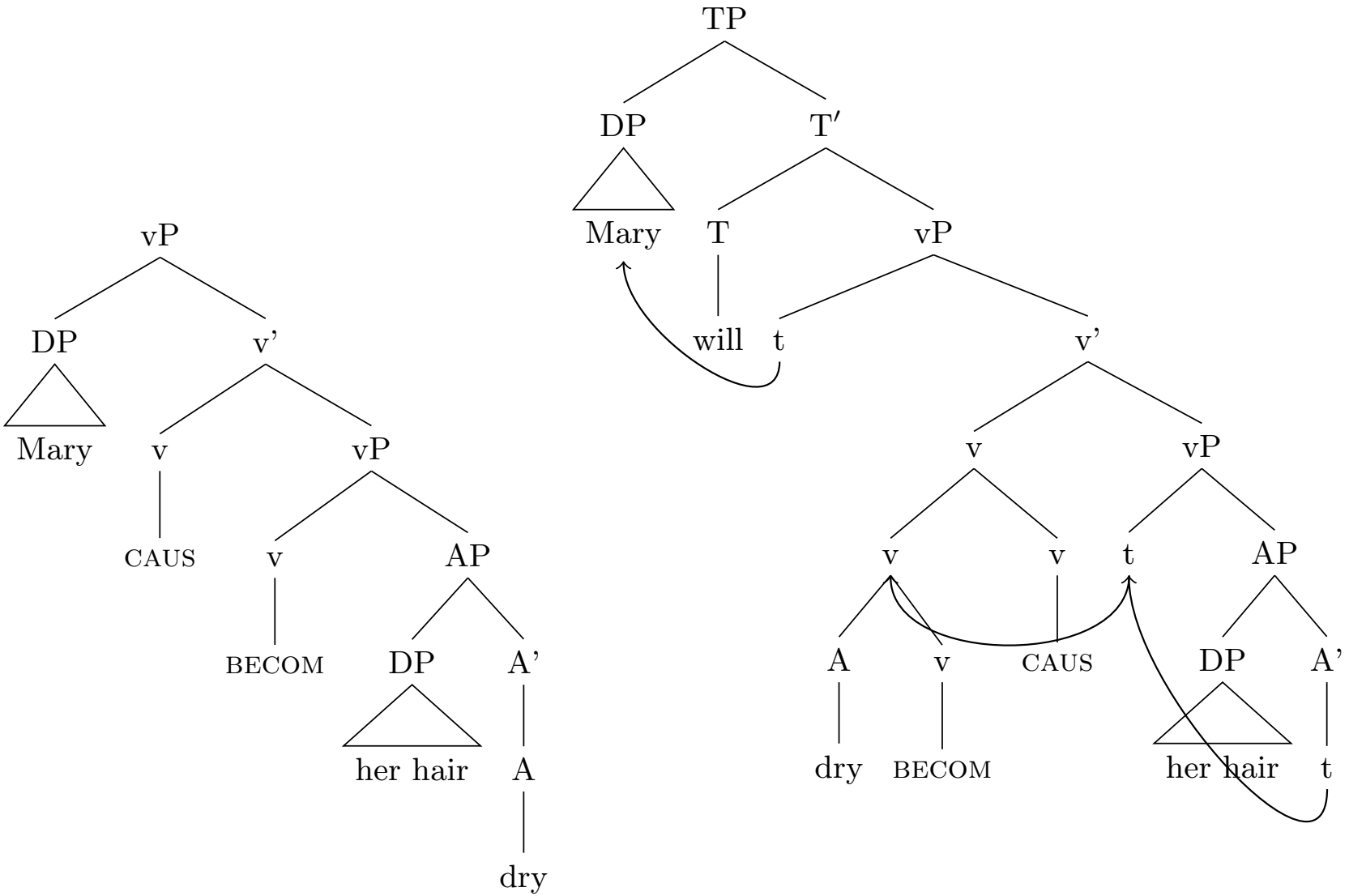
-ify, *-en* and BECOM V

This kind of structure is also found with verbs showing no morphology at all. Thus, parallel to liquid, liquify, liquify$_{\text{CAUS}}$, or white, whiten, whiten$_{\text{CAUS}}$, we have triplets such as open$_{\text{A}}$, open$_{\text{V}}$, open$_{\text{CAUS}}$, or dry$_{\text{A}}$, dry$_{\text{V}}$, dry$_{\text{CAUS}}$:

(20) a. This thing is liquid/white/open/dry
b. This thing liquified/whitened/opened/dried
c. She liquified/whitened/opened/dried this thing

The null counterpart of *-ify* or *-en* is BECOM and it is shown below for dry$_{\text{CAUS}}$ and the sentence *Mary will dry her hair*:

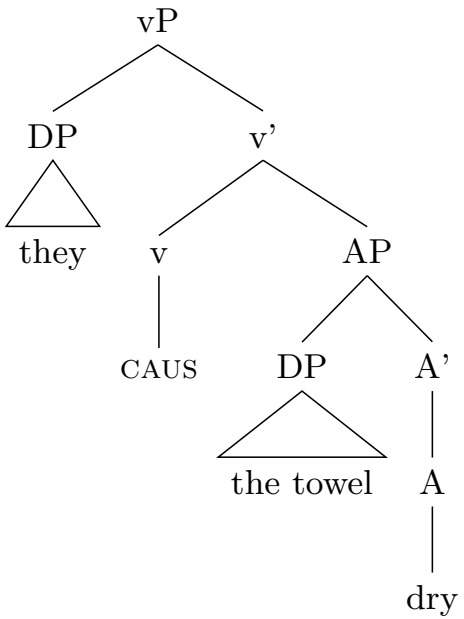
-ify, *-en* and BECOM VI



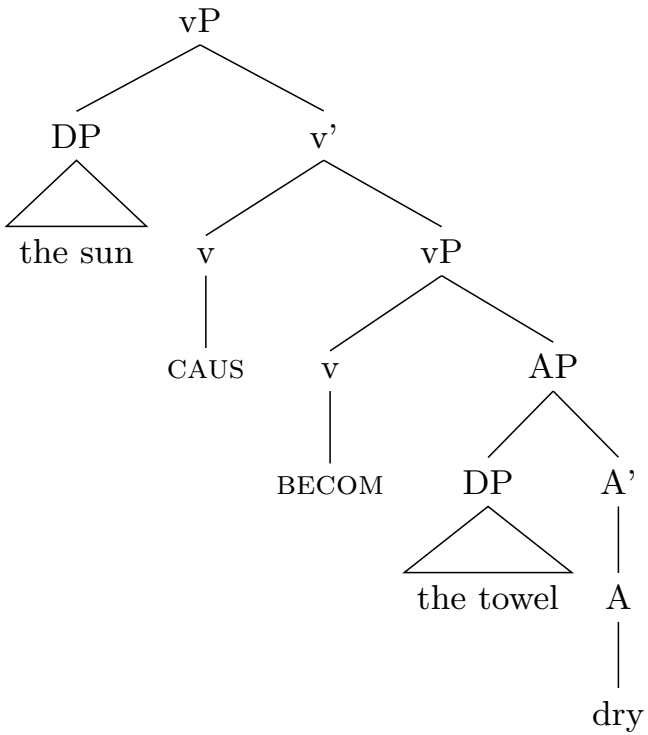
-ify, *-en* and BECOM VII

We are going to posit a silent BECOM only when the verb can have an intransitive use.

(21) a. The towel is wet.
b.*The towel wet.
c. They wet the towel.



(22) a. The towel is dry.
b. The towel dried.
c. The sun dried the towel.



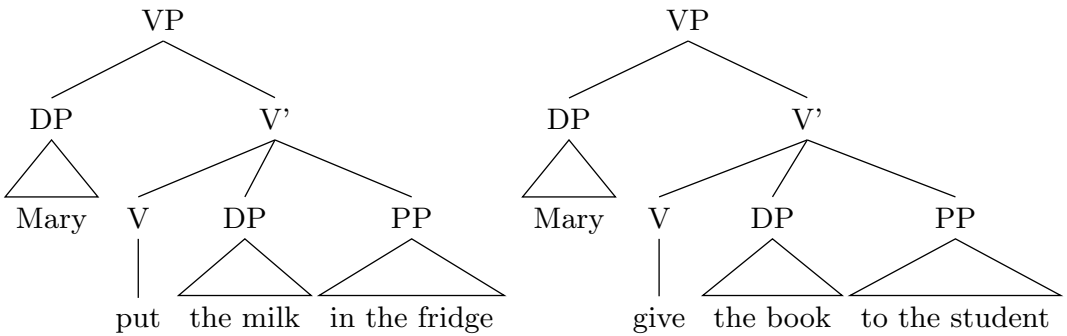
Draw tree structures for the following sentences:

(23) a. The fog had thickened.
b. Charlotte sharpened her pencil.
c. John will open the door.

Ternary Branching Structures I

We are entertaining the idea that there may be a single computational engine, driving both syntactic and morphological composition. However, if this approach is correct, we need to explain away the apparent differences between Syntax and Morphology.

→ One apparent difference is the fact that morphological trees seem to be strictly binary while syntactic trees are not (recall ditransitive verbs such as *give*, *put*...)



Let's look at these ternary branching structures more carefully!

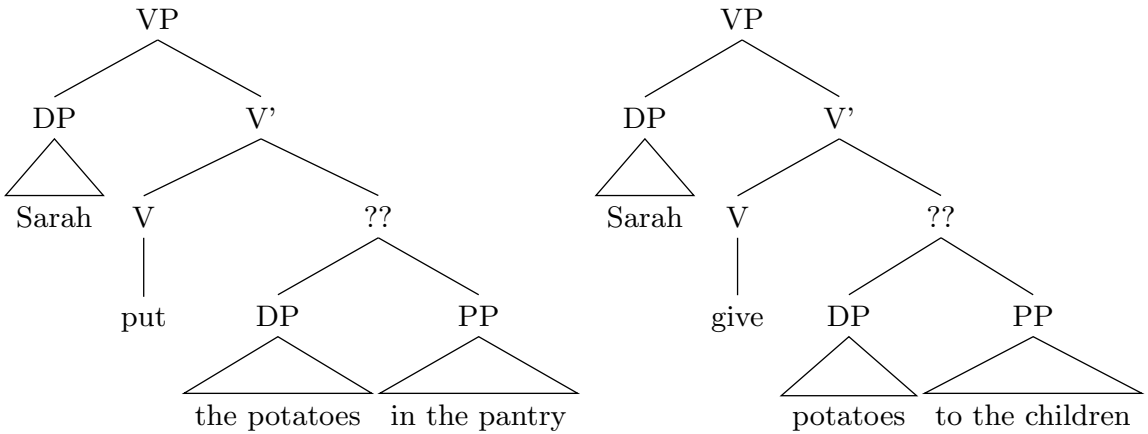
Ternary Branching Structures II

Given the constituency below, we don't expect *the milk in the fridge* to behave like a constituent. The coordination test therefore is expected to fail: yet it does not, as the following examples show such examples are acceptable.

(24) Sarah put the potatoes in the pantry and the milk in the fridge

(25) Sophie gave potatoes to the children and potato skins to the pigs

Those examples suggest the following (surface) constituent structures for the VPs:



Can we find independent evidence for these constituent structures?

Ternary Branching Structures III

The first piece of evidence comes from Principle A and Principle C of the binding theory.

(26) a. I showed Mary$_k$ herself$_k$
b.*I showed herself$_k$ Mary$_k$

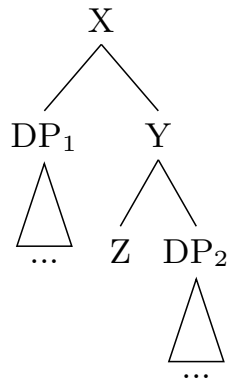
(27) I showed Mary$_k$ pictures of herself$_k$

(28) a. I showed [the girls]$_k$ [each other]$_k$'s cousins
b.*I showed [each other]$_k$'s cousins [the girls]$_k$

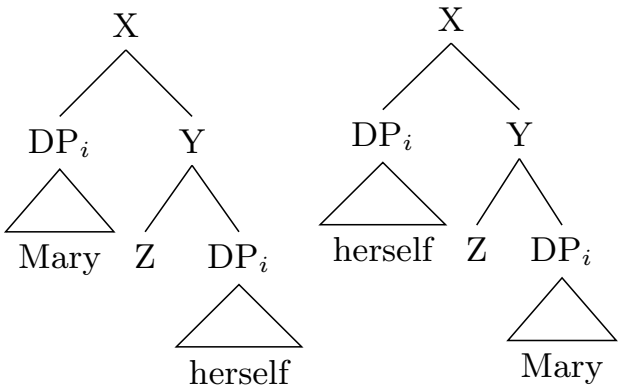
(29) a.*I showed her$_k$ Mary$_k$'s mother
b. I showed her$_k$ mother [the girl who won]$_k$

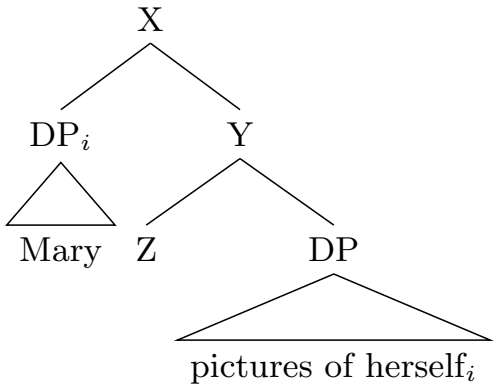
Ternary Branching Structures IV

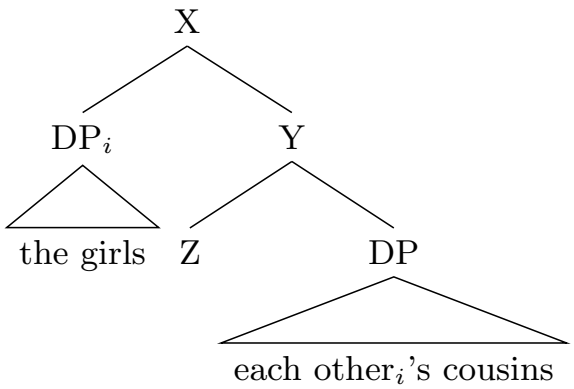
What can we infer from these examples?



The first DP asymmetrically c-commands the second DP.



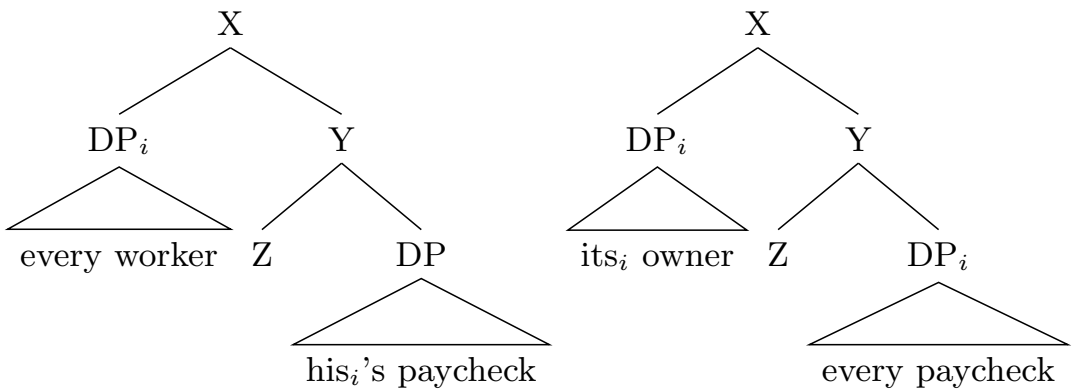




Ternary Branching Structures V

The same point can be made using pronominal binding:

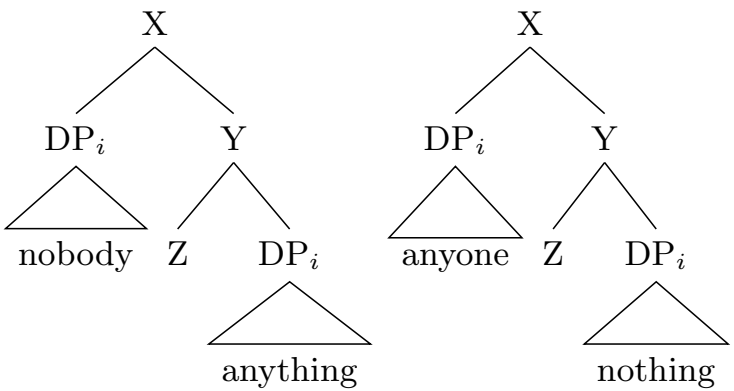
(30) a. I gave [every worker]$_{\text{k}}$ his$_k$ paycheck
b.*I gave [its$_k$ owner] [every paycheck]$_{\text{k}}$



Ternary Branching Structures VI

and NPI licensing:

(31) a. I showed nobody anything
b.*I showed anyone nothing

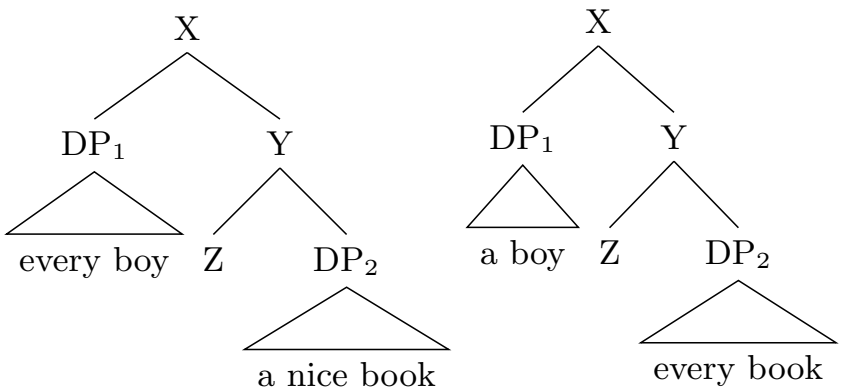


Ternary Branching Structures VII

The scopal properties of quantifiers show the same point.

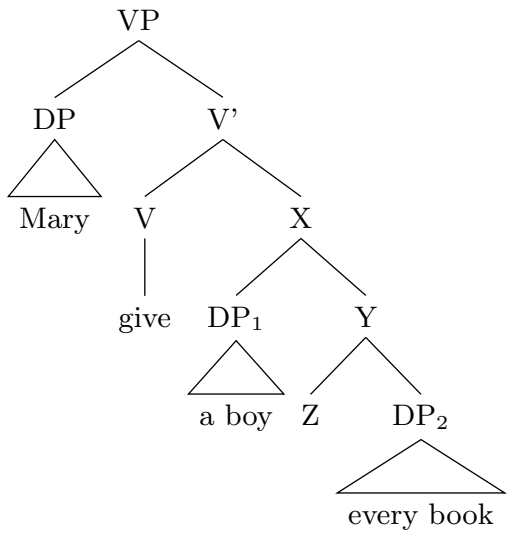
(32) a. I showed every boy a nice book $(\forall > \exists)$

b. I showed a boy every book $*(\forall > \exists)$



Ternary Branching Structures VIII

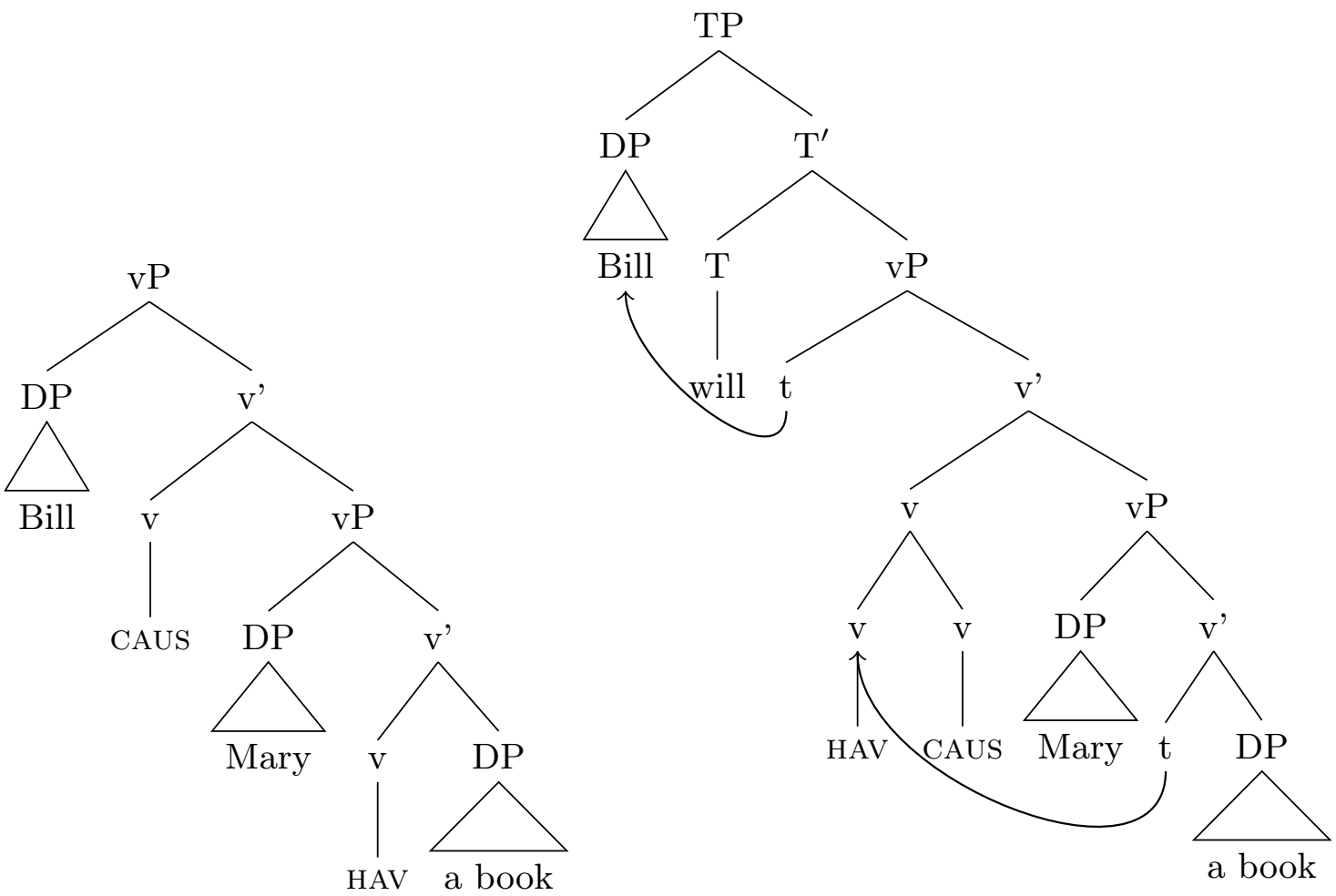
Assuming that in a double object construction the first DP asymmetrically c-commands the second, what's the nature of the constituents X, Y and Z?



One way to think about a verb phrase like *give* is as containing a causative verb that combines with a piece of structure which is related to possession (≈ 'cause [someone to have something').

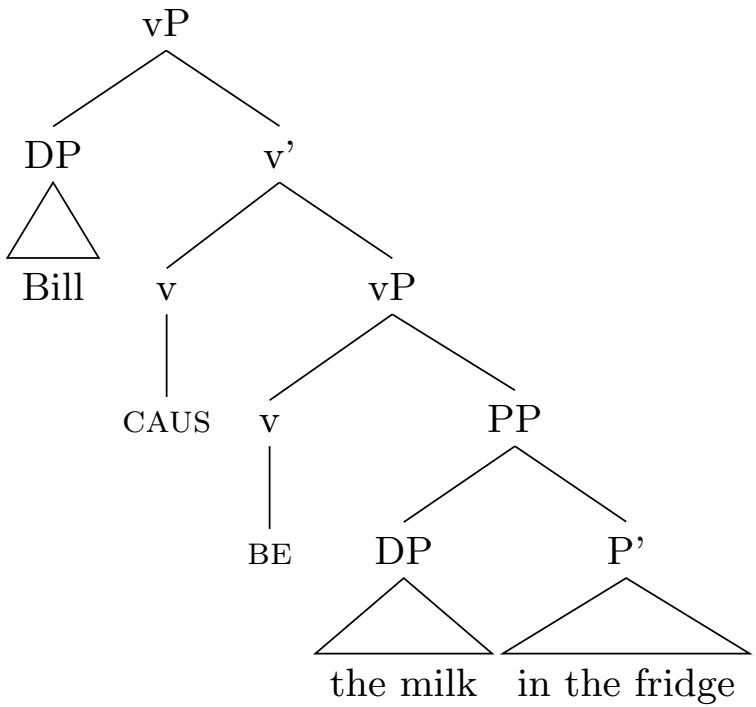
Ternary Branching Structures IX

The VP-shell structure is shown here:



Ternary Branching Structures X

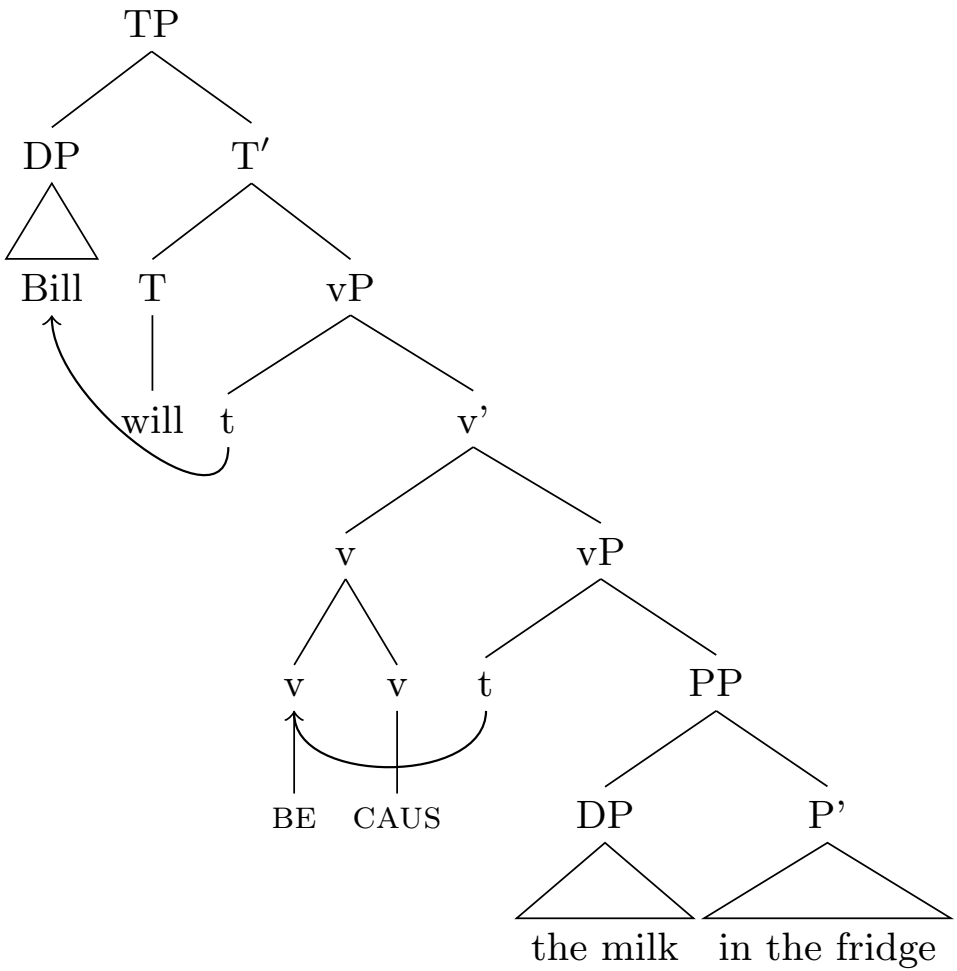
This type of solution can immediately extend to others verbs such as *put*, which show the same constituency properties. A VP headed by put can be assumed to roughly have the following structure (where *put* ≈ cause something to be somewhere):



Nota bene the difference between this structure and the one assumed in the textbook

Ternary Branching Structures XI

The sentence *Bill will put the milk in the fridge* would have the following derived structure:



Draw tree structures for the following sentences:

(33) a. Betsy got the receipts.
b. Travis got Betsy the receipts.

VP shells and adjunction I

Consider the VP adjunct *again*. In (34), it modifies the VP [Bill sleep] and thus requires the repetition of a sleeping by Bill.

(34) Bill slept again.

The problem is how to capture the ambiguity of sentences like the following:

(35) Sally closed the door again.
   a. Sally closed the door, and she had done it before (repetitive)
   b. Sally closed the door, and the door had closed before (say, by itself) (restitutive)

On both interpretations, what makes the sentence appropriate is the existence of some previous situation:

→ On the repetitive reading it's the repetition of an action by the same agent (Sally).

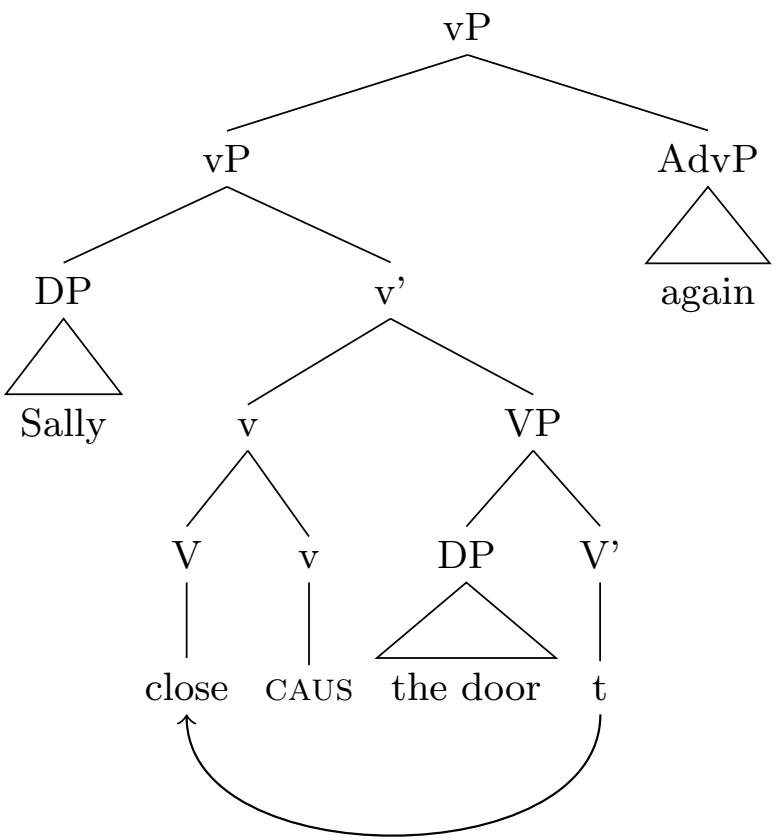
→ On the restitutive reading by contrast, that situation is the door's closing: it had closed before, but Sally had nothing to do with it.

VP shells and adjunction II

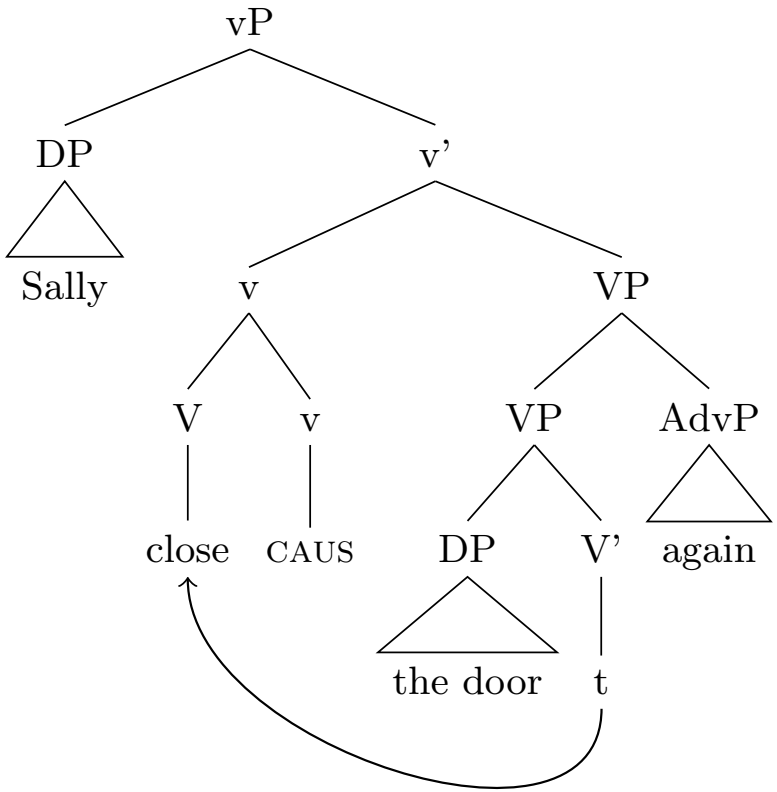
Once we adopted a VP-shell analysis, we can easily account for the ambiguity.

This is how it's capture in the textbook

Repetitive Reading



Restitutive Reading



VP shells and adjunction III

The overt counterpart of (35) is also ambiguous:

(36) Sally made the door close again.

a. it happened again [that Sally made the door close] (repetitive)

b. The door closed again; this time, it is due to Sally (restitutive)

VP shells and adjunction IV

VP shells and the idea that word formation can take place in the syntax helps us derive rather complex and subtle facts about the meaning of sentences!

Do we find the same repetitive/restitutive ambiguity with *give* (analyzed as CAUS+HAV) and *put* (analyzed as CAUS+BE)? It looks like we do!

(37) a. Repetitive: Last year, Mary gave John a book. This year she gave him a book again
b. Restitutive: Last year, Mary gave John a book. This year Sally gave him a book again.

(38) a. Repetitive: Yesterday, I had to put the broom in the closet, and today I put the broom in the closet again
b. Restitutive: The broom belongs in the closet and I put it there yesterday, why is it here? Please put it in the closet again.

Draw tree structures for both readings of *Sally gave a book again* and *I will put the broom in the closet again*.

A VP-shell analysis of object control verbs

In the VP shells that we have considered so far, the complements in the lower VP shell have been DPs or PPs. In *persuade*, we have the case of a VP shell where the complement in the lower VP shell is a clause (CP), which can be either finite or nonfinite, as shown below.

(39) a. We persuaded him that he should read the report.

b. We persuaded him to read the report.

Think of *persuade* as CAUS+agree and draw the VP shell structure of (39-b)