Resolving Legal Ambiguities:
What Can Psycholinguistics Tell Us?

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I. Introduction
II. Research Question
III. Experiments
IV. Discussion & Conclusions
V. References

I. **Introduction**
II. Research Question
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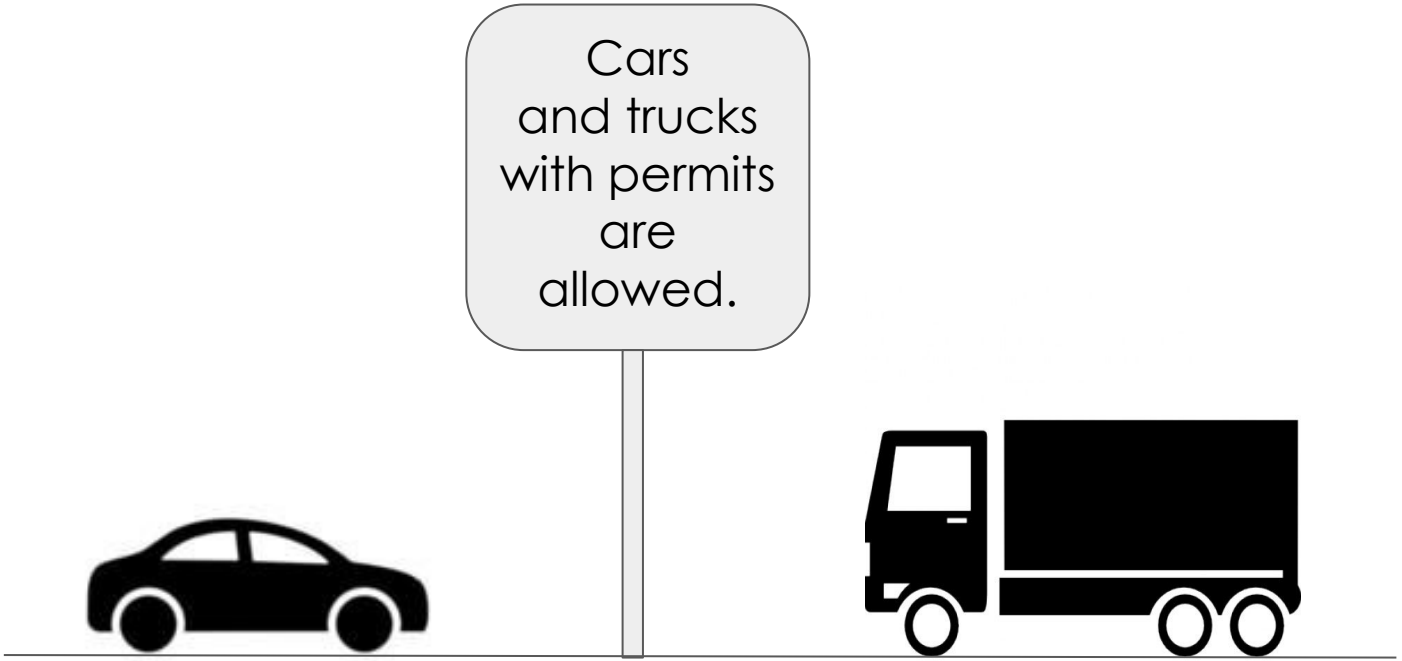
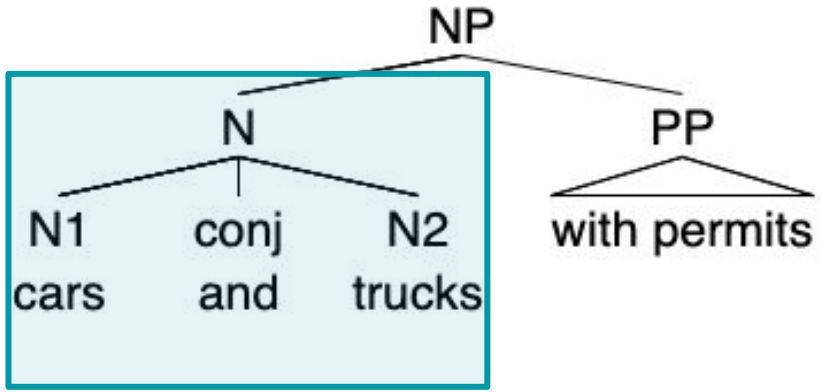
I. Introduction



I. Introduction

PP has **wide scope**



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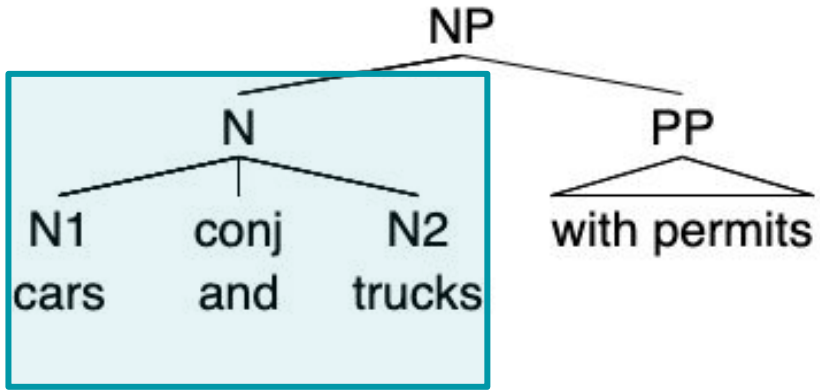
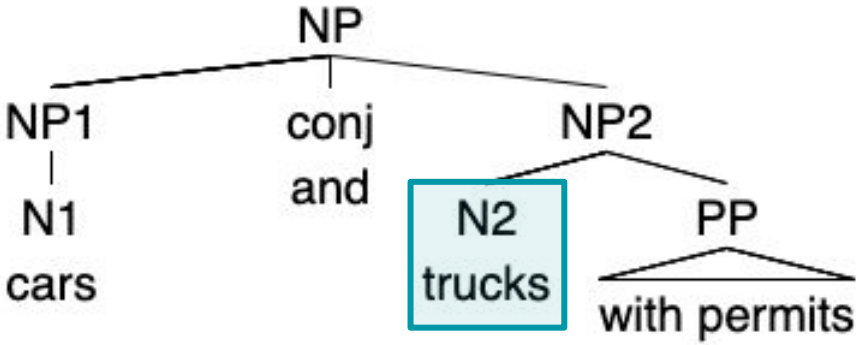


PP has **narrow scope**

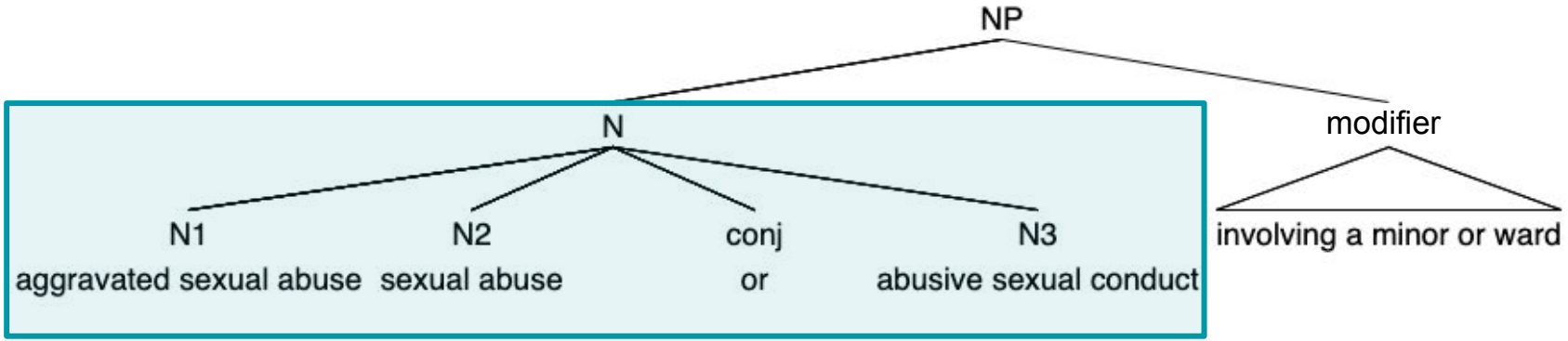


Lockhart v. US (2016)

"prior state convictions for crimes relating to [aggravated sexual abuse], [sexual abuse], or [abusive sexual conduct] ***involving a minor or ward***."

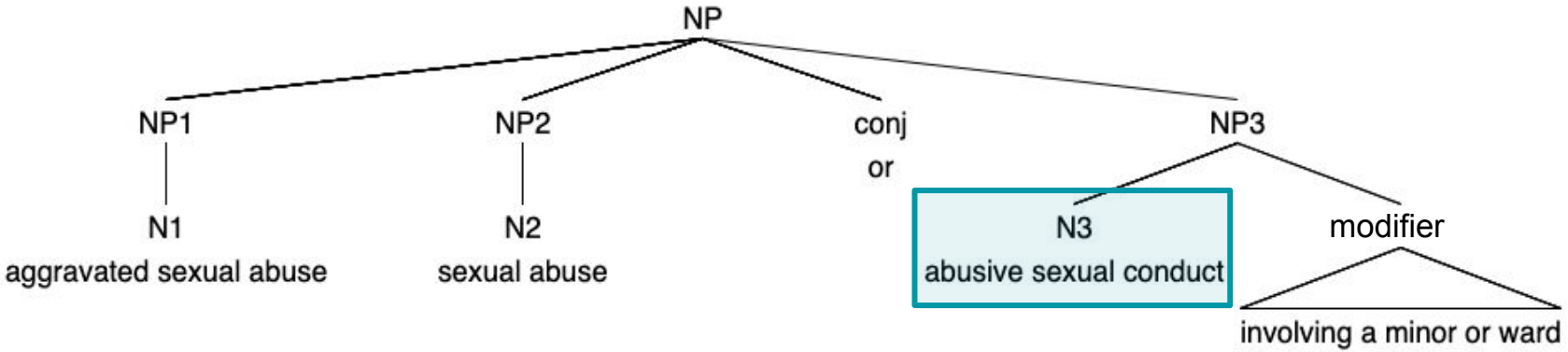
Lockhart v. US (2016)

wide scope



Lockhart v. US (2016)

narrow scope



Lockhart v. US (2016)

The Majority Opinion: **narrow scope**

"prior state convictions for crimes relating to [aggravated sexual abuse], [sexual abuse], or [abusive sexual conduct] ***involving a minor or ward***."

Justice Sonia Sotomayor

"[a defensive catcher], [a quick-footed shortstop], or [a pitcher] ***from last year's World Champion Kansas City Royals*** "

Lockhart v. US (2016)

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Lockhart v. US (2016)

Justice Kagan's dissent: **Wide scope**

"prior state convictions for crimes relating to [aggravated sexual abuse], [sexual abuse], or [abusive sexual conduct] ***involving a minor or ward***."

Lockhart v. US (2016)

Justice Kagan's dissent: **Wide scope**

"prior state convictions for crimes relating to
[aggravated sexual abuse], [sexual abuse], or [abusive sexual conduct]
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"a straightforward, parallel construction of nouns in a series"

Lockhart v. US (2016)

Justice Kagan's dissent: **Wide scope**

"prior state convictions for crimes relating to [aggravated sexual abuse], [sexual abuse], or [abusive sexual conduct] ***involving a minor or ward***."

"a [house], [condo], or [apartment] ***in New York***"

I. Introduction

Canons of Construction "rules of thumb" for how to interpret ambiguous phrases

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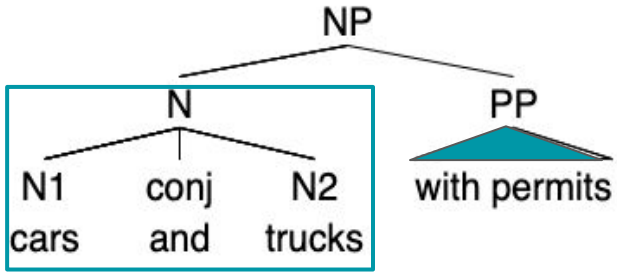
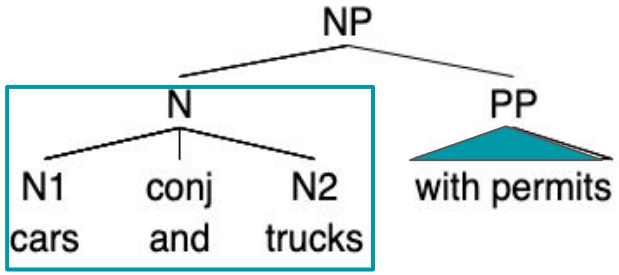
The Series Qualifier Canon:
apply the modifier to the entire **series**

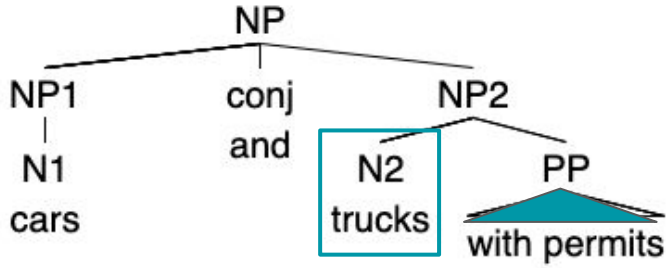


Canons of Construction "rules of thumb" for how to interpret ambiguous phrases

The Series Qualifier Canon:
apply the modifier to the entire **series**

The *Last Antecedent Rule:*
apply the modifier to the **last element**



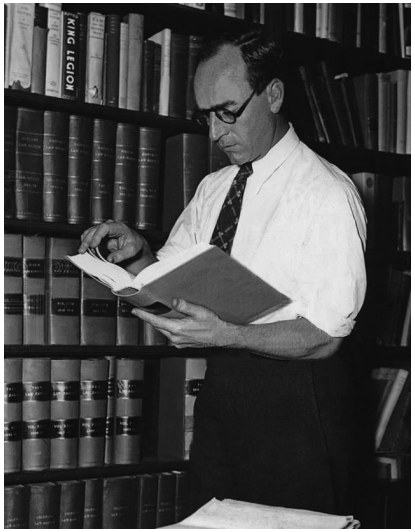


I. Introduction

The Series Qualifier Canon

vs.

The Last Antecedent Rule



Karl Llewellyn,
legal scholar (1950)

I. Introduction

The Series Qualifier Canon

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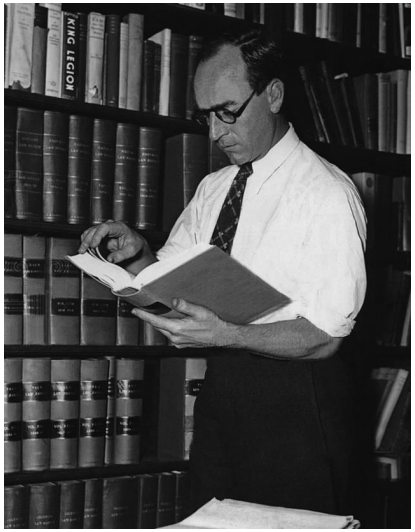

Karl Llewellyn,
legal scholar (1950)

"Thrust & Parry"

I. Introduction

"the completely ordinary way that people speak and listen, write and read"

Justice Elena Kagan

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How do people interpret ambiguous PP modifiers?

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(1) is there a **"natural" preference** for wide or narrow scope?

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How do people interpret ambiguous PP modifiers?

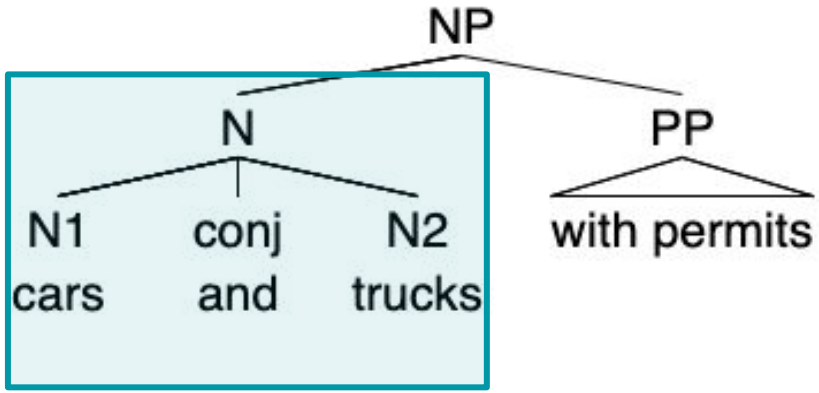
(1) is there a **"natural" preference** for wide or narrow scope?

(2) can the preference could be influenced by **semantics**?

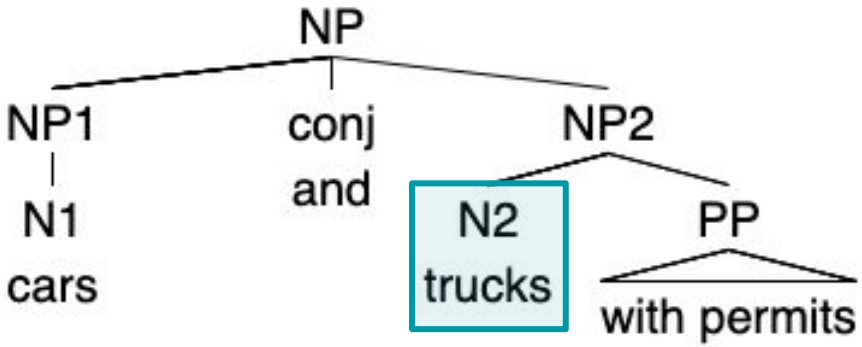
(3) or limited by **syntactic constraints**?

Cars and trucks [with permits] are allowed.

wide scope



narrow scope



Is there a preference for wide scope or narrow scope?

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➔ studies in the literature on **related** constructions suggest that

wide scope is preferred.

Hypothesis 1: Wide scope is preferred.

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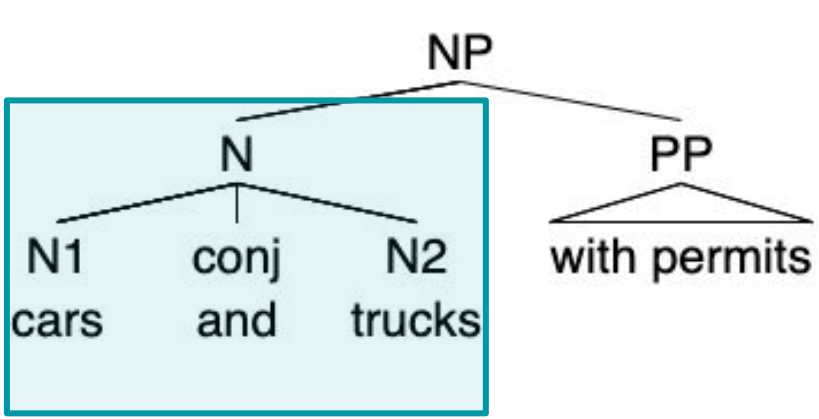
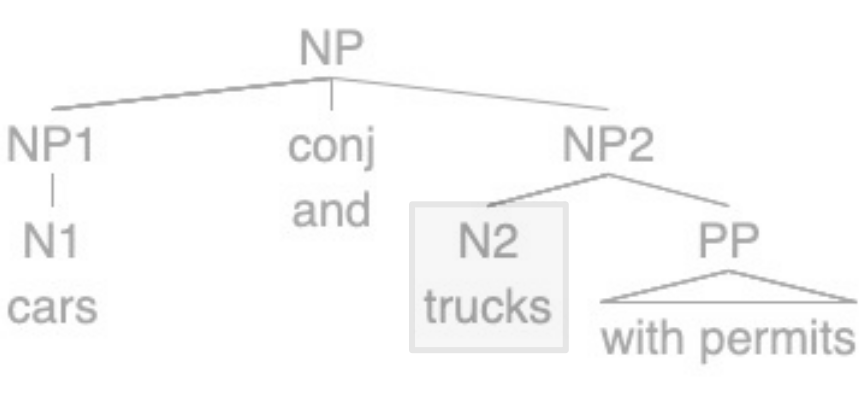




Hypothesis 1: Wide scope is preferred.

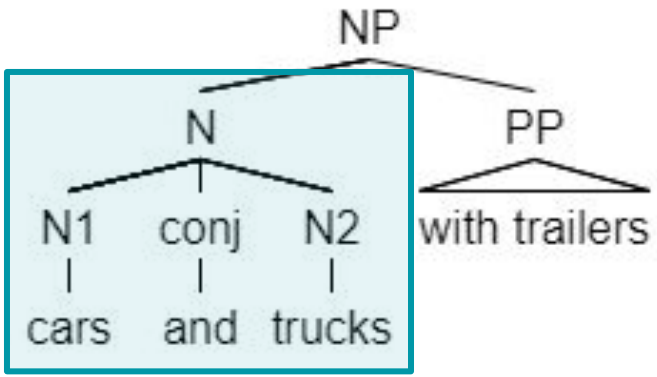
But consider this:

Hypothesis 1: Wide scope is preferred.

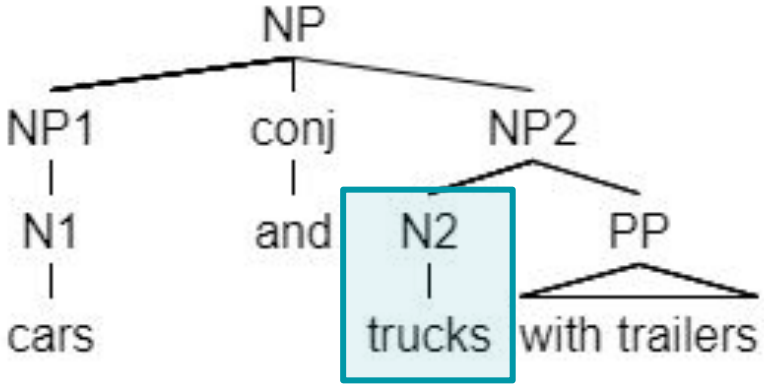
But consider this:

Cars and trucks **[with trailers]** are allowed.

wide scope

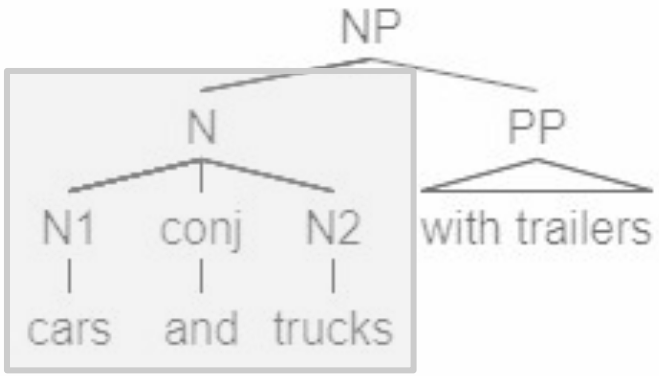


narrow scope

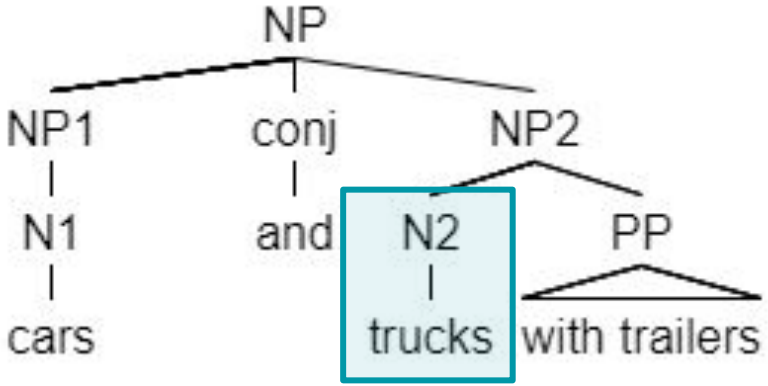


II. Research Questions

wide scope



narrow scope



Hypothesis 1: Wide scope is preferred.

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Hypothesis 2: Semantic bias can weaken scope preferences

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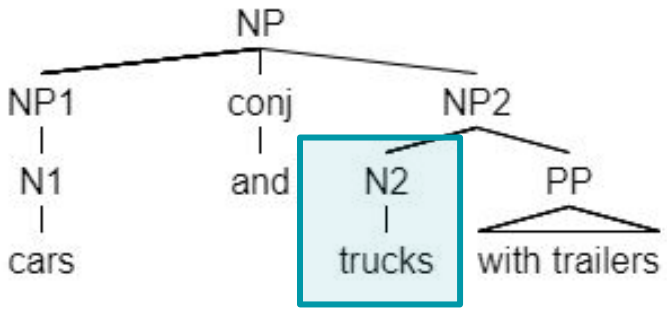
and there's one more thing…

Cars and **trucks** **[with trailers]** are allowed.

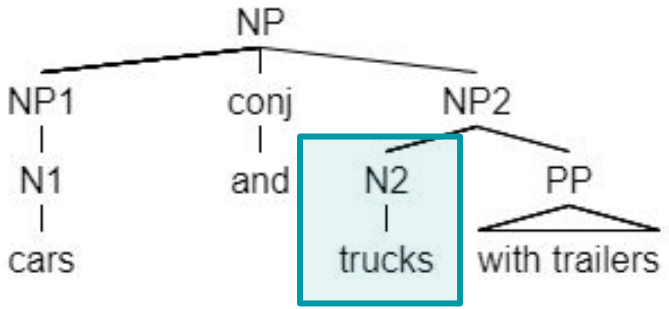
Cars and **trucks** **[with trailers]** are allowed.

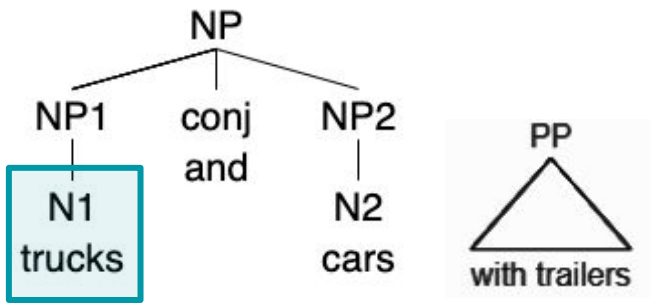
Trucks and cars **[with trailers]** are allowed.

narrow scope

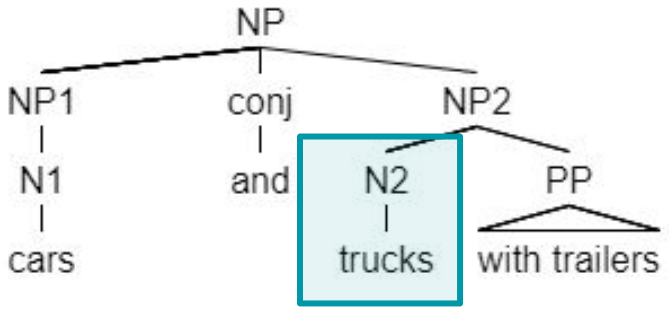


narrow scope

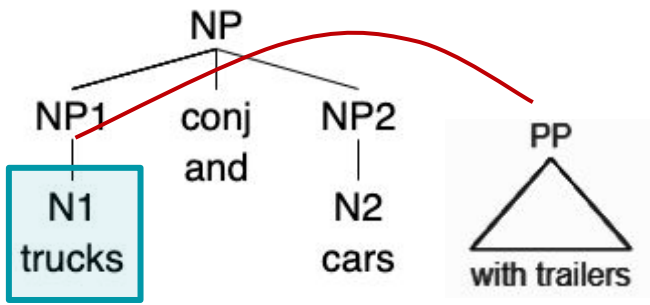




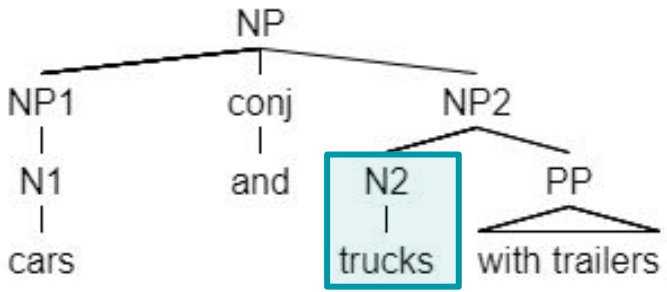
narrow scope



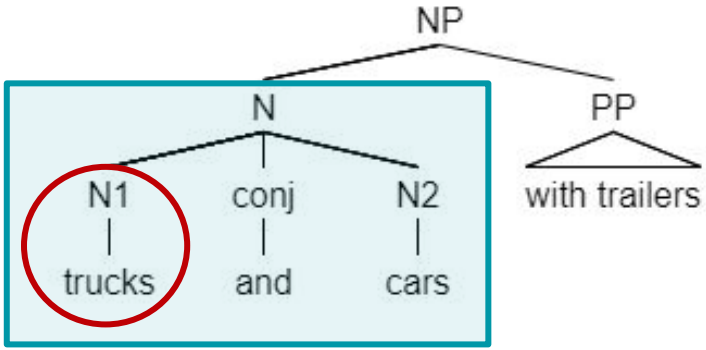
syntax violation



narrow scope



wide scope



Hypothesis 1: Wide scope is preferred.

Hypothesis 2: Semantic bias can weaken scope preferences

Hypothesis 3: Syntax will override semantic bias

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Experiment 1

Hypothesis 1: Wide scope is preferred.

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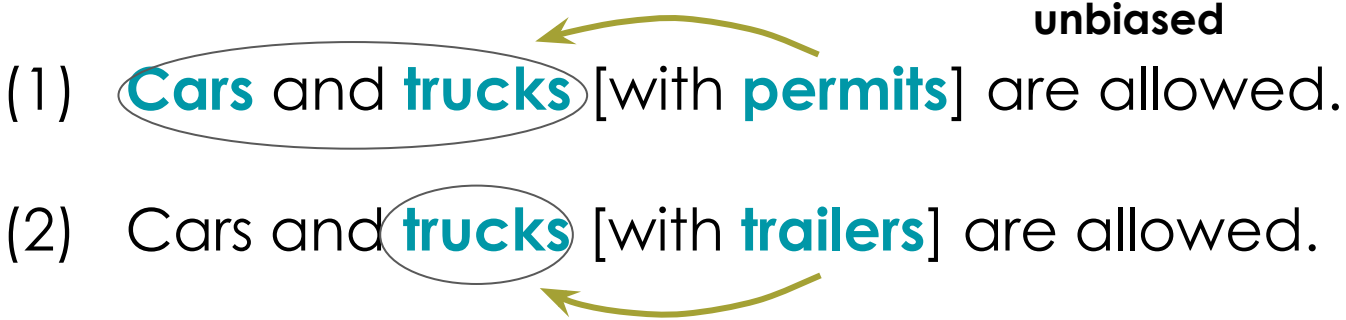

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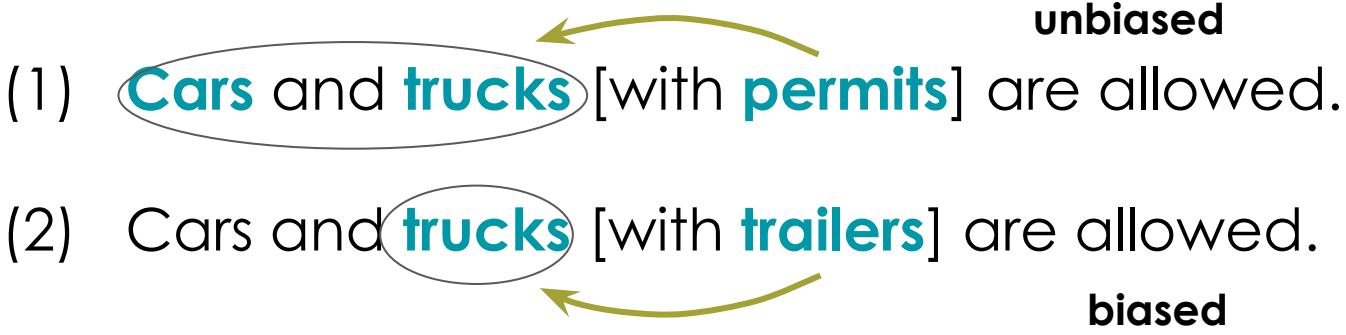

Experiment 1

Subjects: 63 US citizens over 18

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Recruited via Lucid, to match the US population

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Subjects: 63 US citizens over 18
Recruited via Lucid to match the US population

Tool: Online survey

- 12 test sentences
- 12 distractor sentences
- a multiple-choice question followed each sentence

Experiment 1

Test sentence:

Athletes and photographers with their gear waited by the van.

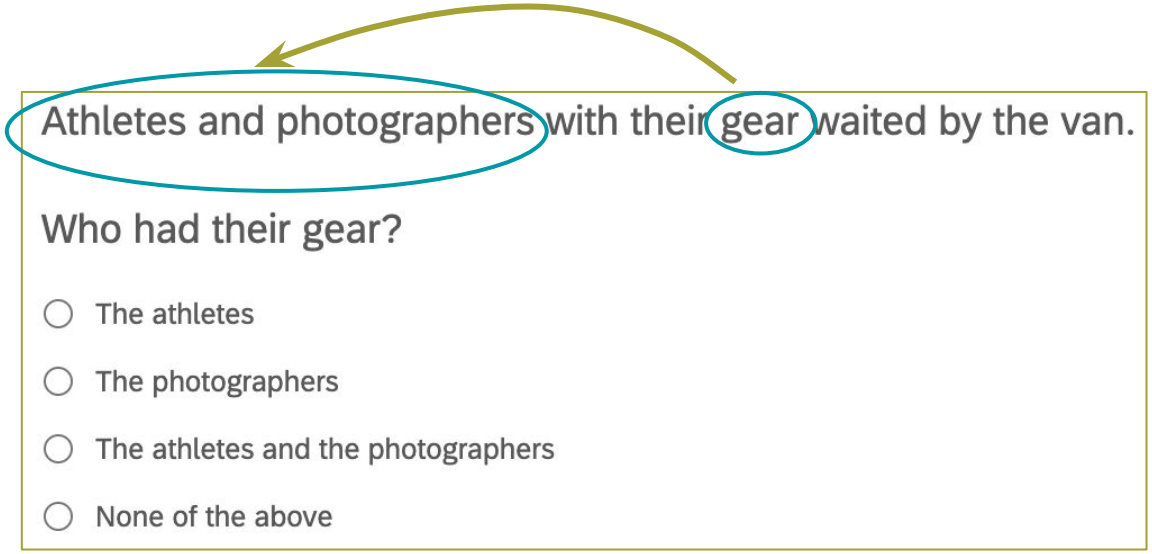
Who had their gear?

- ◯ The athletes
- ◯ The photographers
- ◯ The athletes and the photographers
- ◯ None of the above

Experiment 1

Test sentence:

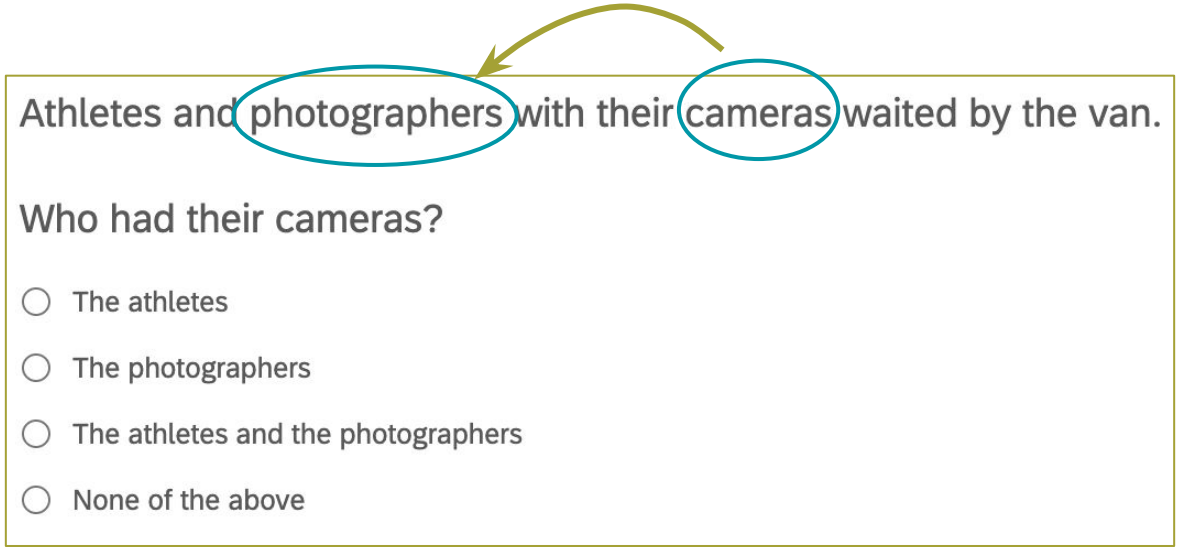
unbiased



Experiment 1

Test sentence:

biased



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Hypothesis 1: Wide scope is preferred.

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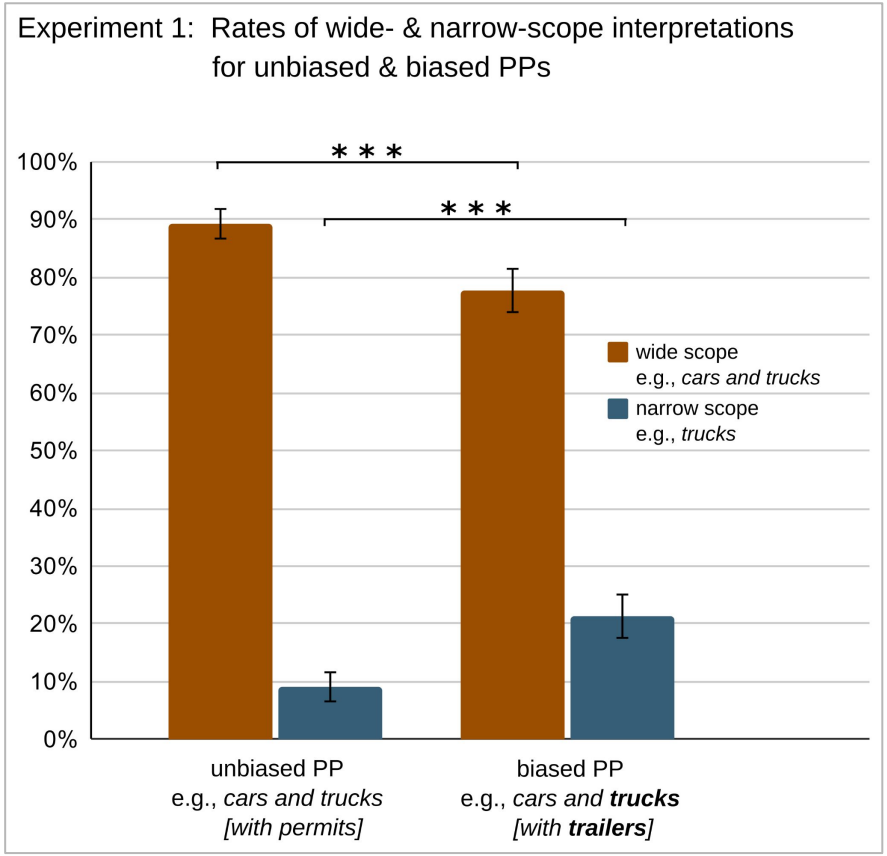
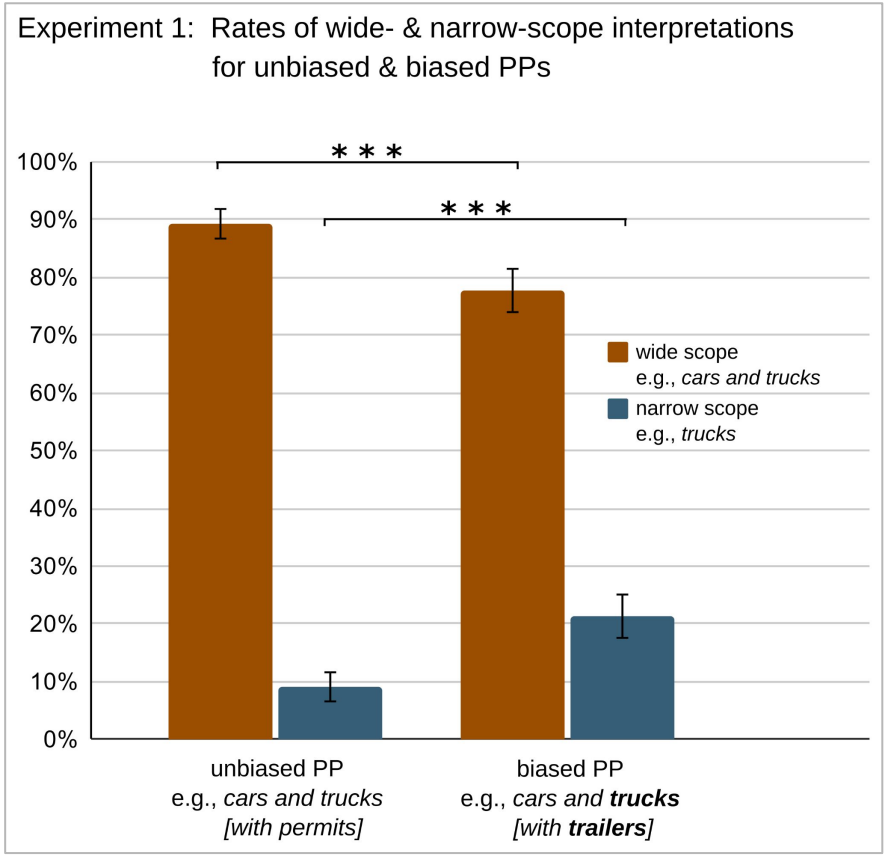


Experiment 1

Hypothesis 1: Wide scope is preferred.

Hypothesis 2: Semantic bias can weaken scope preferences

- Wide-scope preference in **unbiased** sentences: **89.4%**
- Wide-scope preference in **biased** sentences: **77.8%**



Experiment 1

Hypothesis 1: Wide scope is preferred.

Hypothesis 2: Semantic bias can weaken scope preferences

Hypothesis 3: Syntax will override semantic bias

Experiment 1

✓ **Hypothesis 1: Wide scope is preferred.**

✓ **Hypothesis 2: Semantic bias can weaken scope preferences**

Hypothesis 3: Syntax will override semantic bias

Experiment 2

Hypothesis 1: Wide scope is preferred.

Hypothesis 2: Semantic bias can weaken scope preferences

Hypothesis 3: Syntax will override semantic bias

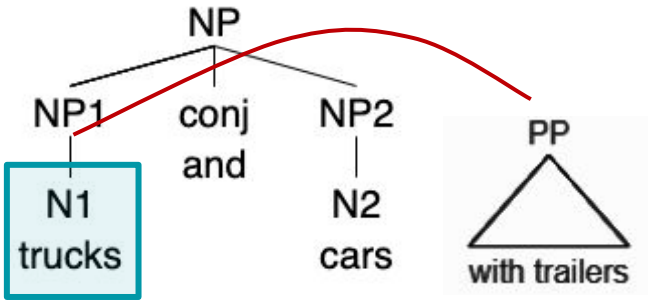
Experiment 2

(2) Cars and **trucks** [with **trailers**] are allowed.

Experiment 2

(4) **Trucks** and cars [with **trailers**] are allowed.

syntax violation



Experiment 2

(1) Cars and trucks [with permits] are allowed.
(2) Cars and **trucks** [with **trailers**] are allowed.

(4) **Trucks** and cars [with **trailers**] are allowed.

Experiment 2

(1) Cars and trucks [with permits] are allowed.
(2) Cars and **trucks** [with **trailers**] are allowed.

(3) Trucks and cars [with permits] are allowed.
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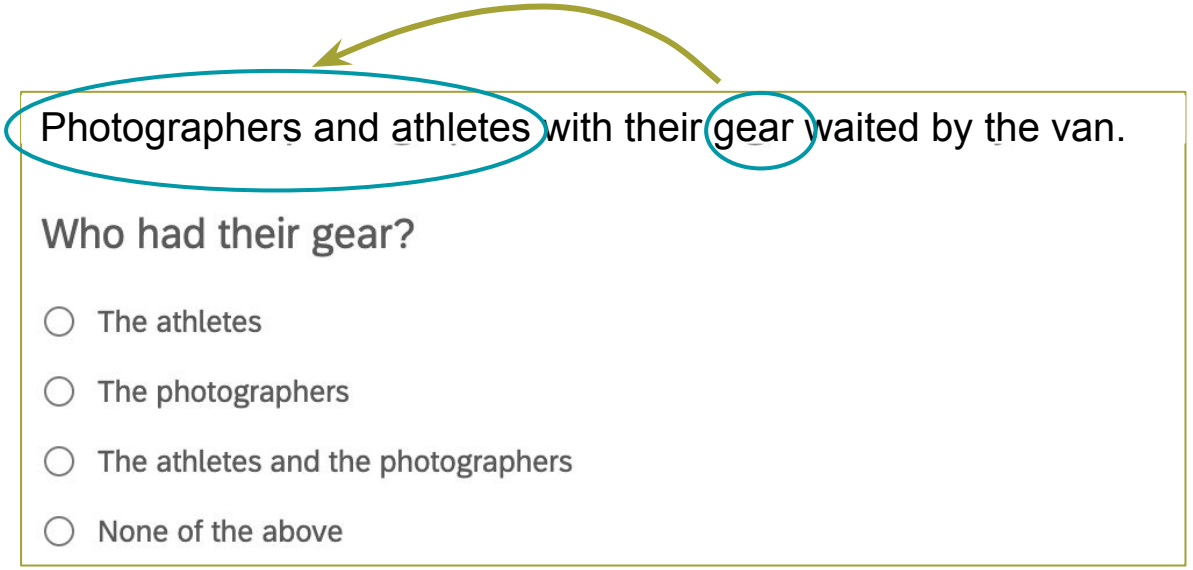
Experiment 2

Experiment 2

Test sentence:

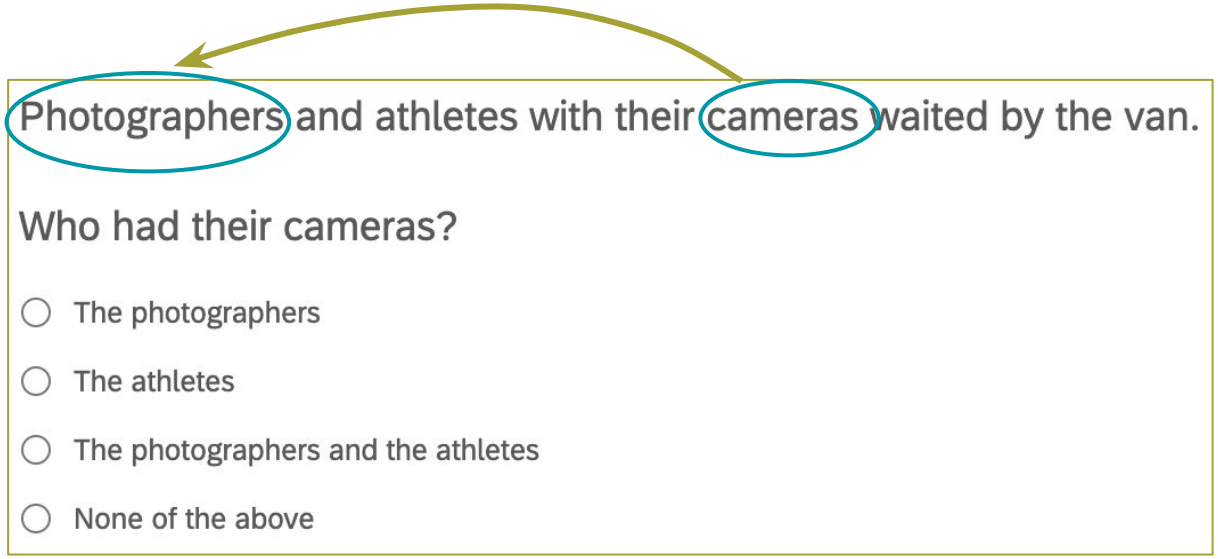
unbiased



Experiment 2

Test sentence:

biased



Experiment 2

Hypothesis 1: Wide scope is preferred.

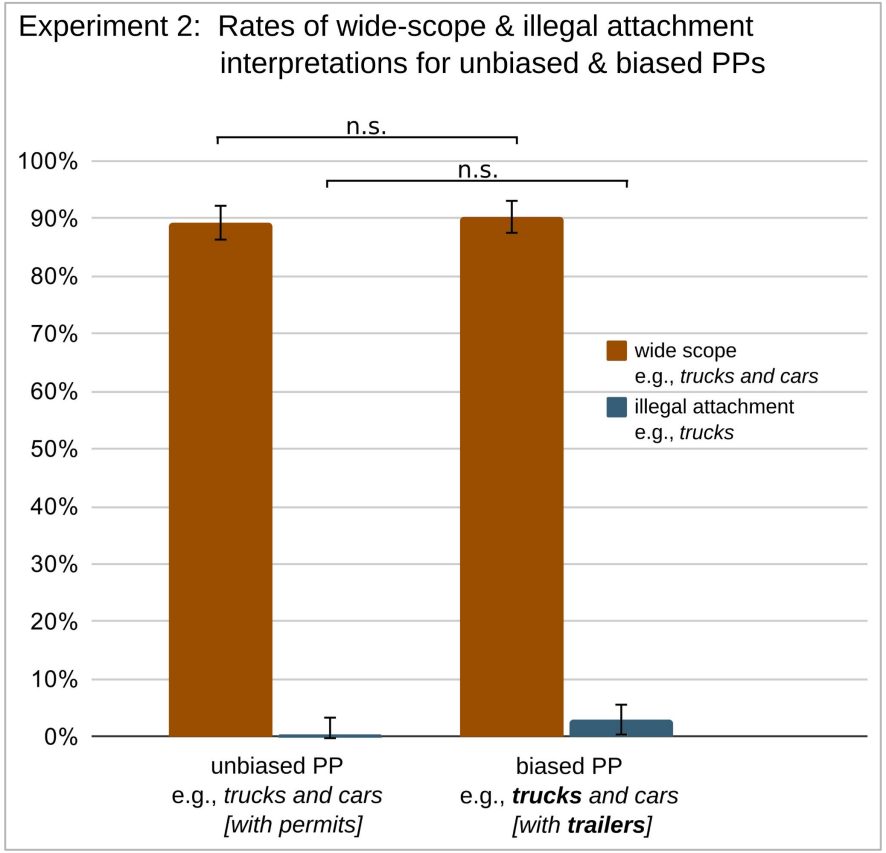
Hypothesis 2: Semantic bias can weaken scope preferences

Hypothesis 3: Syntax will override semantic bias

Experiment 2

Hypothesis 1: Wide scope is preferred.

Hypothesis 3: Syntax will override semantic bias

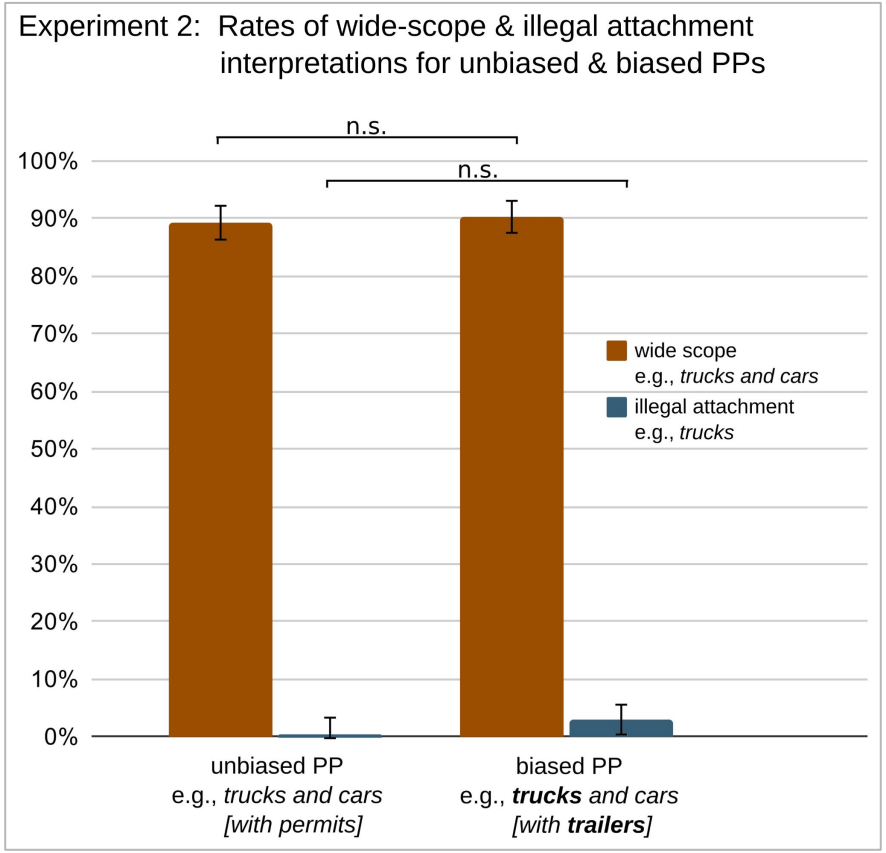


Experiment 2

Hypothesis 1: Wide scope is preferred.

Hypothesis 3: Syntax will override semantic bias

- Wide-scope preference in **unbiased** sentences: **89.3%**
- Wide-scope preference in **biased** sentences: **90.3%**



Experiment 2

- **Hypothesis 1: Wide scope is preferred.**
- Hypothesis 2: Semantic bias can weaken scope preferences
- **Hypothesis 3: Syntax will override semantic bias**

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How do people interpret ambiguous PP modifiers?

Hypothesis 1: Wide scope is preferred.

Hypothesis 2: Semantic bias can weaken scope preferences

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IV. Discussion and Conclusions

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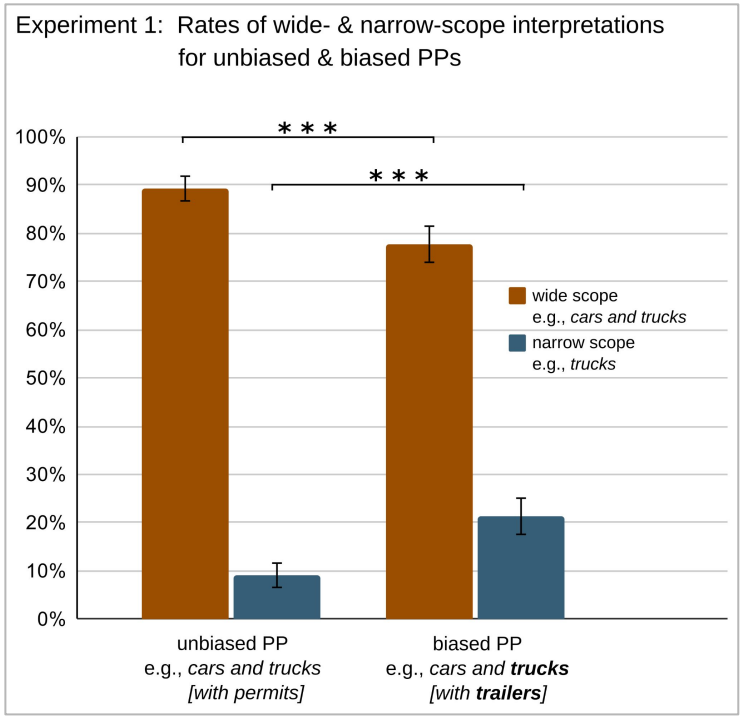

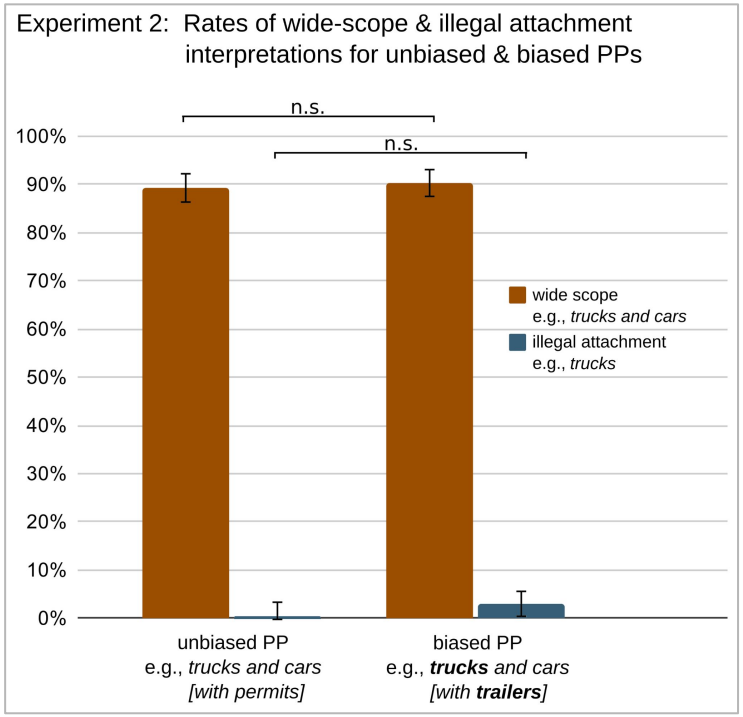

Experiments 1&2

- ✓ **Hypothesis 1: Wide scope is preferred.**
- ✓ **Hypothesis 2: Semantic bias can weaken scope preferences**
- ✓ **Hypothesis 3: Syntax will override semantic bias**

What does this all mean?

- For lists of nouns, people generally prefer wide-scope readings over narrow-scope.

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- Semantics **can** override this wide-scope preference.

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- Semantics **can** override this wide-scope preference.
- **BUT:** Semantics **cannot** override syntax.

What does this mean for **Lockhart v. US (2016)**?

"prior state convictions for crimes relating to [aggravated sexual abuse], [sexual abuse], or [abusive sexual conduct] ***involving a minor or ward***."

narrow scope!

wide scope!

What does this mean for **Lockhart v. US (2016)**?

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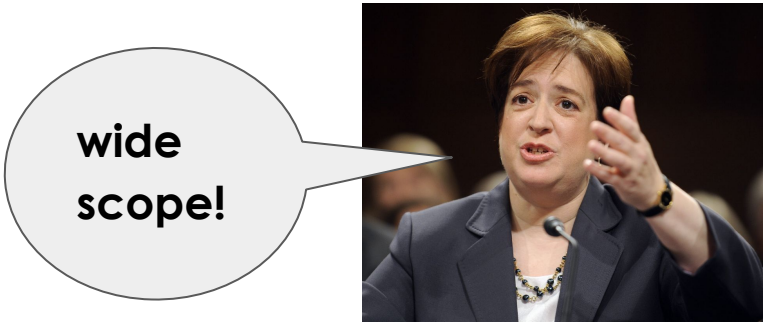

Have there been legal cases where a **narrow-scope** reading is justified?

Have there been legal cases where a **narrow-scope** reading is justified?

yes.

Board of Trustees v. Judge (1975)

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The school board can fire any employee with a conviction

"of a felony or of any crime [involving moral turpitude]"

Board of Trustees v. Judge (1975)

The school board can fire any employee with a conviction

"*of a felony or of any crime* ***[involving moral turpitude]***"

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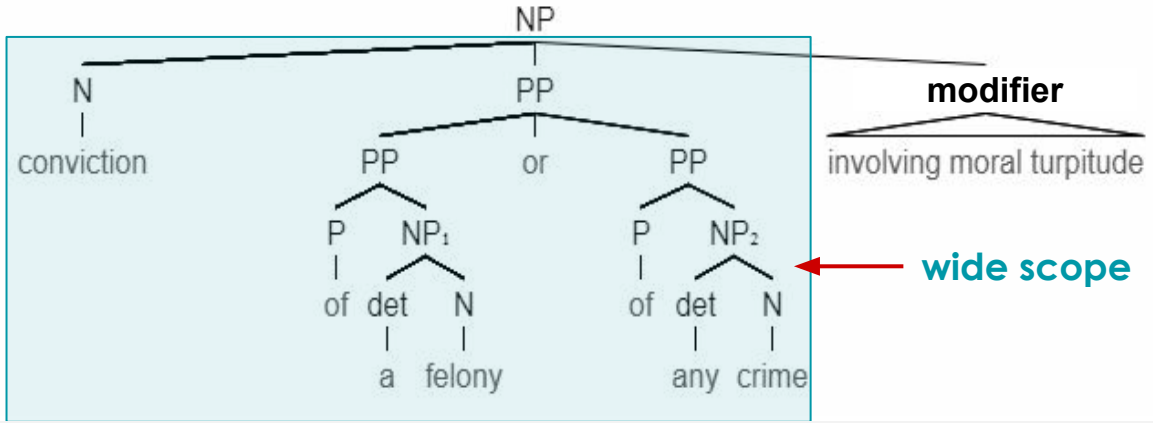

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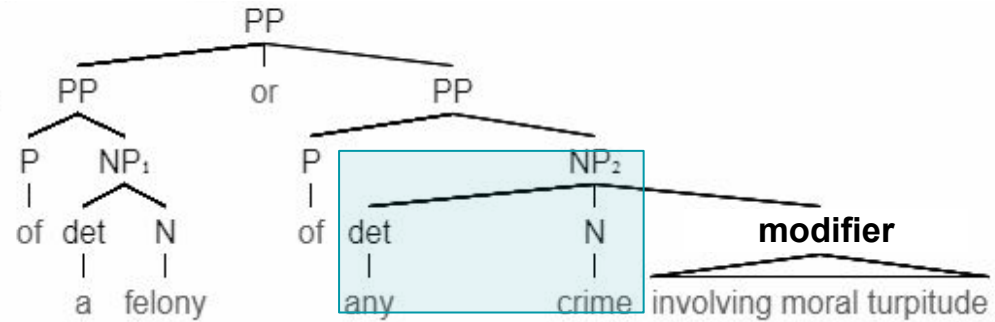

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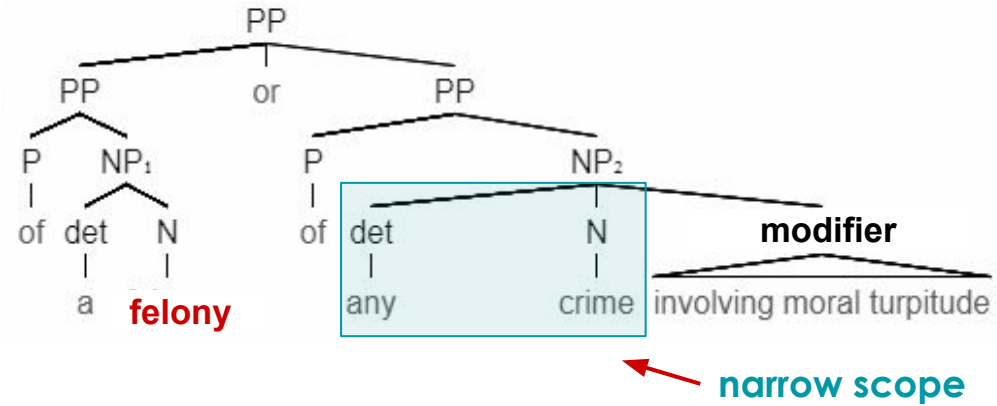

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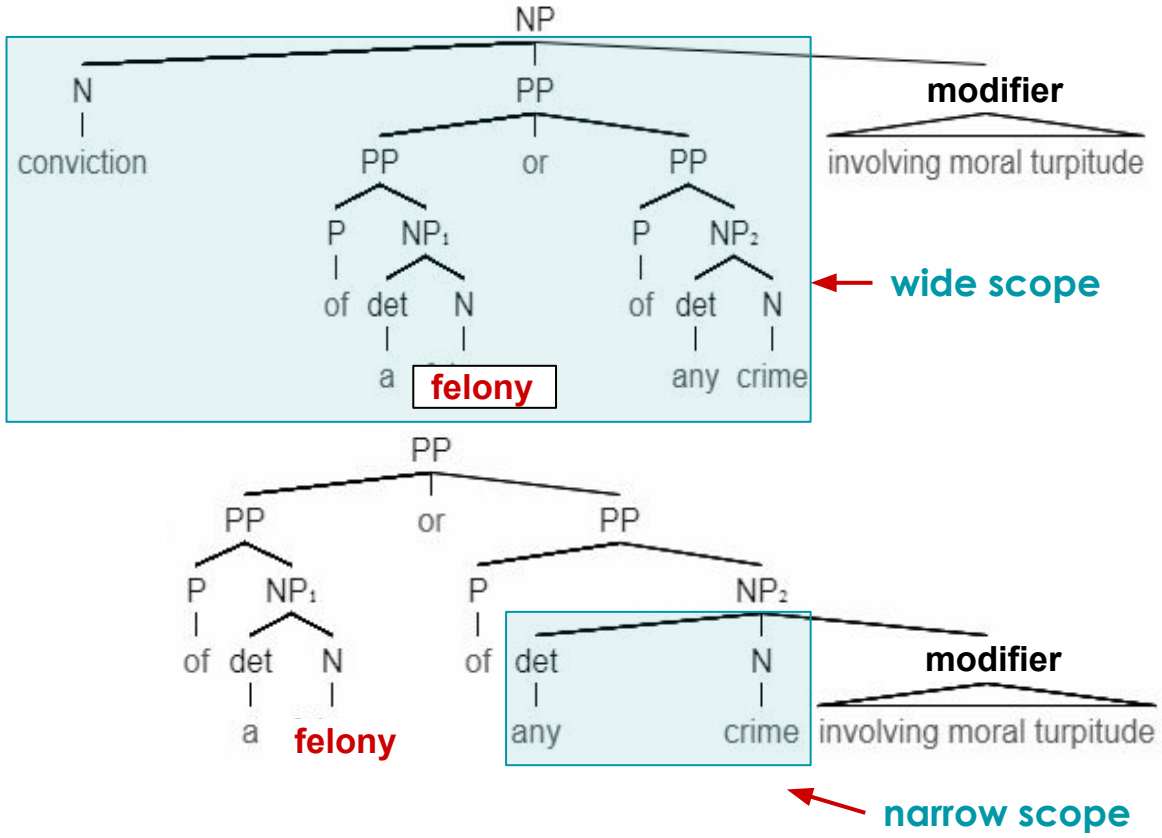

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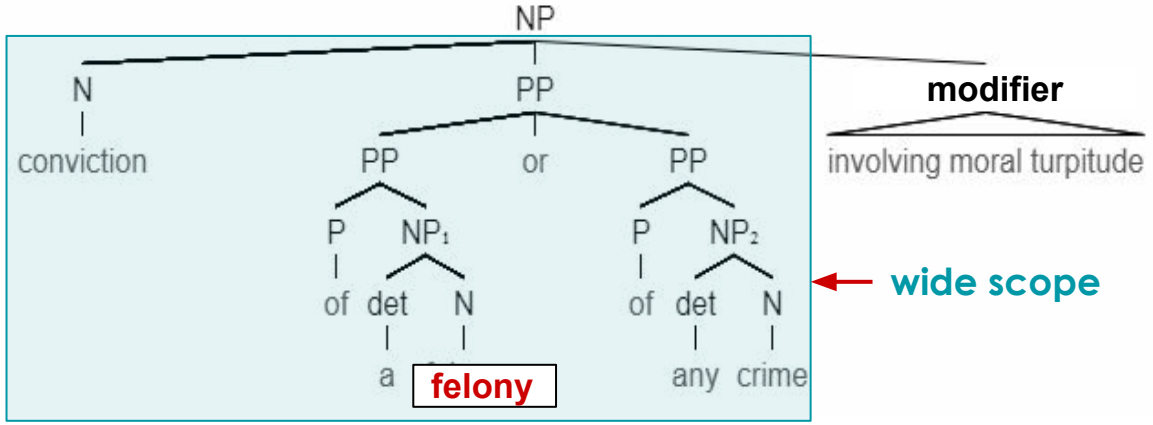

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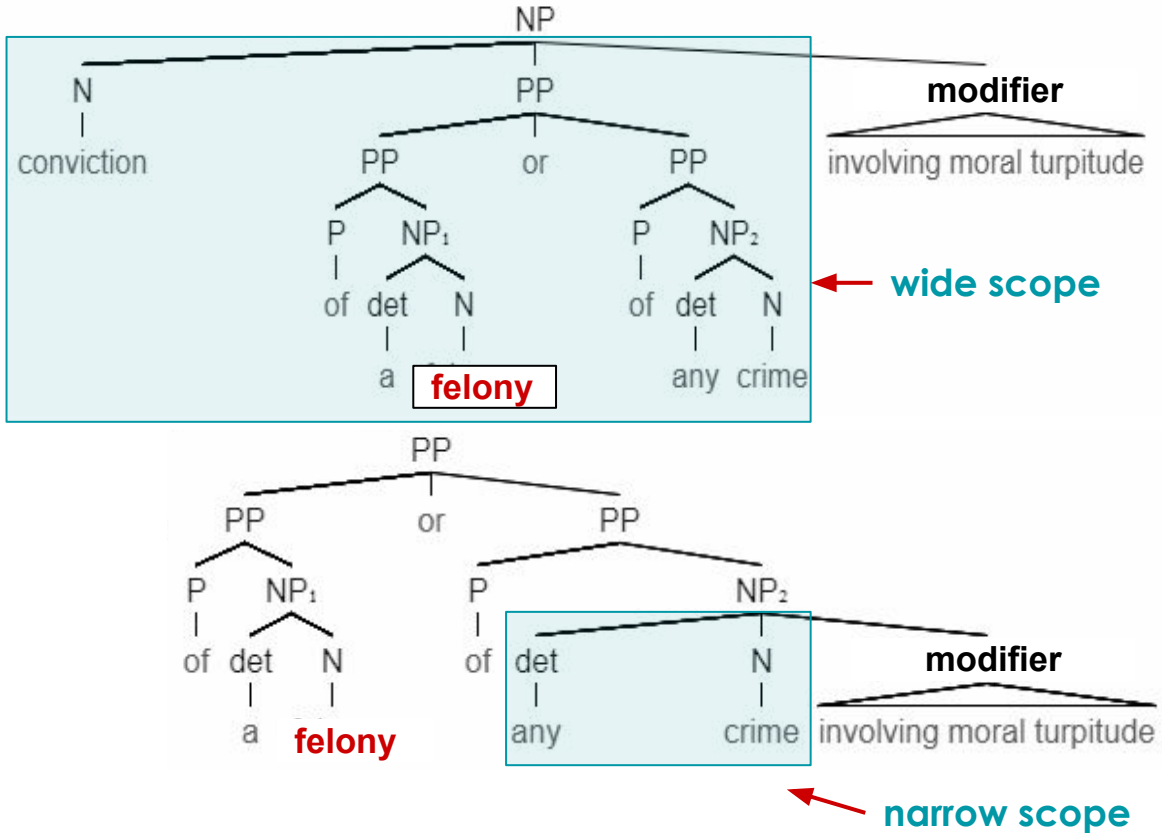

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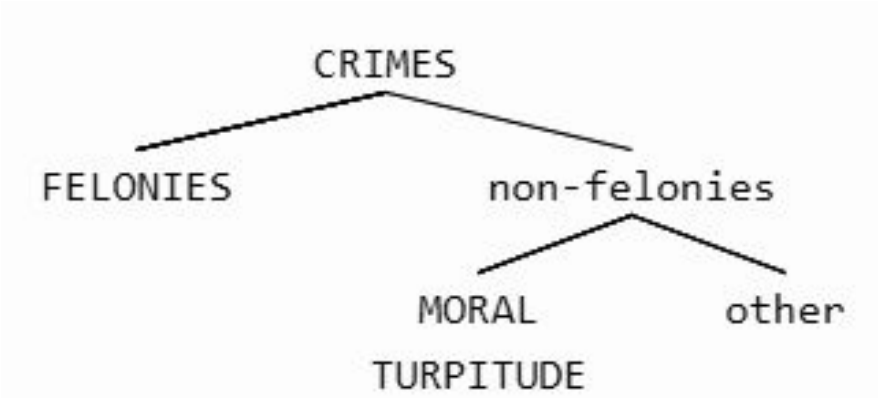

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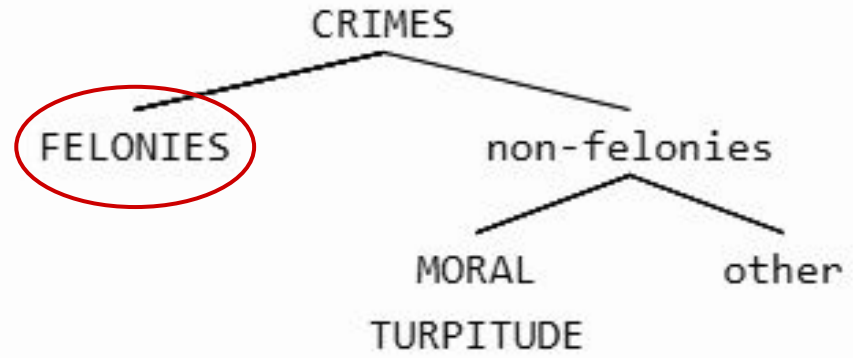

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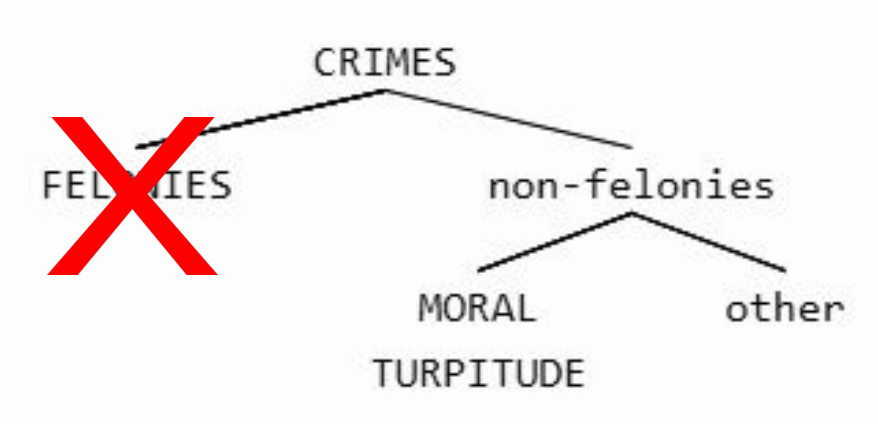

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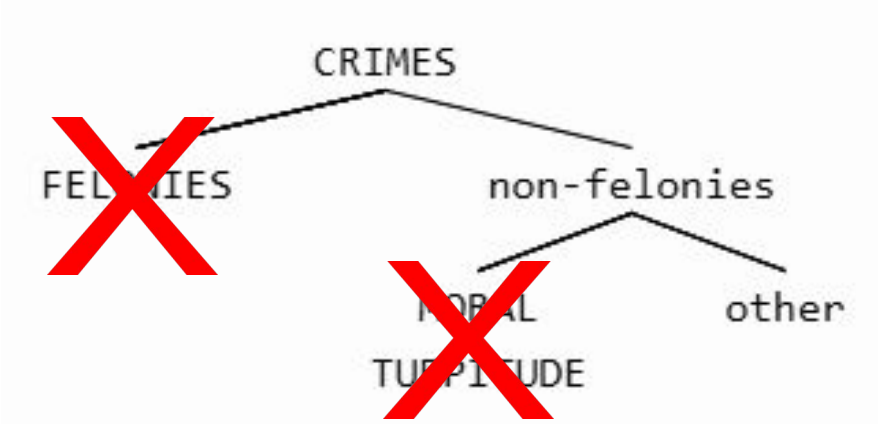

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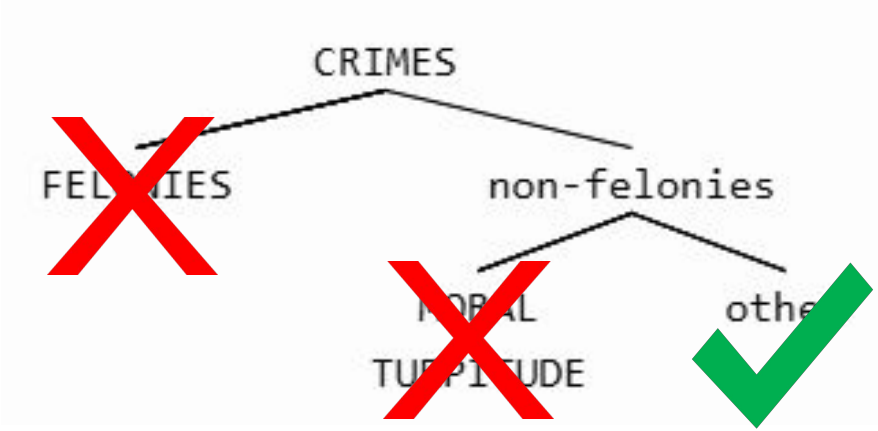

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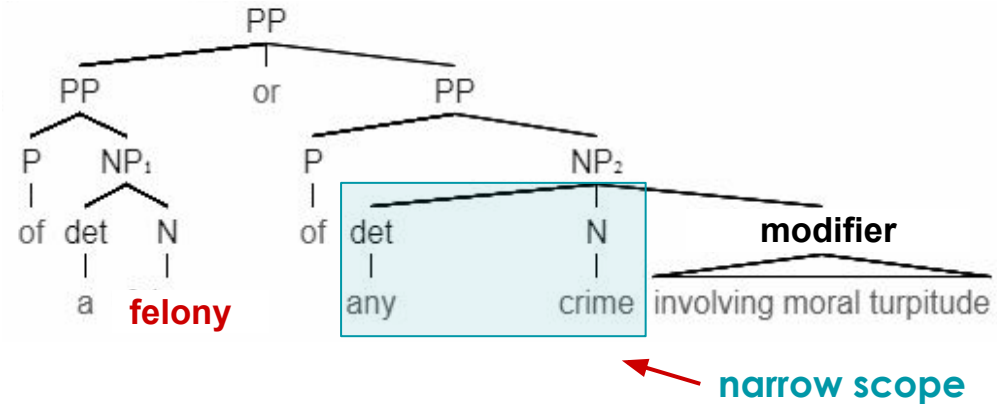

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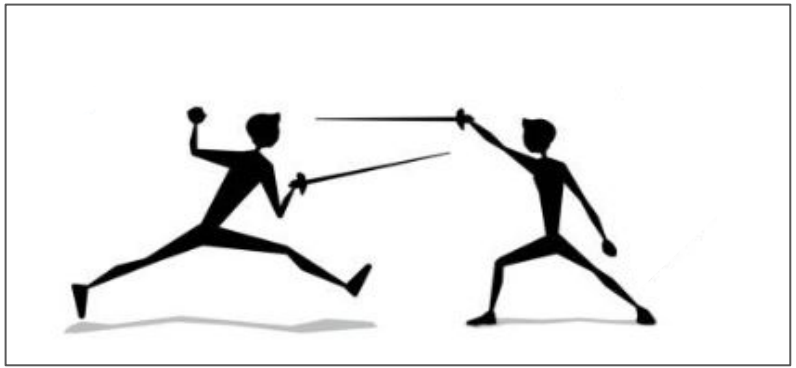
IV. Discussion and Conclusions



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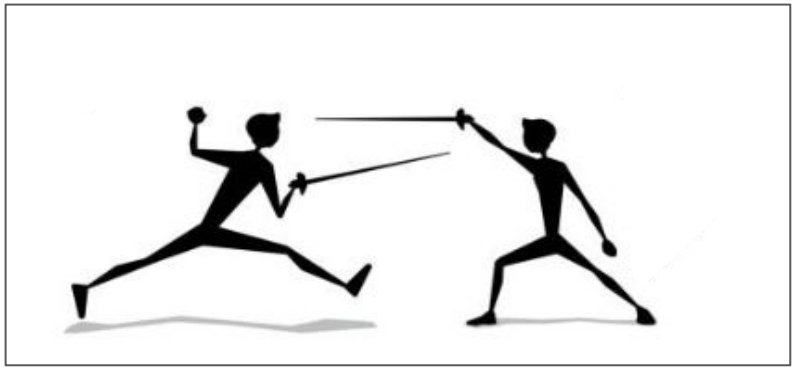

The Series Qualifier Canon

vs.

The Last Antecedent Rule

IV. Discussion and Conclusions

"the completely ordinary way that people speak and listen, write and read"

Justice Elena Kagan

I. Introduction

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II. Research Question
III. Experiments
IV. Discussion & Conclusions
V. References

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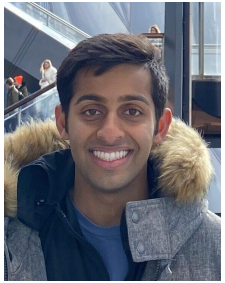

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And now back to Larry

The End

Thank you.