More Semantics

Last time, a weird new addition…

QR (Quantifier Raising)

Everyone in this room speaks two languages.

Last time, a weird new addition…

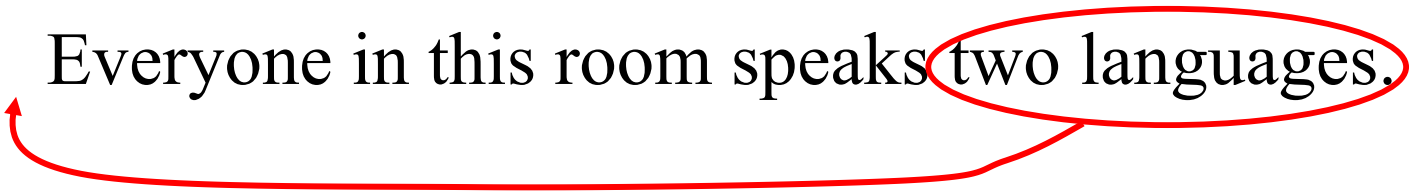
QR (Quantifier Raising)

Everyone in this room speaks two languages.

optionally ***move*** one quantifier past another one…

Last time, a weird new addition…

QR (Quantifier Raising)



optionally ***move*** one quantifier past another one…

and interpret the highest quantifier first. So after QR, this sentence means "there are two languages with the following property: everyone in this room speaks them"

Last time, a weird new addition…

QR (Quantifier Raising)

Everyone in this room speaks two languages.

Without QR, the sentence means "everyone in this room has the following property: they all speak two languages"

Last time, a weird new addition…

QR (Quantifier Raising)

Everyone in this room speaks two languages.

Without QR, the sentence means "everyone in this room has the following property: they all speak two languages"

This is our first case of ***covert movement***: movement operation that doesn't change the word order.

When can you do QR?

Someone loves everyone.

When can you do QR?

Someone loves everyone.

- ith QR:

"Everyone is such that someone loves them"

- ithout QR:

"There is a particular person
who loves everyone"

When can you do QR?

Someone loves everyone.

- ith QR:

"Everyone is such that someone loves them"

- ithout QR:

"There is a particular person
who loves everyone"

-->QR is always optional?

When can you do QR?

John loves everyone.

- ith or without QR:

{people} is a subset of {things John loves}

When can you do QR?

John loves everyone.

- ith or without QR:

{people} is a subset of {things John loves}

...so is QR optional here, too?

Quantifiers and Ellipsis

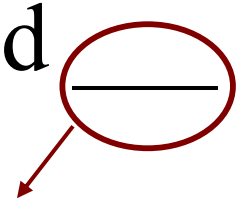
VP-ellipsis:

John bought a book, and Mary did ___ too.

Quantifiers and Ellipsis

VP-ellipsis:

John bought a book, and Mary did ___ too.

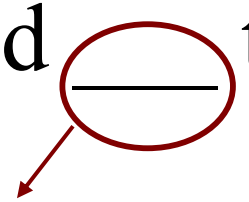


"buy a book"

Quantifiers and Ellipsis

identity condition on VP-ellipsis:

John bought a book, and Mary did ⎯⎯ too.



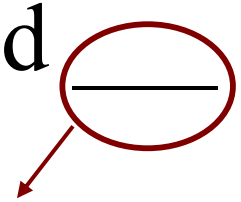
"buy a book"

*"sell an okapi"

Quantifiers and Ellipsis

VP-ellipsis:

John bought a book, and Mary did ___ too.



John dislikes his father, and Bill does __ too.

Quantifiers and Ellipsis

VP-ellipsis:

John bought a book, and Mary did ___ too.

"buy a book"

John dislikes his father, and Bill does ___ too.

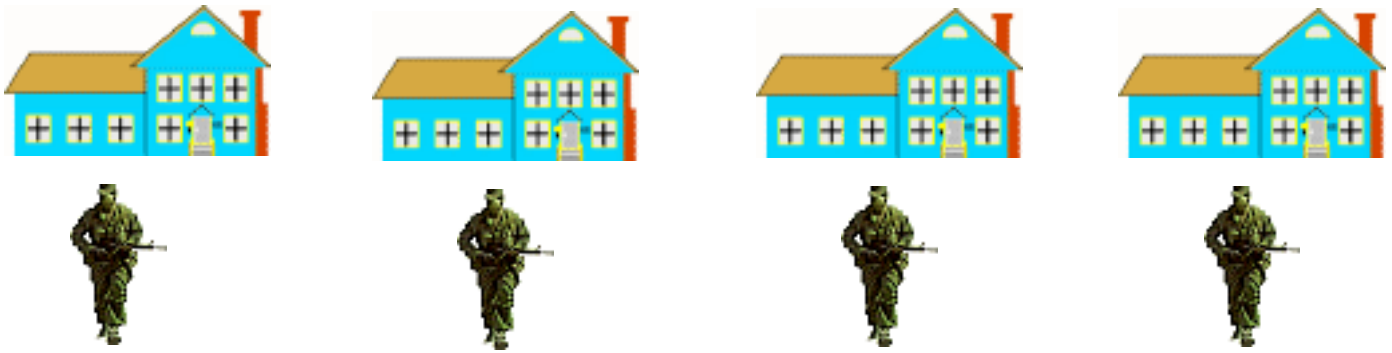
"dislike his (J or B's) father"

Ellipsis and parallelism

A guard is standing in front of every building.

Ellipsis and parallelism

A guard is standing in front of every building.



Ellipsis and parallelism

A guard is standing in front of every building.

Ellipsis and parallelism

An American guard is standing
in front of every building,

and a Canadian guard is ___ too.

Ellipsis and parallelism

An American guard is standing
in front of every building,

and a Canadian guard is ___ too.

four imaginable readings:

- each building has two guards
- two guards, both very fat

Ellipsis and parallelism

An American guard is standing
in front of every building,

and a Canadian guard is ___ too.

four imaginable readings:

- each building has two guards
- two guards, both very fat
- each building has one American guard,
  and there's one very fat Canadian guard.
- (ditto, with nationalities switched)

Ellipsis and parallelism

An American guard is standing
in front of every building,

and a Canadian guard is ___ too.

four imaginable readings:

- each building has two guards
- two guards, both very fat
- ~~each building has one American guard, and there's one very fat Canadian guard.~~
- ~~(ditto, with nationalities switched)~~

Ellipsis and parallelism

An American guard is standing
in front of every building,

and a Canadian guard is ___ too.

four imaginable readings, but we only get two:

- each building has two guards
- two guards, both very fat

-->'parallelism' extends to QR (if you do QR in one conjunct, you have to do it in both)

Ellipsis and parallelism

John is standing in front of every building.

- R wouldn't affect the interpretation here.

Ellipsis and parallelism

John is standing in front of every building.

- R wouldn't affect the interpretation here.
  ...so can it happen, or not?

Ellipsis and parallelism

John is standing in front of every building.

...and a guard is __, too.

- or QR to happen in the second conjunct, it has to happen in the first conjunct, too.

Ellipsis and parallelism

John is standing in front of every building.

...and a guard is __, too.

- or QR to happen in the second conjunct, it has to happen in the first conjunct, too.

...but, in fact, the sentence only has one reading --> **no QR**

Quantifiers and Ellipsis

VP-ellipsis:

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Quantifiers and Ellipsis

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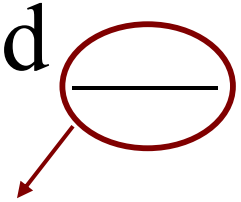

"buy a book"

Quantifiers and Ellipsis

identity condition on VP-ellipsis:

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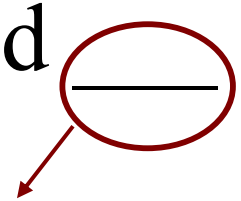

"buy a book"

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Quantifiers and Ellipsis

VP-ellipsis:

John bought a book, and Mary did ___ too.

"buy a book"

John dislikes his father, and Bill does ___ too.

"dislike his (J or B's) father"

Quantifiers and Ellipsis

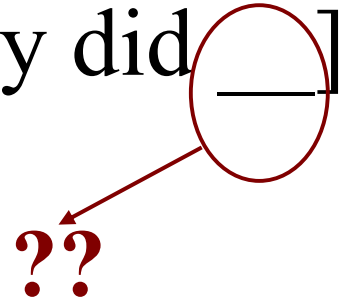
Antecedent Contained Deletion (ACD)

John will visit every city [that Mary did __]

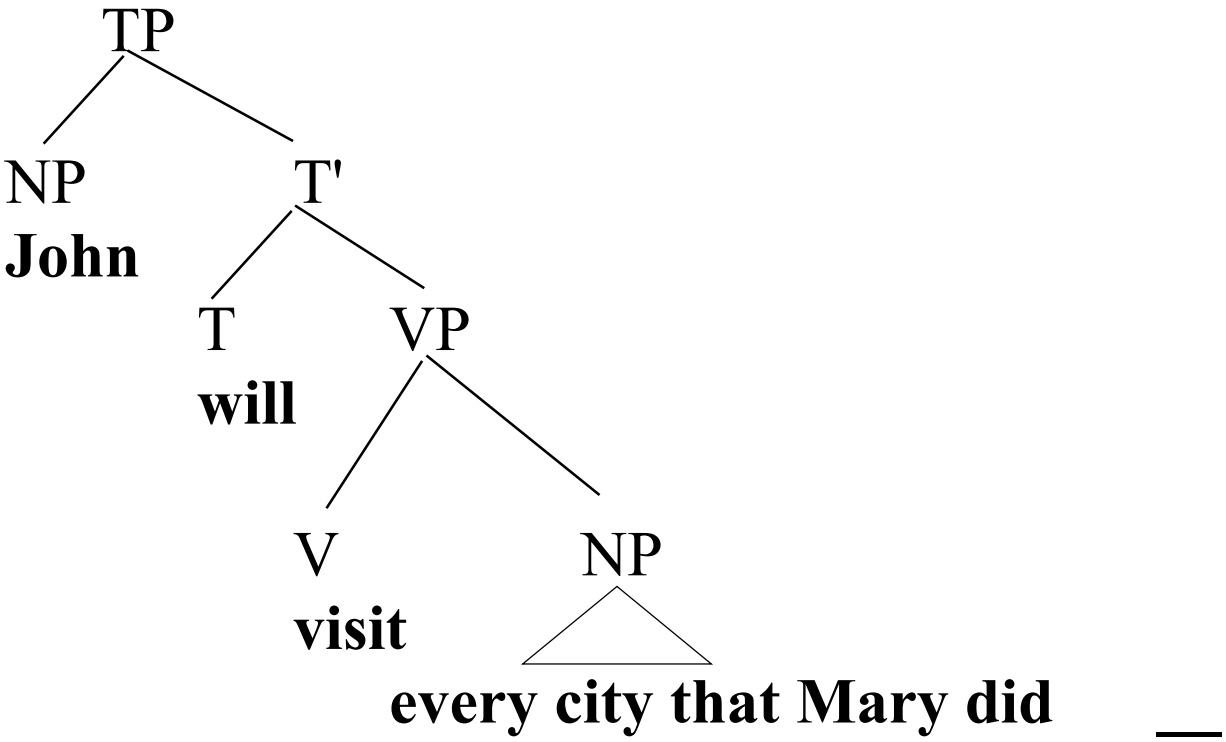
Quantifiers and Ellipsis

Antecedent Contained Deletion (ACD)

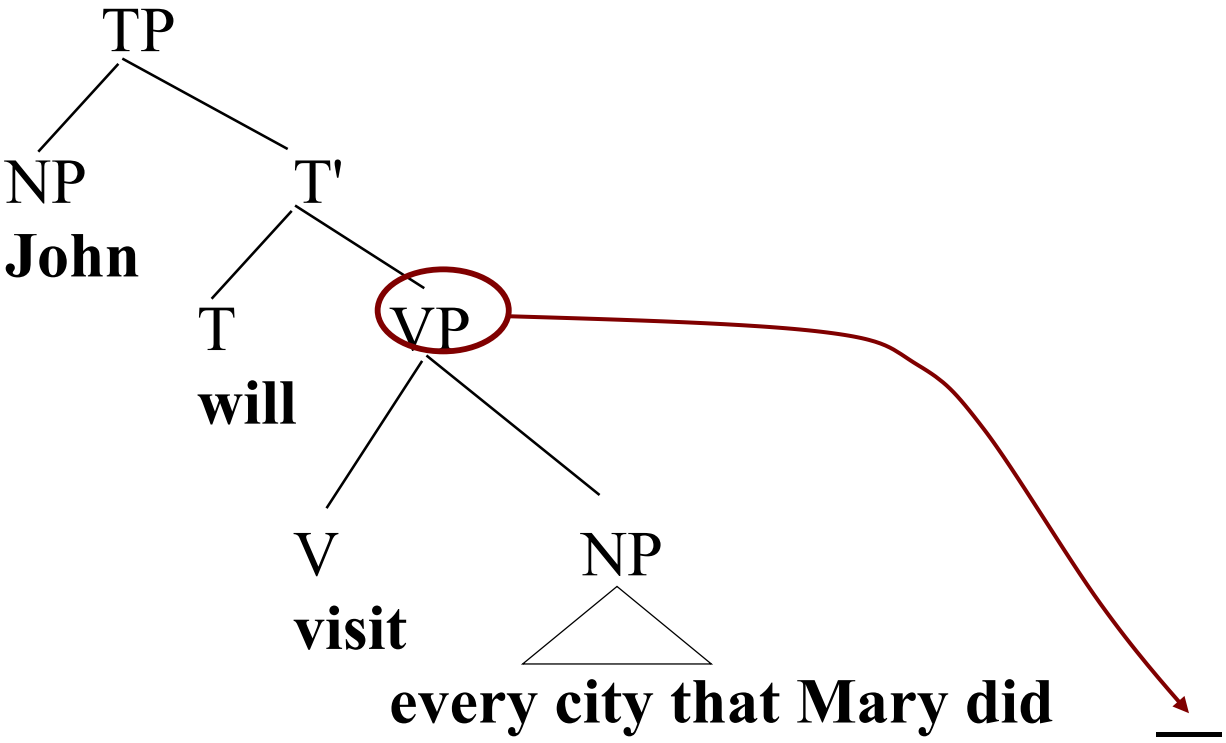
John will visit every city [that Mary did ___]



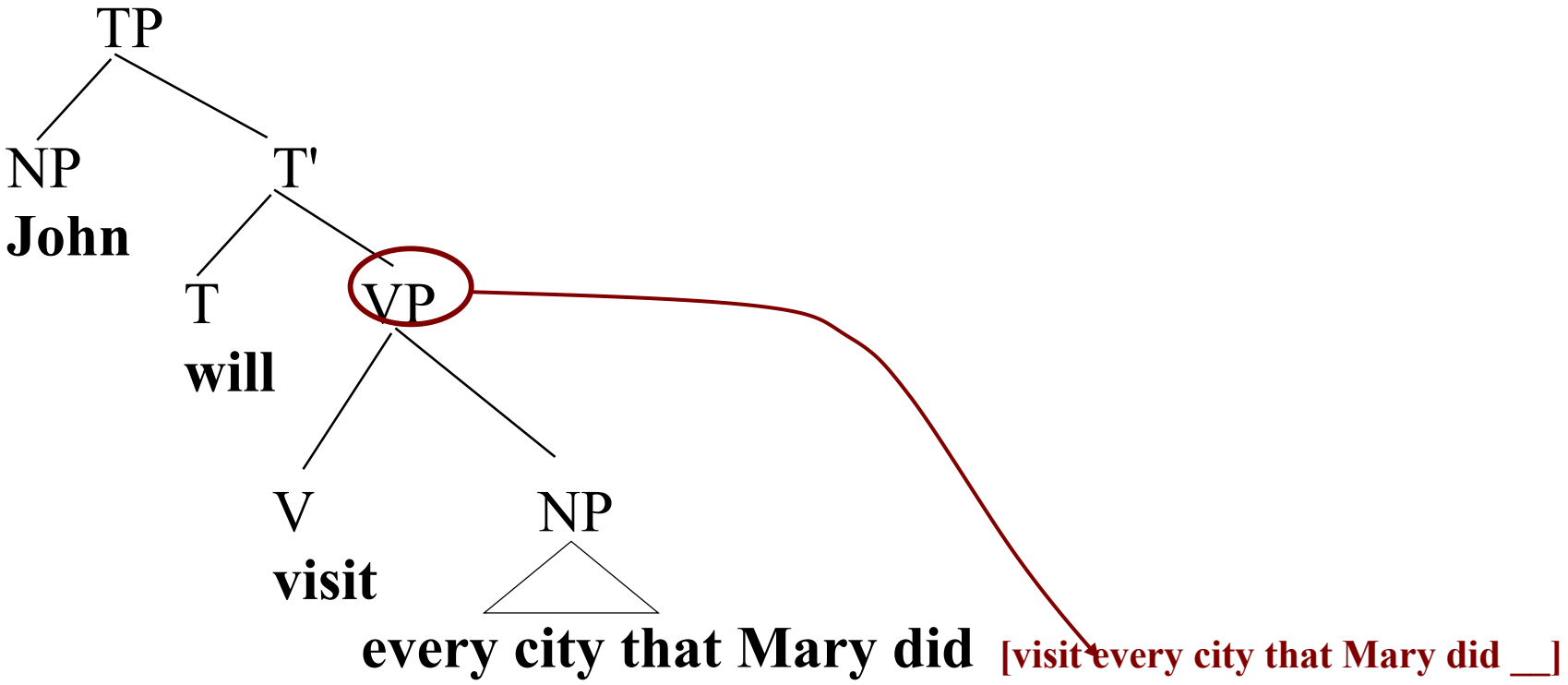
Quantifiers and Ellipsis



Quantifiers and Ellipsis



Quantifiers and Ellipsis



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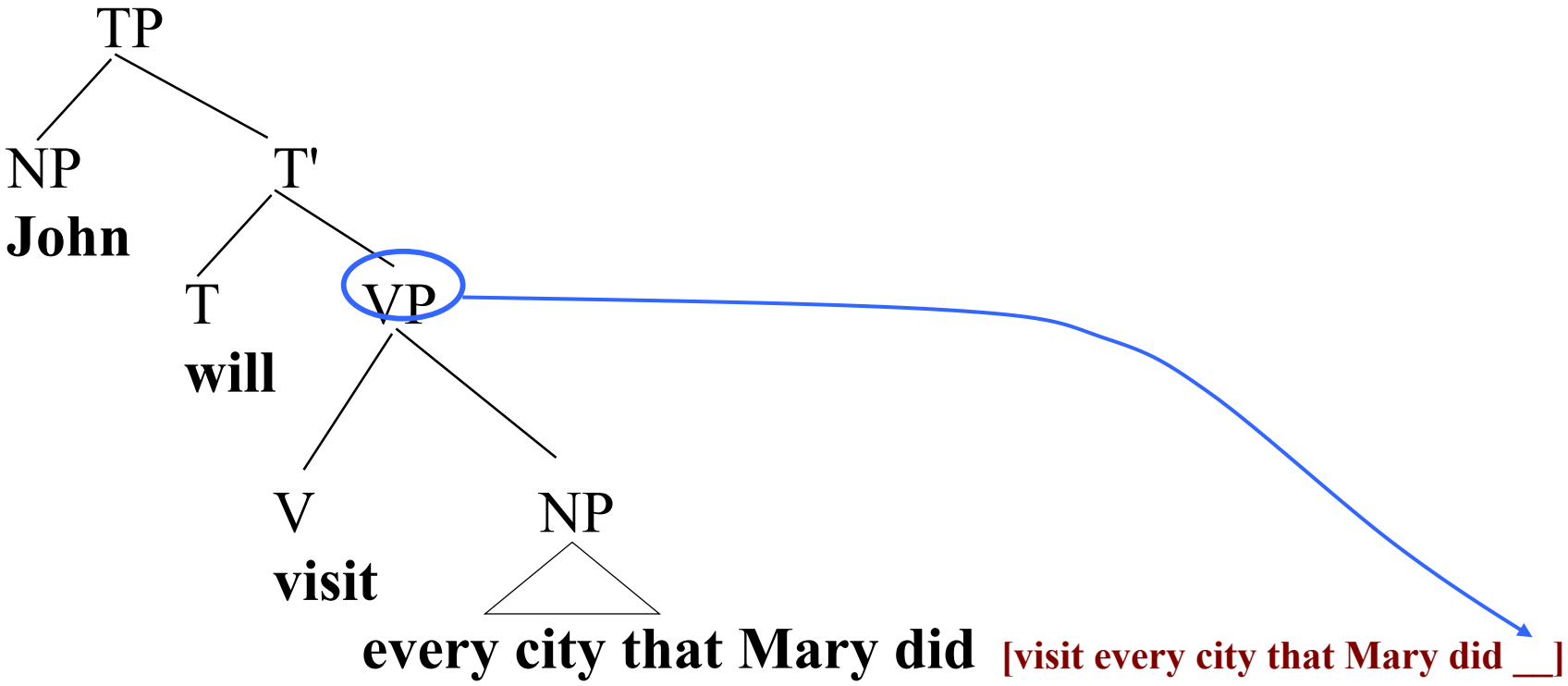

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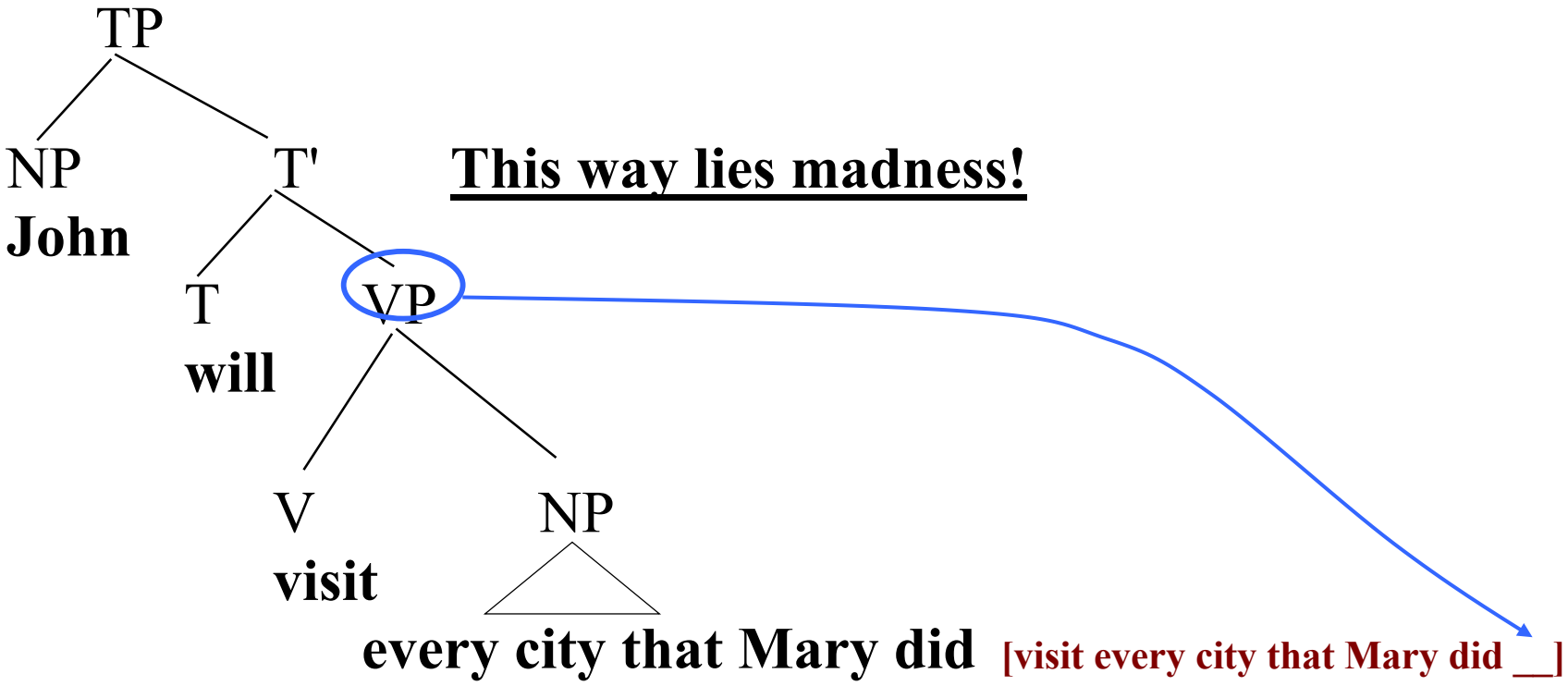

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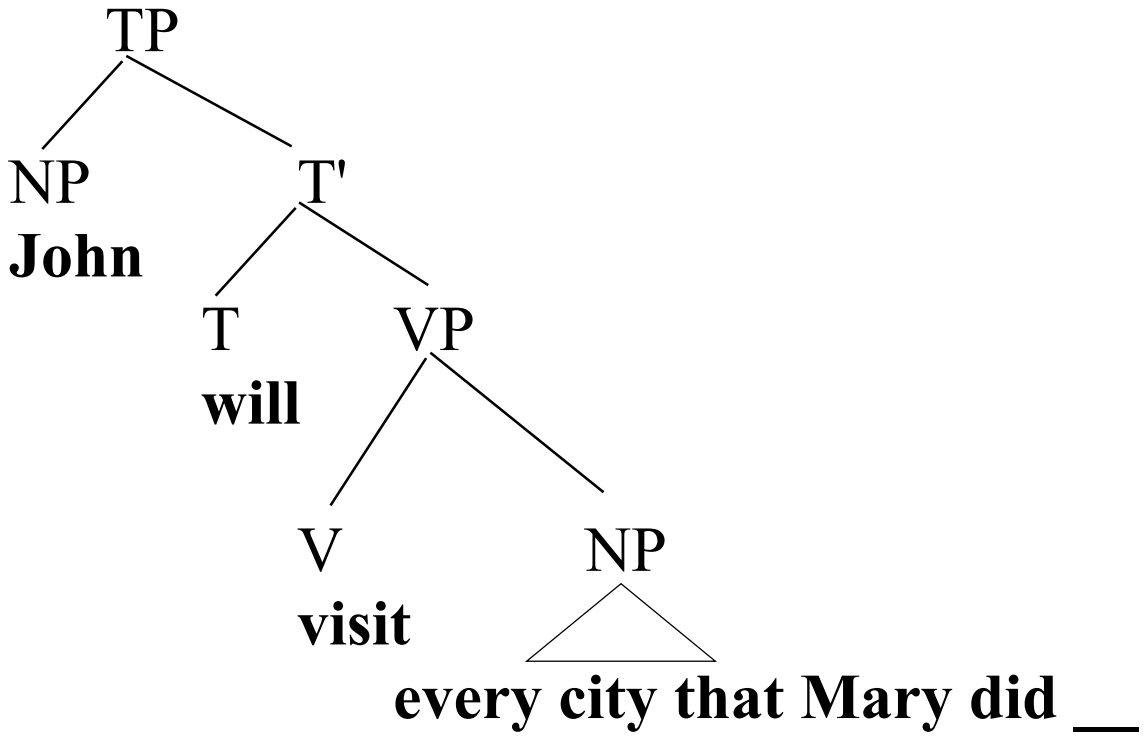

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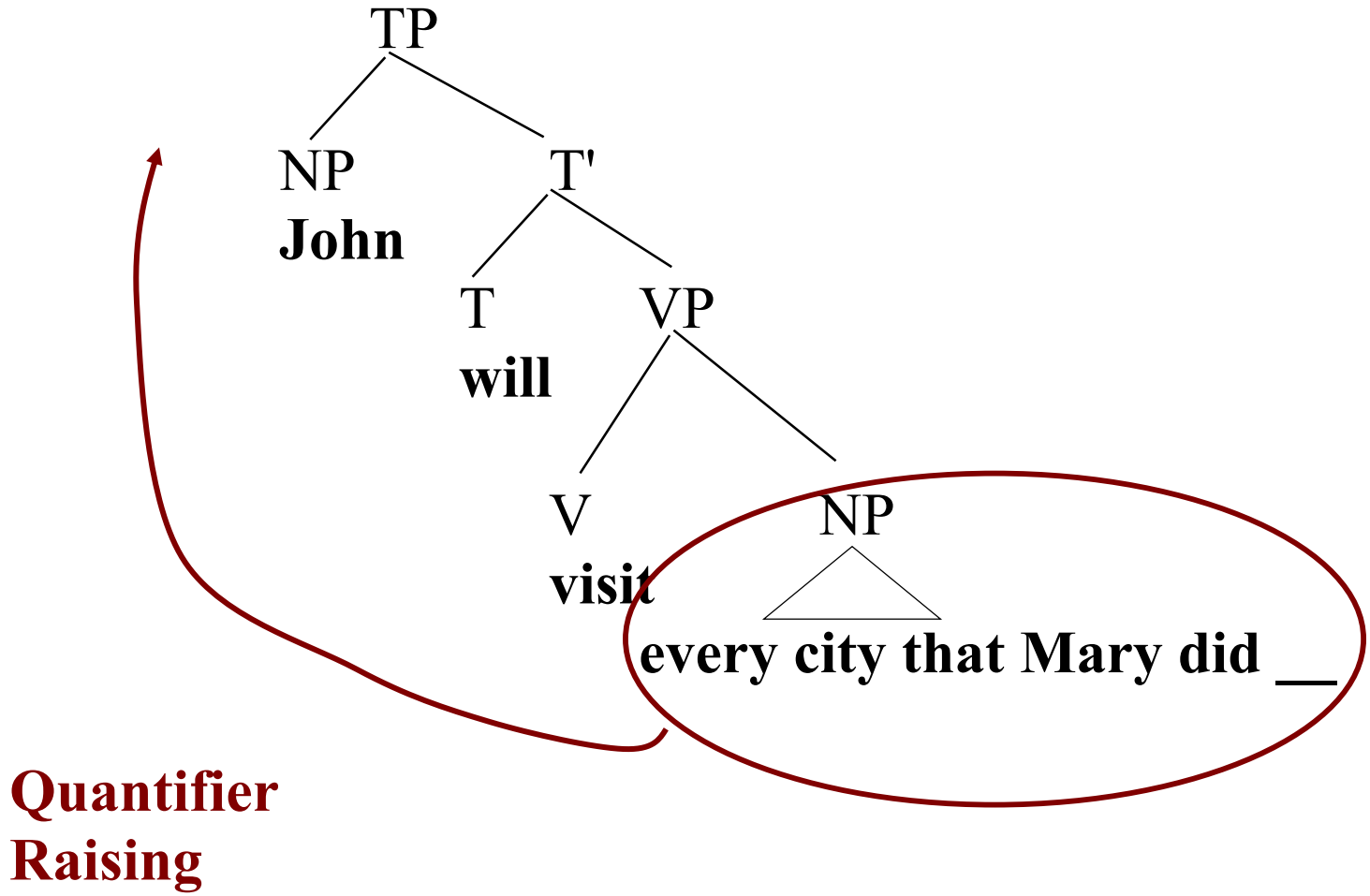

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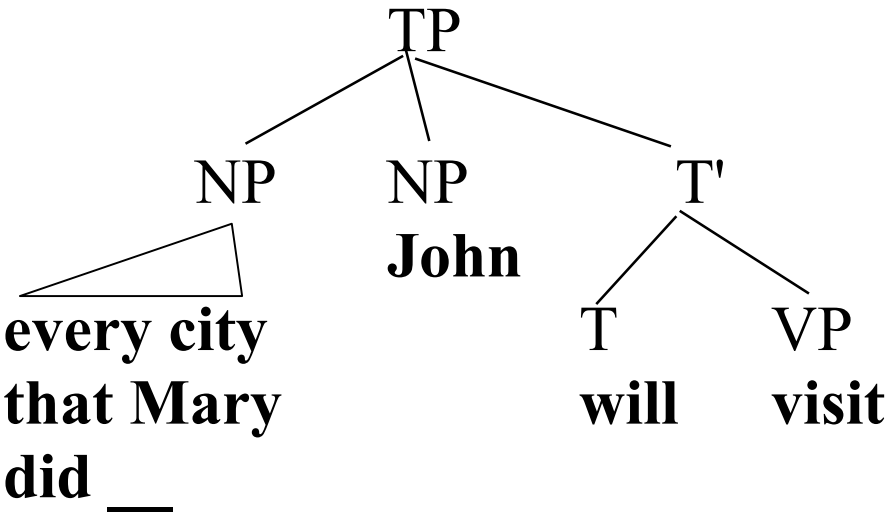

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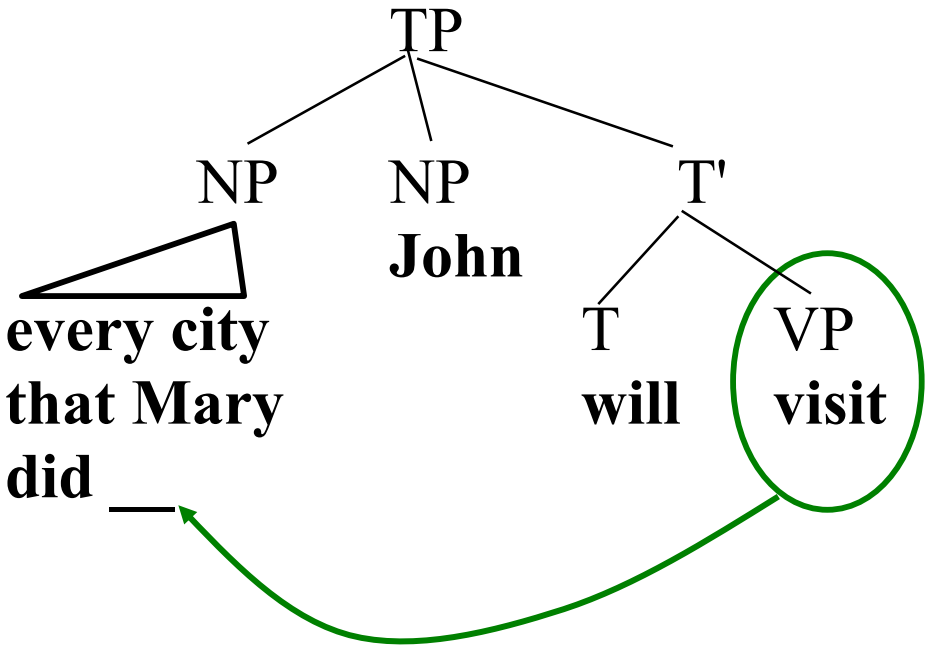

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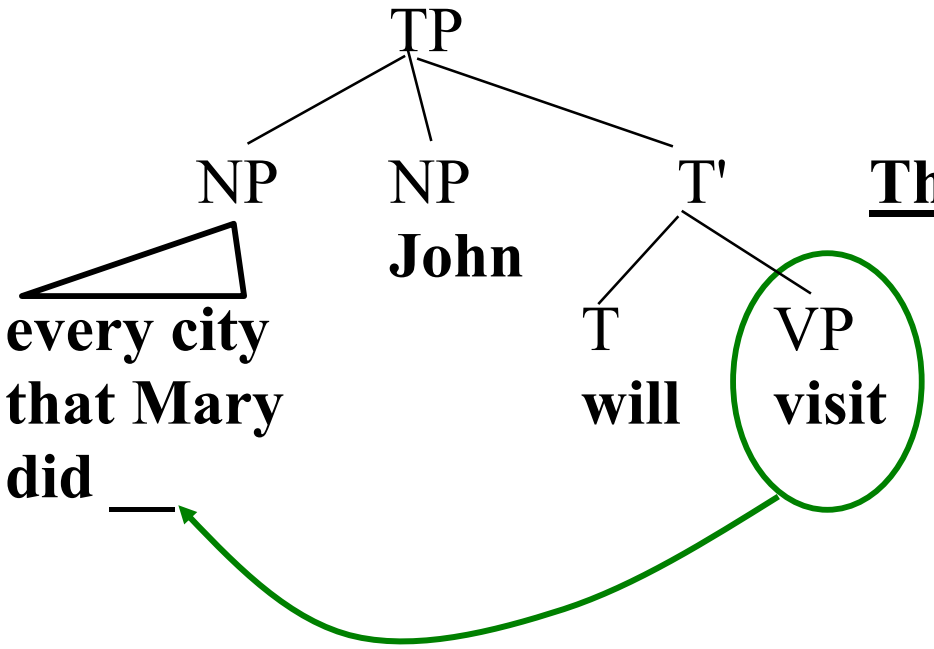


This way lies sanity!

Downward Entailing Quantifiers

No American smokes.

No American smokes cigars.

Downward Entailing Quantifiers

No American smokes.

entails

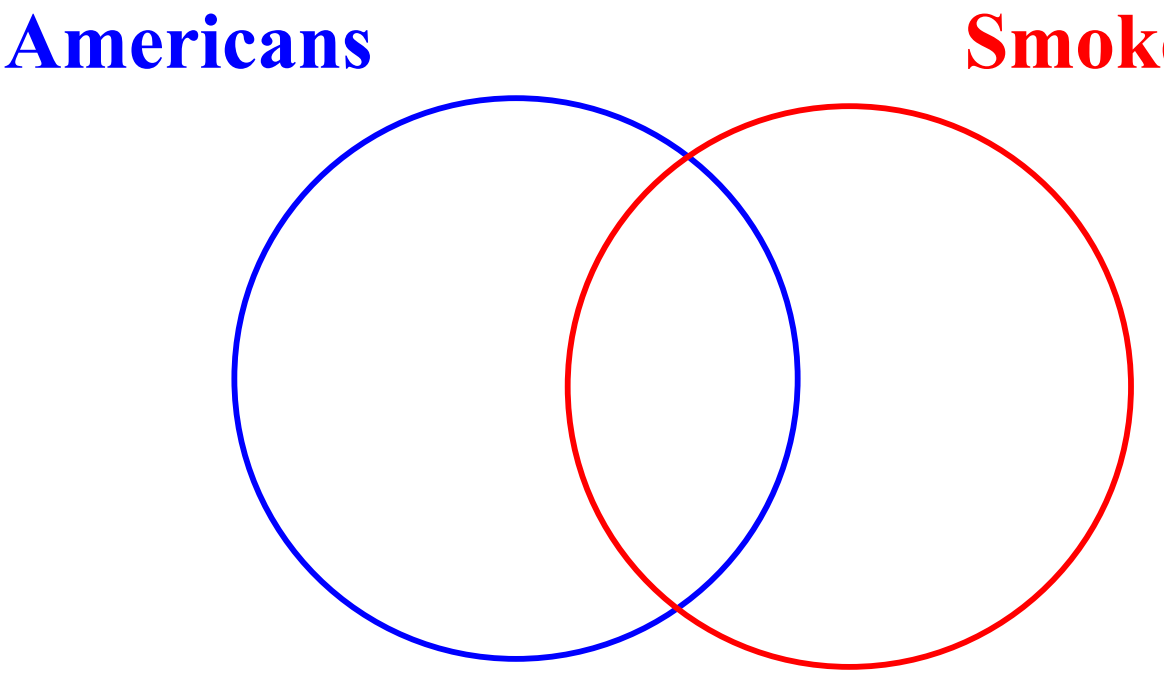
No American smokes cigars.

Downward Entailing Quantifiers

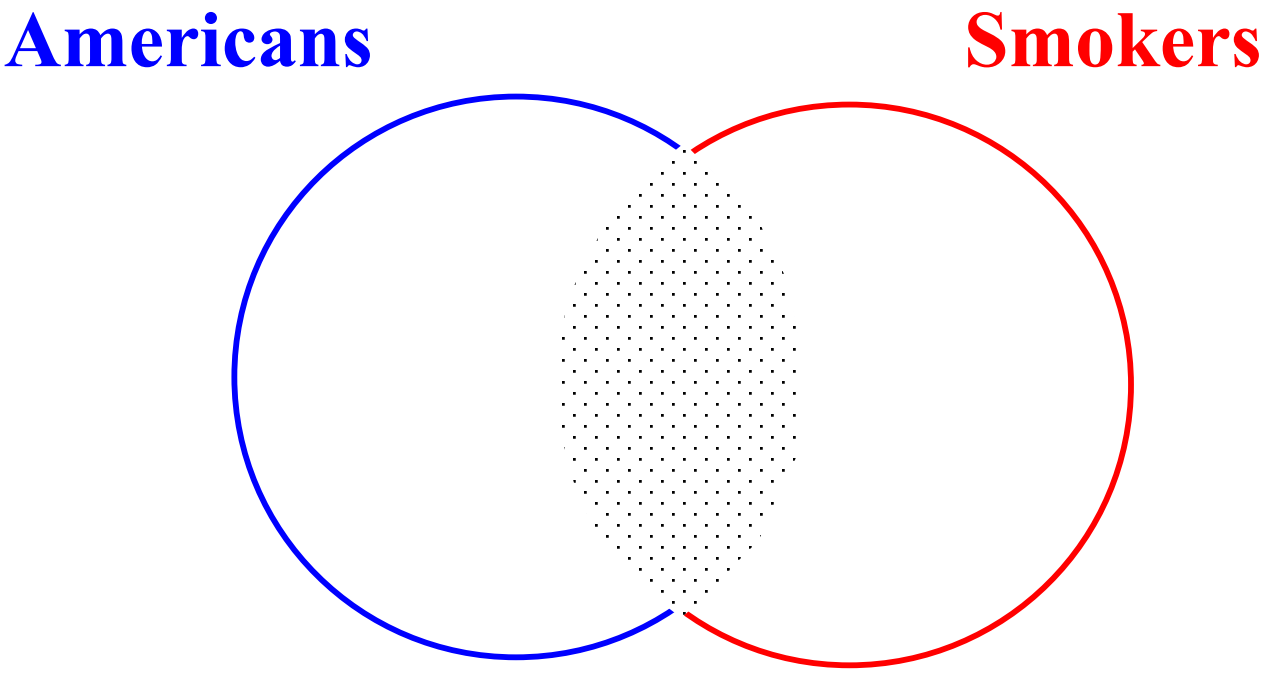
No American smokes.

No American smokes cigars.

Downward Entailing Quantifiers

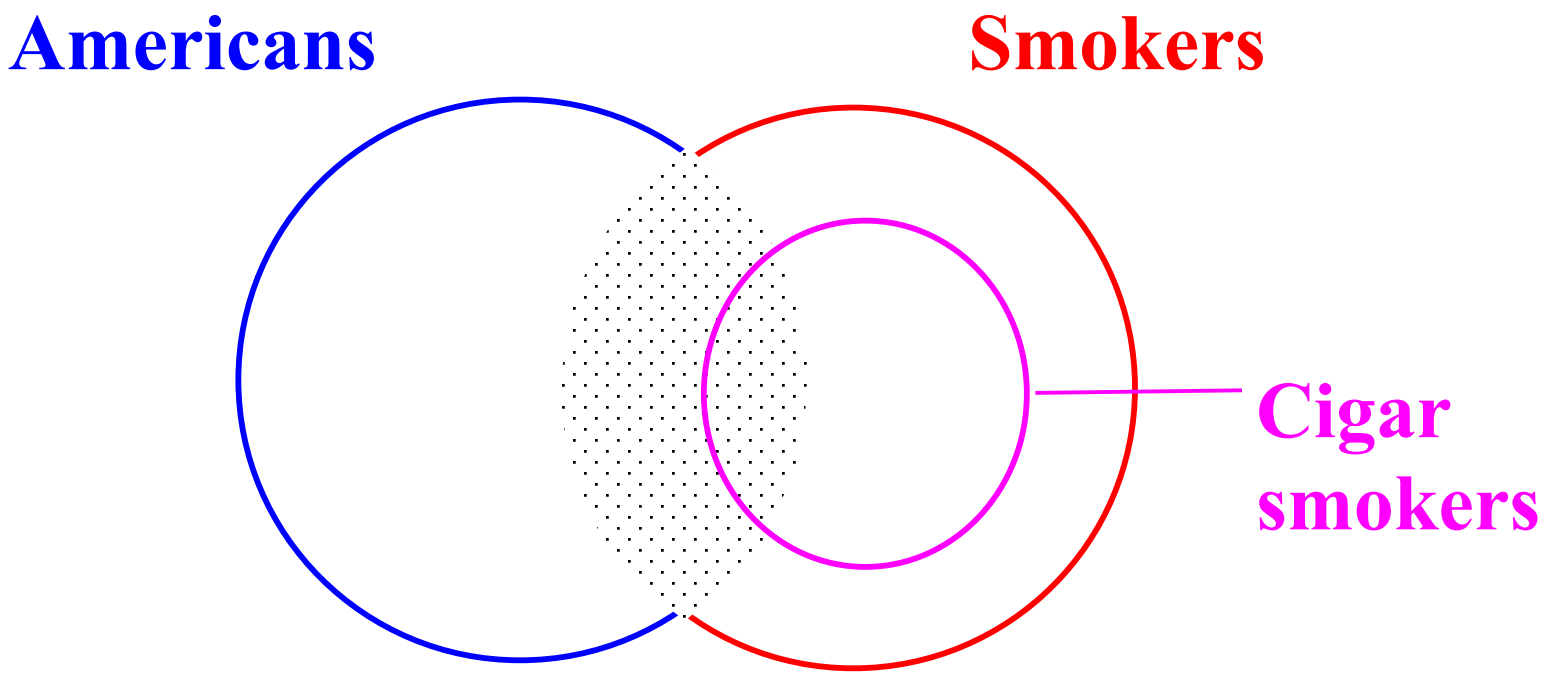


Downward Entailing Quantifiers



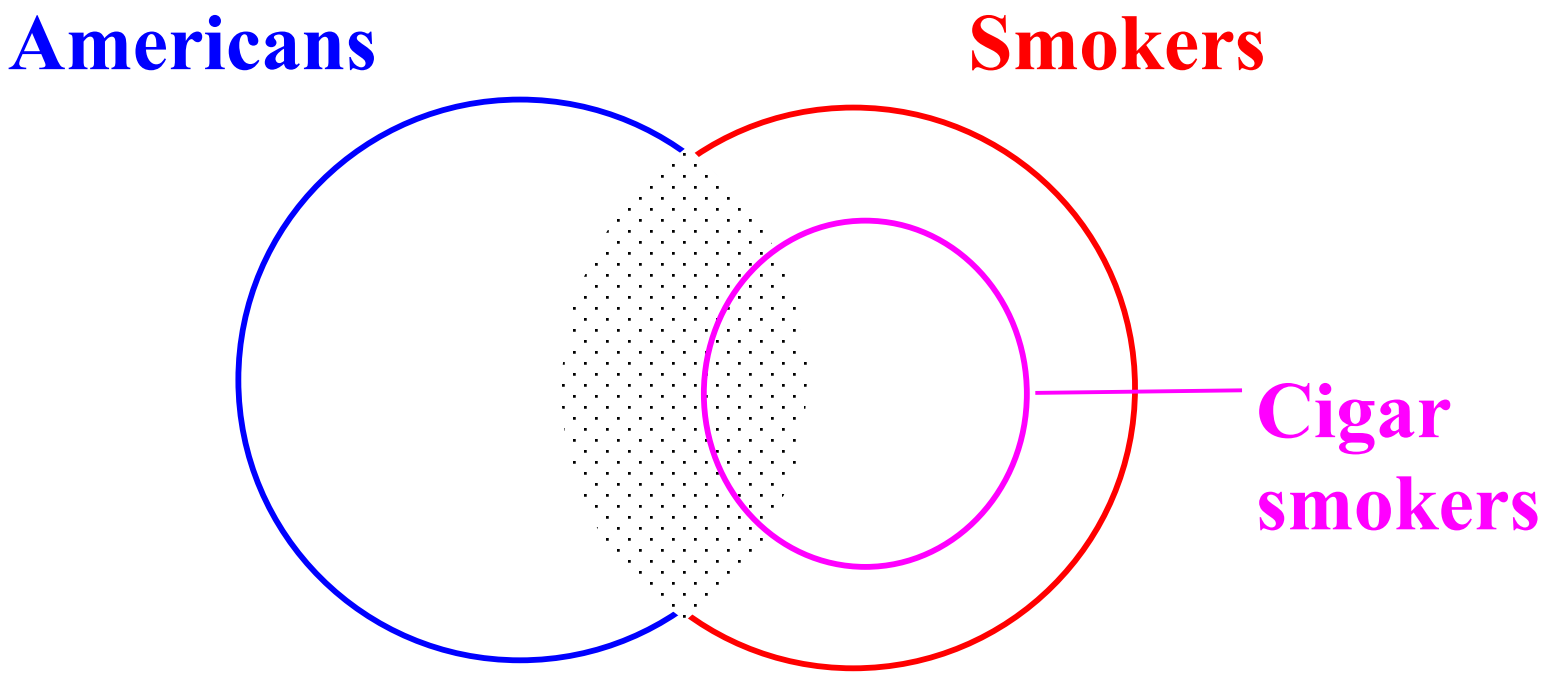
No American smokes.

Downward Entailing Quantifiers



No American smokes.

Downward Entailing Quantifiers



No American smokes.
-->No American smokes cigars.

Downward Entailing Quantifiers

"No" is **downward entailing**:

if "No A are B" is true,
and C is a subset of B,
then "No A are C" is also true.

Downward Entailing Quantifiers

"No" is **downward entailing**:

If "No American smokes" is true,
and cigar smokers are a subset of smokers,
then "No American smokes cigars" is also true.

Downward Entailing Quantifiers

Is "every" downward entailing?

Downward Entailing Quantifiers

Is "every" downward entailing?

Every American smokes

Every American smokes cigars

Downward Entailing Quantifiers

Is "every" downward entailing?

Every American smokes

↓ **doesn't entail**

Every American smokes cigars

Downward Entailing Quantifiers

Is "every" downward entailing?

Every American smokes

↓ **doesn't entail**

Every American smokes cigars

--> no.

Upward Entailing Quantifiers

Is "every" upward entailing?

Every American smokes cigars

Every American smokes

Upward Entailing Quantifiers

Is "every" upward entailing?

Every American smokes cigars

entails

Every American smokes

Downward Entailing Quantifiers

No one lifted a finger to help.
No one contributed a red cent.
No one saw anything.

Downward Entailing Quantifiers

No one lifted a finger to help.
No one contributed a red cent.
No one saw anything.

*Everyone lifted a finger to help.
*Everyone contributed a red cent.
*Everyone saw anything.

Downward Entailing Quantifiers

No one lifted a finger to help.
No one contributed a red cent.
No one saw anything.

*Everyone lifted a finger to help.
*Everyone contributed a red cent.
*Everyone saw anything.

-->what's with these expressions?

Downward Entailing Quantifiers

	downward entailing?
no	√
every	x
few	
a few	
more than ten	
less than ten	
exactly ten	

Downward Entailing Quantifiers

	downward entailing?
no	√
every	x
few	√
a few	x
more than ten	x
less than ten	√
exactly ten	x

Downward Entailing Quantifiers

	downward entailing?	
no	√	no student did anything...
every	x	*every student did anything...
few	√	
a few	x	
more than ten	x	
less than ten	√	
exactly ten	x	

Downward Entailing Quantifiers

	downward entailing?	
no	√	no student did anything...
every	x	*every student did anything...
few	√	few students did anything...
a few	x	*a few students did anything...
more than ten	x	*more than ten students did anything
less than ten	√	less than ten students did anything...
exactly ten	√	exactly ten students did anything...

Upward Entailing Quantifiers

	downward entailing?	upward entailing?	licenses NPI?
no	√	x	√
every	x		x
few	√		√
a few	x		x
more than ten	x		x
less than ten	√		√
exactly ten	x		√

Upward Entailing Quantifiers

	downward entailing?	upward entailing?	licenses NPI?
no	√	x	√
every	x	√	x
few	√	x	√
a few	x	√	x
more than ten	x	√	x
less than ten	√	x	√
exactly ten	x	x	√

Upward Entailing Quantifiers

	downward entailing?	upward entailing?	licenses NPI?
no	√	x	√
every	x	√	x
few	√	x	√
a few	x	√	x
more than ten	x	√	x
less than ten	√	x	√
exactly ten	x	x	√

Non-Upward Entailing Quantifiers

No one lifted a finger to help.
No one contributed a red cent.
No one saw anything.

*Everyone lifted a finger to help.
*Everyone contributed a red cent.
*Everyone saw anything.

-->these expressions must be in a **non-upward entailing context**

Non-Upward Entailing Quantifiers

John didn't lift a finger to help.
John didn't contribute a red cent.
John didn't see anything.

*John lifted a finger to help.
*John contributed a red cent.
*John saw anything.

-->what's licensing these expressions here?

Non-Upward Entailing Quantifiers

John doesn't smoke cigars.

John doesn't smoke.

Non-Upward Entailing Quantifiers

John doesn't smoke cigars.

doesn't entail

John doesn't smoke.

Non-Upward Entailing Quantifiers

John doesn't smoke cigars.

doesn't entail

John doesn't smoke.

--> *not* creates a non-upward entailing context.

Non-Upward Entailing Quantifiers

Expressions like *lift a finger*, *a red cent*, and *anything* are **Negative Polarity Items** (NPIs)

-->need to be in a non-upward entailing context