Specificational subjects are individual concepts

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Predicational vs. specificational copular sentences

Copular sentences with postcopular NP:

(1) Tim is a/the lawyer. [Predicational]

(2) The lawyer is Tim. [Specificational]

Predicational sentences

(1) $[_{NP1}$ Tim $]$ is $[_{NP2}$ a/the lawyer $]$

Consensus:

- Like copular sentences with postcopular AP/PP
- NP2 is a property of things of the type NP1 names/quantifies over: *Tim* is referential (type e); *a/the lawyer* denotes a property $\langle e, t \rangle$

Specificational sentences

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- NP2 is a name (referential, not predicational)
- NP1 is a definite description. Analyses:

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  - Predicate Inversion: inverted predicational sentence
    NP1 denotes a property $\langle e, t \rangle$
    (Heggie 1988, Moro 1997, Mikkelsen 2005)

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- NP1 is a definite description. Analyses:
  - Predicate Inversion: inverted predicational sentence
    NP1 denotes a property $\langle e, t \rangle$
    (Heggie 1988, Moro 1997, Mikkelsen 2005)
  - Individual Concept: NP1 denotes an individual concept $\langle s, e \rangle$
    (Romero 2005)

Individual Concept is the right analysis

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- VP coordination

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- VP coordination
- quantificational specificational subjects
- truth-conditional non-equivalence of specificational and predicational sentences

Outline

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Predicate Inversion Analysis

Specificational & predicational sentences have the same underlying structure

(1) Tim is the lawyer. [Predicational]

(2) The lawyer is Tim. [Specificational]

(Heggie 1988, Heycock 1995b, Moro 1997, Mikkelsen 2005, den Dikken 2006)

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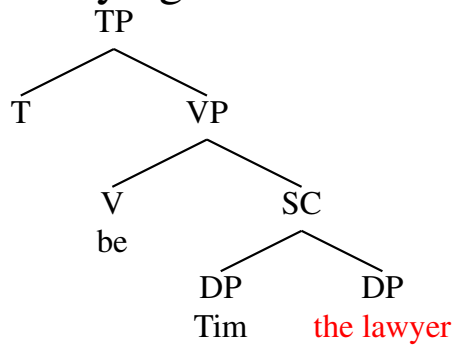
Underlying structure:



$\longrightarrow$

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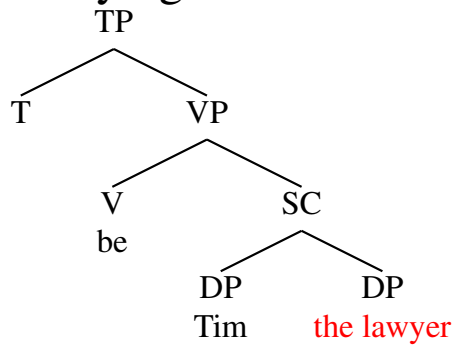
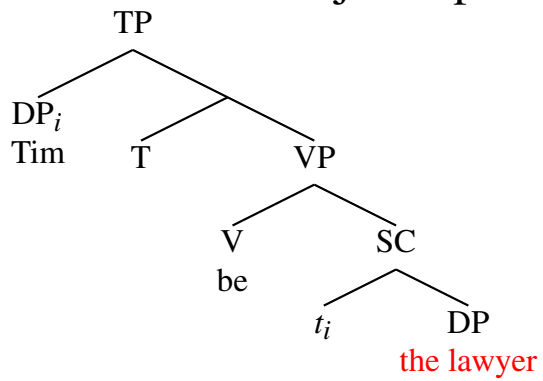
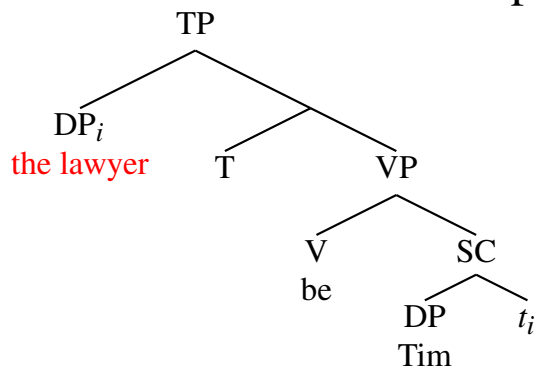


→

Predicational: SC Sbj → Spec-TP



Specificational: SC Pred → Spec-TP



(Heggie 1988, Heycock 1995b, Moro 1997, Mikkelsen 2005, den Dikken 2006)

Individual Concept Analysis

(Romero 2005)

Subject denotes an IC; postcopular NP is its value in world of evaluation

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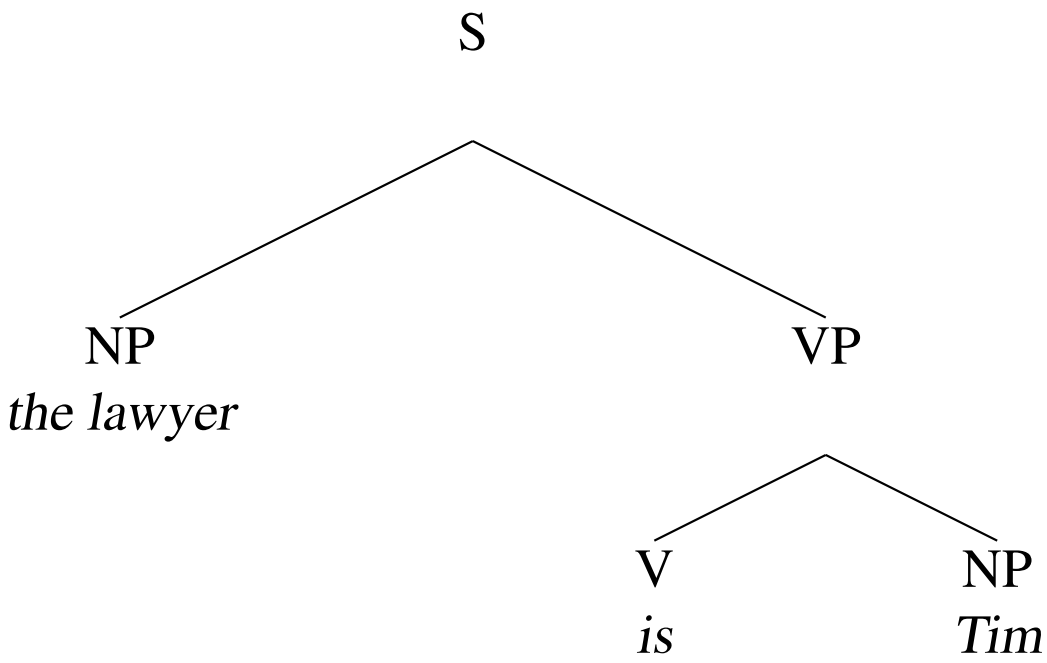

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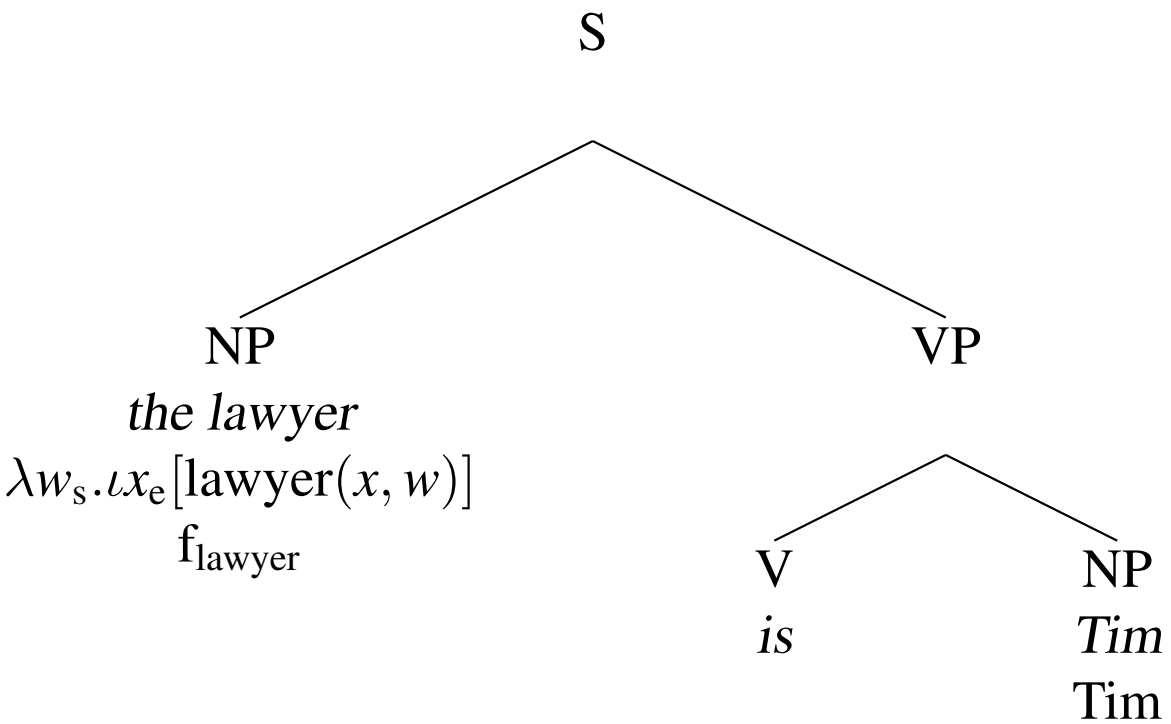

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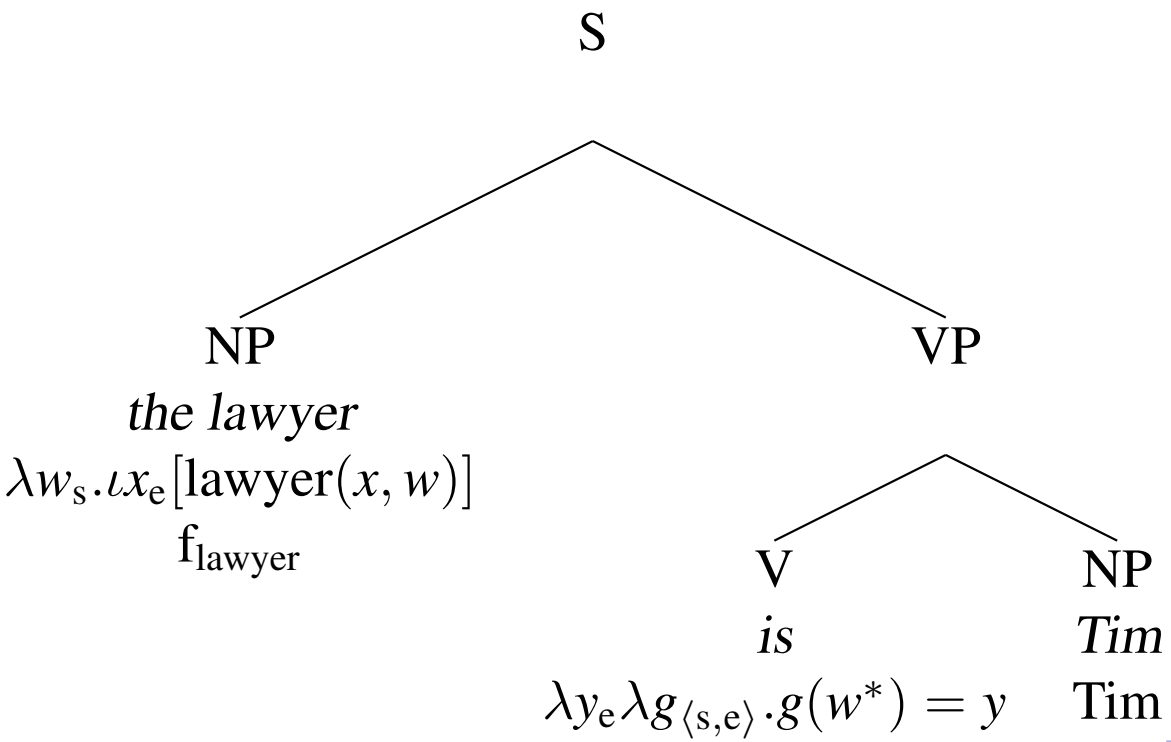

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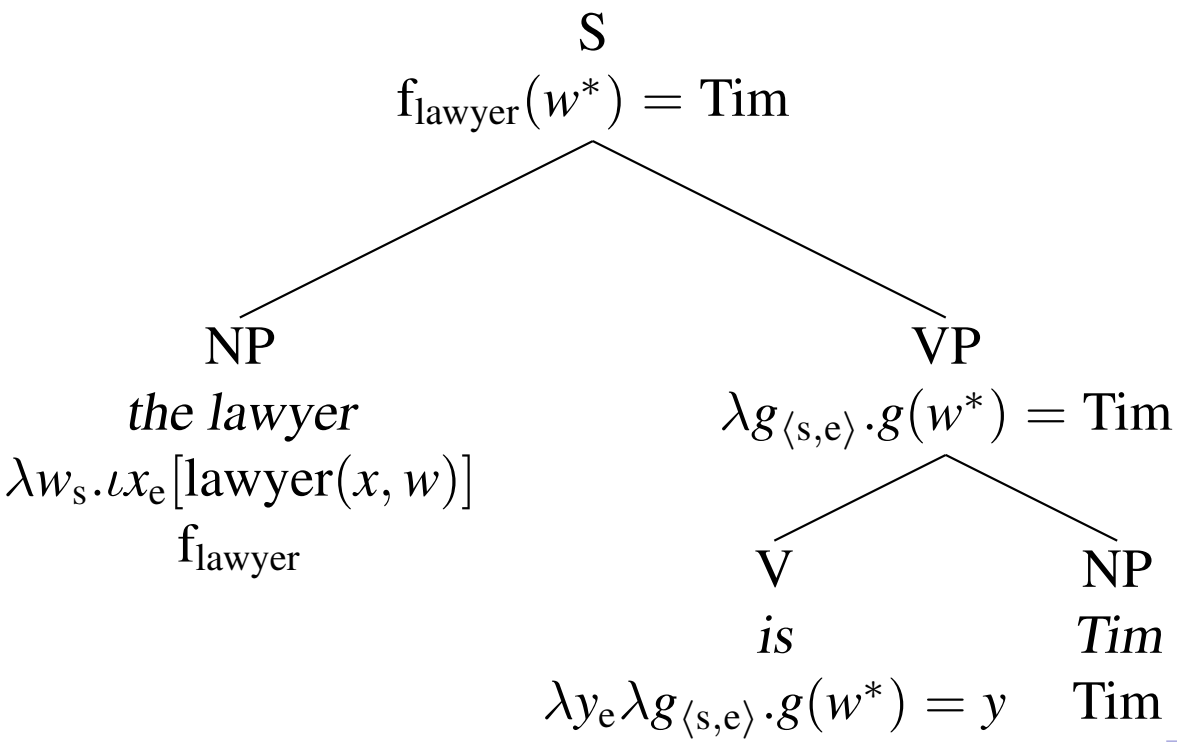

Outline

VP coordination

The argument

- Specificational VPs can be coordinated with VPs that select IC subjects

$\Rightarrow$ Specificational subjects are individual concepts

Assumptions

1. Coordination applies to constituents of the same semantic type (Partee and Rooth 1983)

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2. Some VPs select an individual concept as a subject (type $\langle se, t \rangle$):

   (3) The temperature is rising.

   (4) The price of milk changes from state to state.

Specificational VPs select IC subjects

Specificational sentence:

(5) The temperature is 30.

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Similar argument from:

(7) The price of milk is 3.99 (but changes from state to state).

Outline

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Predicate Inversion predicts:

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Mikkelsen's evidence:

- CONTEXT: A movie stars Liv Ullman and Ingrid Bergman, and they are the only actresses in the movie.

  (8) #Every actress in this movie is Liv Ullman or Ingrid Bergman.

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Related to similar facts in predicational counterpart:

(9) a. # Liv Ullman or Ingrid Bergman are every actress in that movie.
b. # Liv Ullman is every actress in that movie.

More generally, specificational subjects have the same properties as predicates in predicational sentences

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They involve quantification over price concepts; (10) is false but (11) true in:

flour:	$3.99	sugar:	$3.99
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Not quantification over individuals:

- 4 out of 6 of the price concepts are 3.99
- Only 1 out of 3 of the numbers are 3.99

Specificational subjects as quantifiers over concepts

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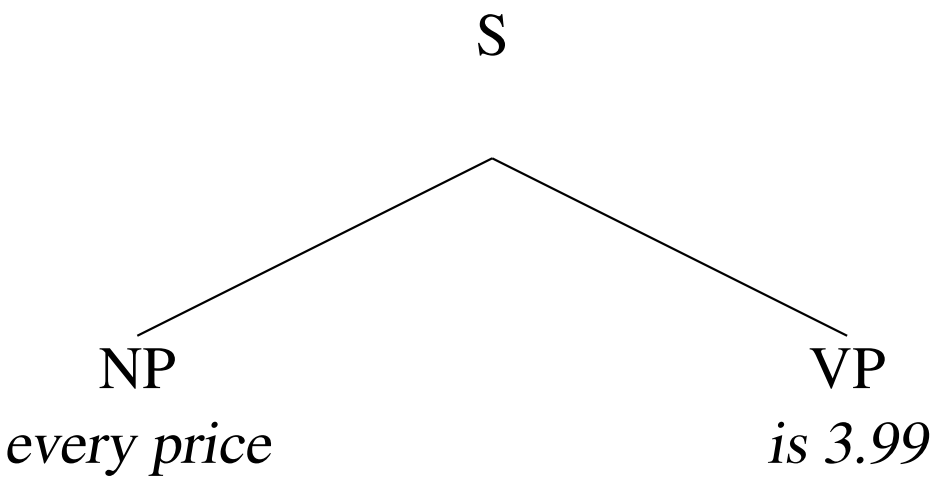

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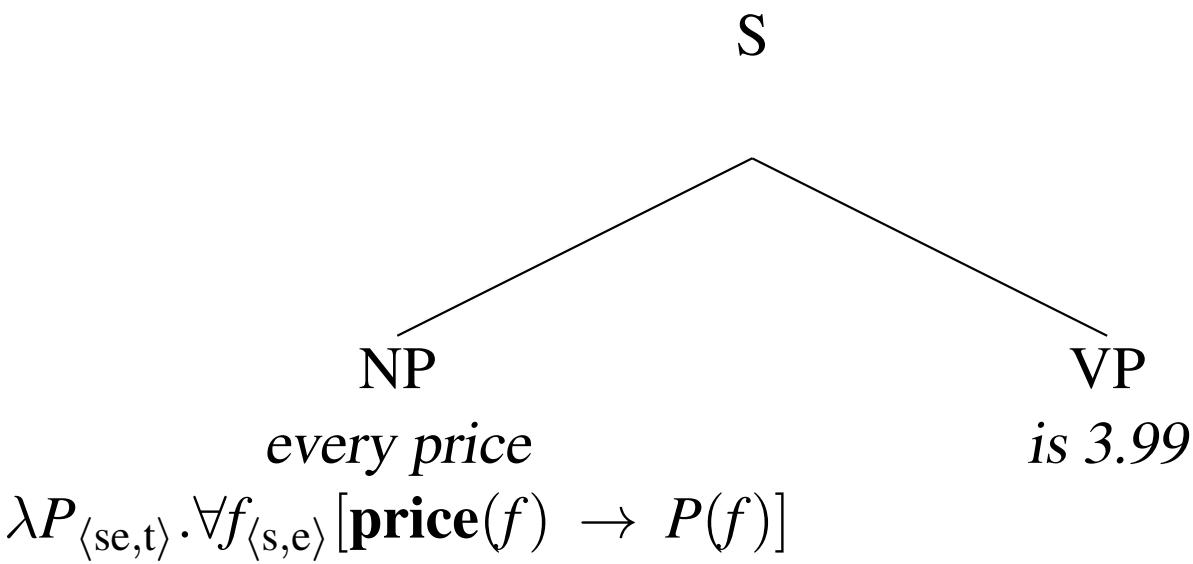

NP: quantifier over price concepts
price: set of price concepts ($\langle se, t\rangle$ constant)

Specificational subjects as quantifiers over concepts

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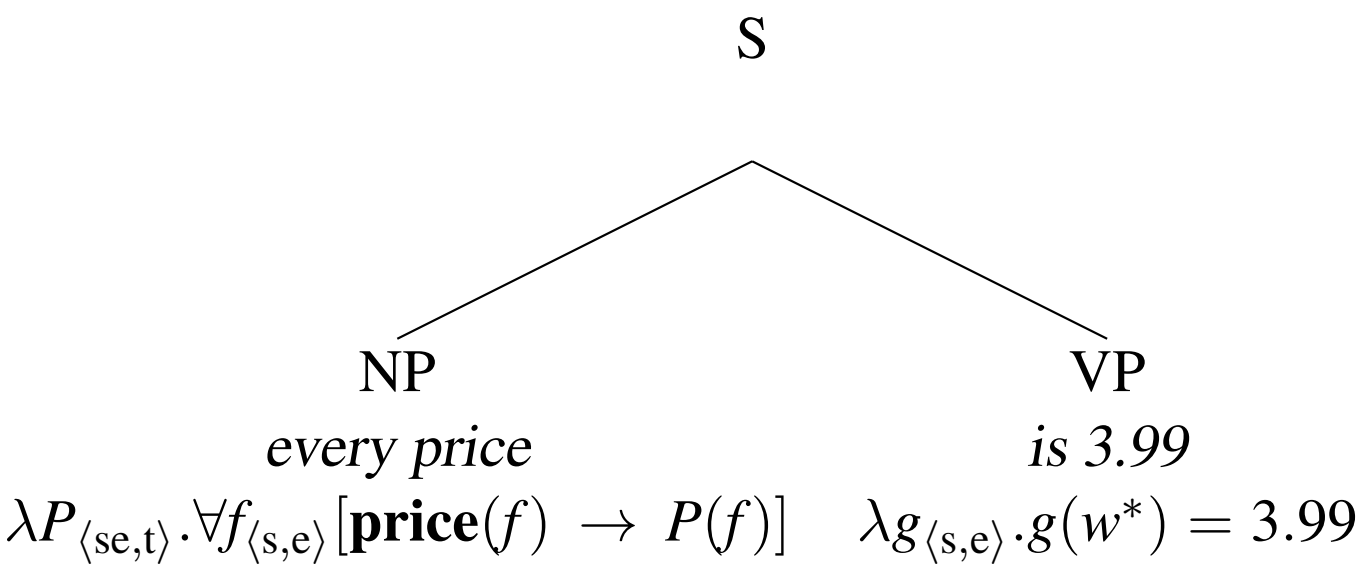

VP: $\langle se, t\rangle$

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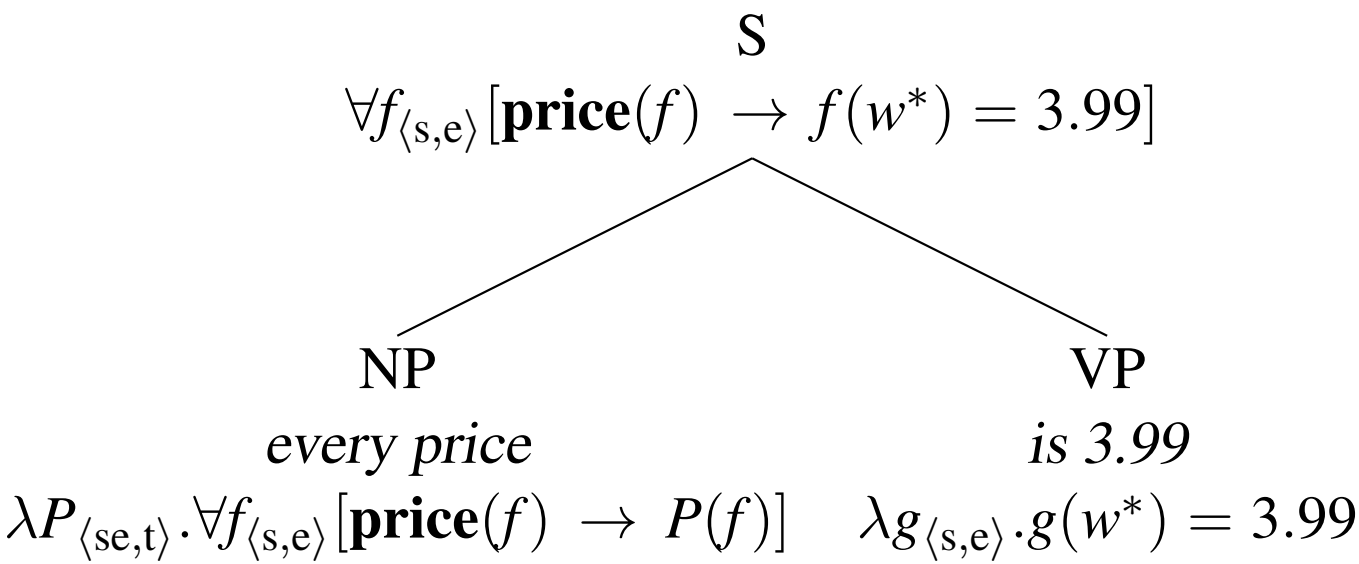

All price concepts are 3.99

Can Predicate Inversion account for this?

Maybe Mikkelsen is wrong about the predictions of Predicate Inversion

- After all, predicates can be quantificational:

(12) Mary is everything Sue is. [Predicational]

everything Sue is quantifies over properties

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⇒ Maybe specificational subject QPs are inverted quantified predicates:

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For every property P such that for some y, $P = \lambda x.x$ is the price of y, $P(3.99)$.

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So the question is:

Can specificational subject QPs be analyzed as quantified predicates?

Specificational subject QPs are not quantified predicates

2 arguments:

- Quantified predicates cannot be specificational subjects:

(12) Mary is everything Sue is. [Predicational]

(13) *Everything Sue is is Mary. [Specificational]

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  (14) *3.99 is every price. [Predicational]

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  (14) *3.99 is every price. [Predicational]

Conclusion

Specificational subject QPs quantify over concepts, not predicates

What's wrong with (8)?

From Mikkelsen's argument:

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Proposal

actress in this movie is easy to construe as set of individuals, not concepts

⇒ Oddness disappears by making the NP construable as a set of concepts

Actress concepts, case 1

Context with a salient set of actress-concepts (roles); a movie with:

Queen of the Night:	Hepburn	Pamina:	Ullman
Papagena:	Ullman	Papageno:	Bogart
Tamino:	Bergman	Sarastro:	Ullman

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(15) Every actress in this movie except the one who plays Queen of the Night is either Liv Ullman or Ingrid Bergman.

Actress concepts, case 2

(16) Every lead actress in a 50s Scandinavian movie is Liv Ullman or Ingrid Bergman.

Actress concepts, case 2

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- $[\![\textit{lead actress in a 50s Scandinavian movie}]\!] =$
$$\left\{ \begin{array}{l} \lambda w.\text{the lead actress in } x \\ \lambda w.\text{the lead actress in } y \\ \lambda w.\text{the lead actress in } z \\ \ldots \end{array} \right\} = \text{LA}$$

$\Rightarrow$ For every concept f in LA, $f(w^*) = \text{Ullman}$ or $f(w^*) = \text{Bergman}$

Outline

Truth-conditional non-equivalence

General prediction:

- Predicate Inversion: specificational & predicational sentences are truth-conditionally equivalent (modulo movement)
- Individual Concept: not equivalent

Truth-conditional non-equivalence

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Argument for Individual Concept

Sentences with not, only show they're not equivalent

Non-equivalence: negation

(17) One of the prices is not 3.99. [Specificational: one $>$ $\neg$]

(18) 3.99 is not one of the prices. [Predicational: $\neg$ $>$ one]

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The argument

Individual Concept predicts non-equivalence; Predicate Inversion doesn't

Individual Concept derives right meaning

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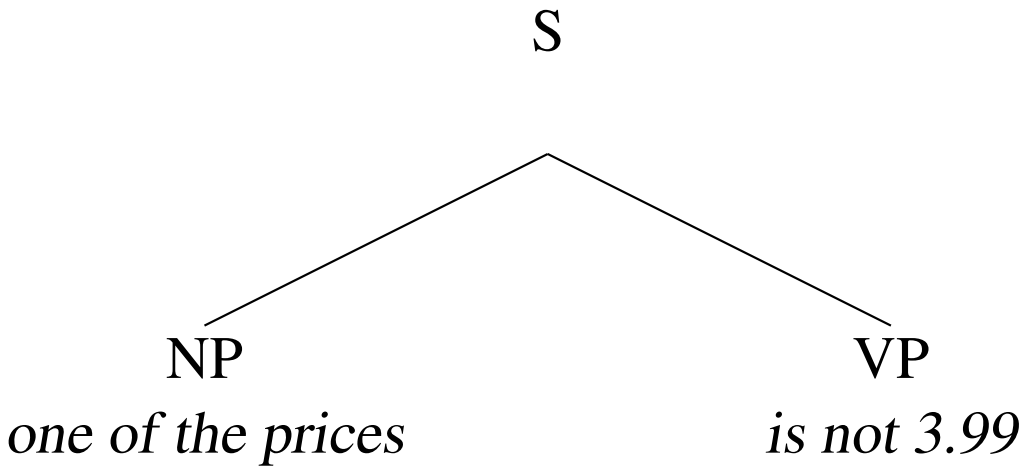

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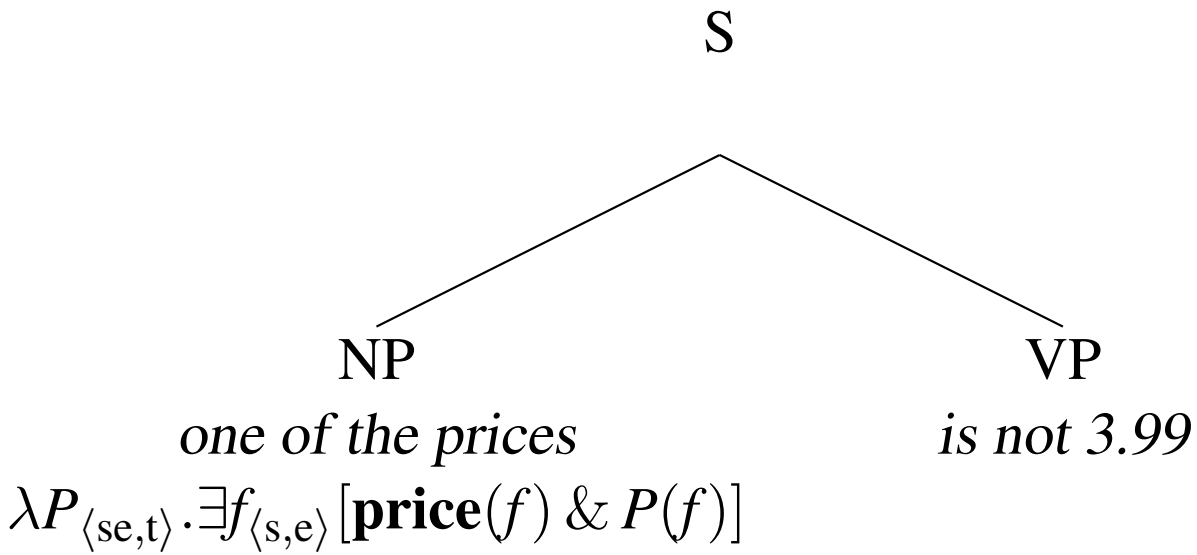

NP: $\langle\langle se, t\rangle, t\rangle$ (set aside partitivity)

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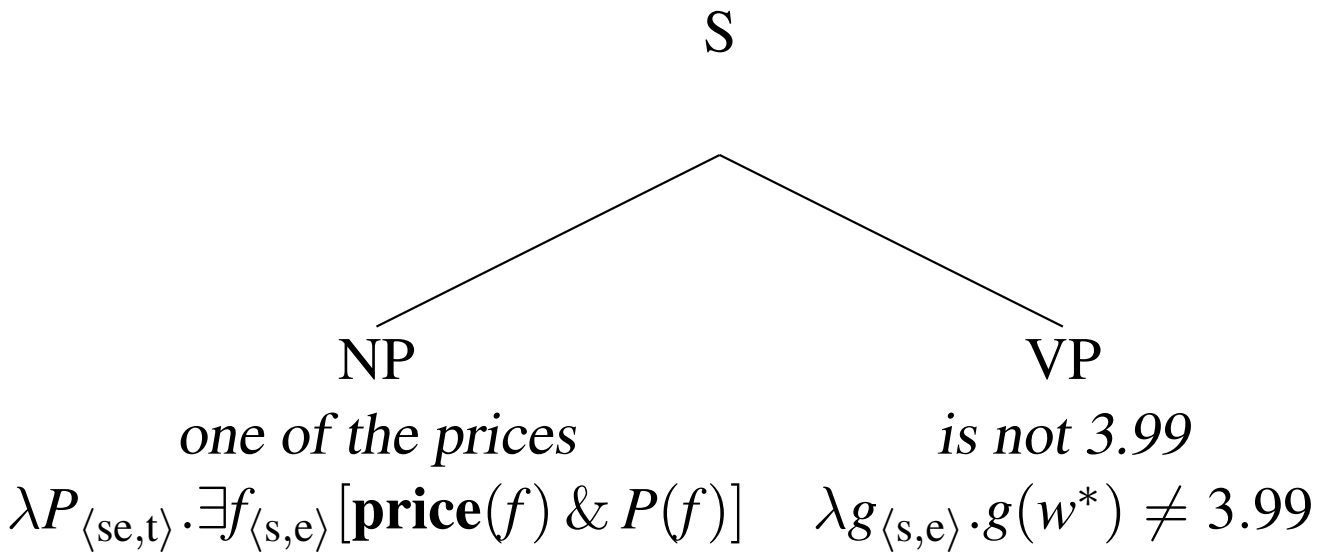

VP: $\langle se, t\rangle$, negation

$[\![is\ not\ 3.99]\!] = [\![not\ be\ 3.99]\!] = [\![not]\!]([\![be\ 3.99]\!]) =$

$[\![not]\!]\left(\lambda g_{\langle s,e\rangle}.g(w^*) = 3.99\right) = \lambda g_{\langle s,e\rangle}.g(w^*) \neq 3.99$

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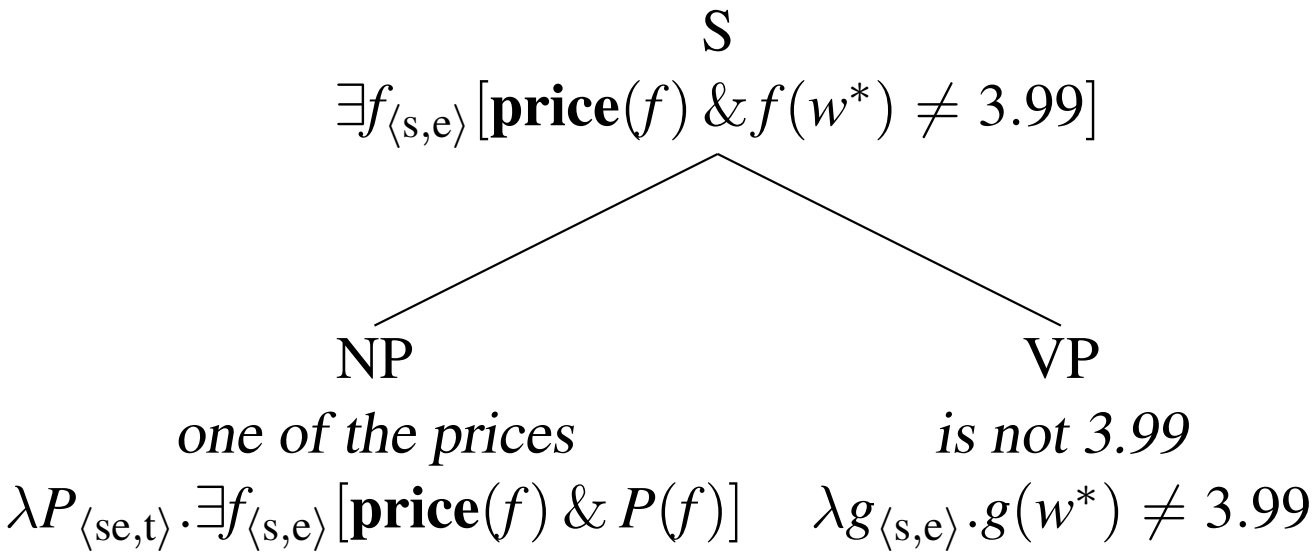

True if there's a price that's not 3.99

Not equivalent to predicational counterpart

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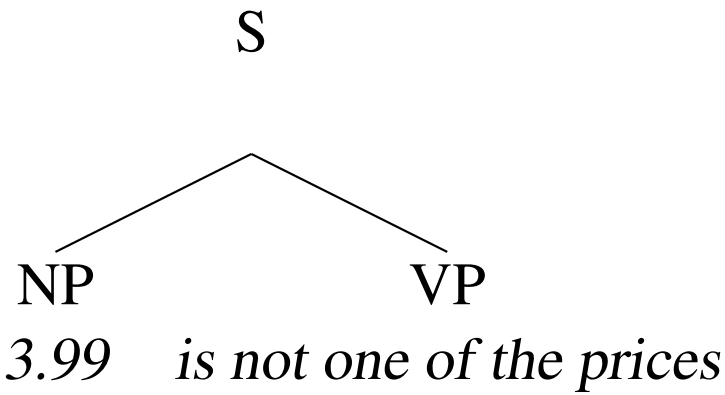

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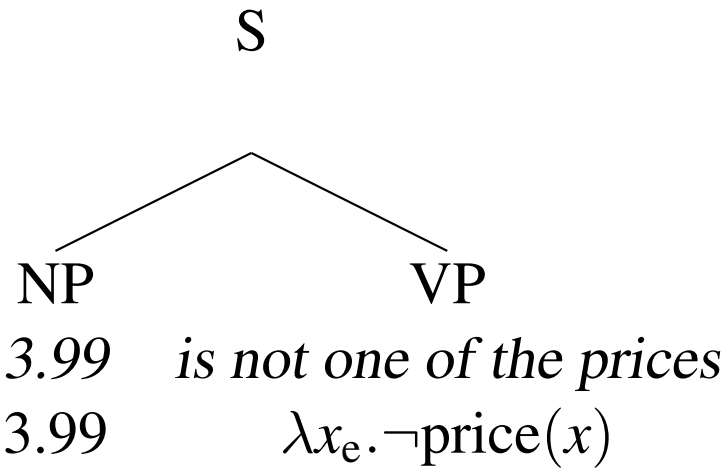

VP: $\langle e, t \rangle$, negation
NP: e

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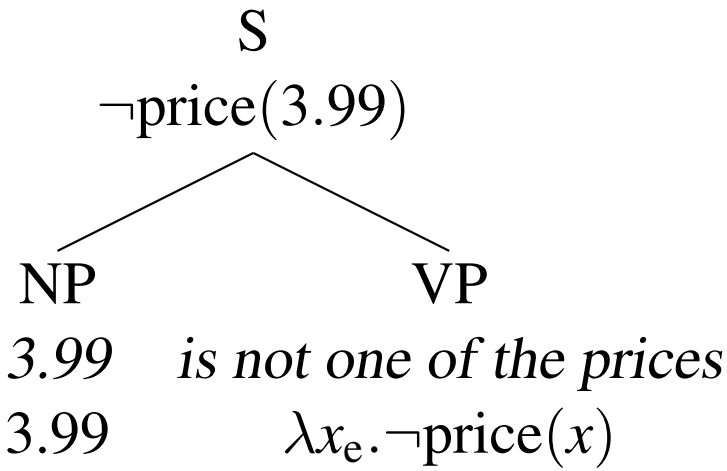

True if no price is 3.99. Not true in context above

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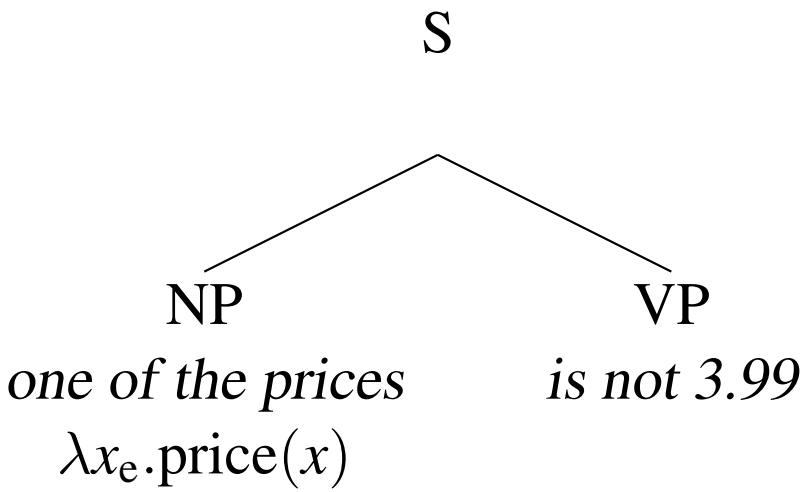

NP: $\langle e, t \rangle$ (inverted predicate; it can't be quantifier over individuals/predicates)

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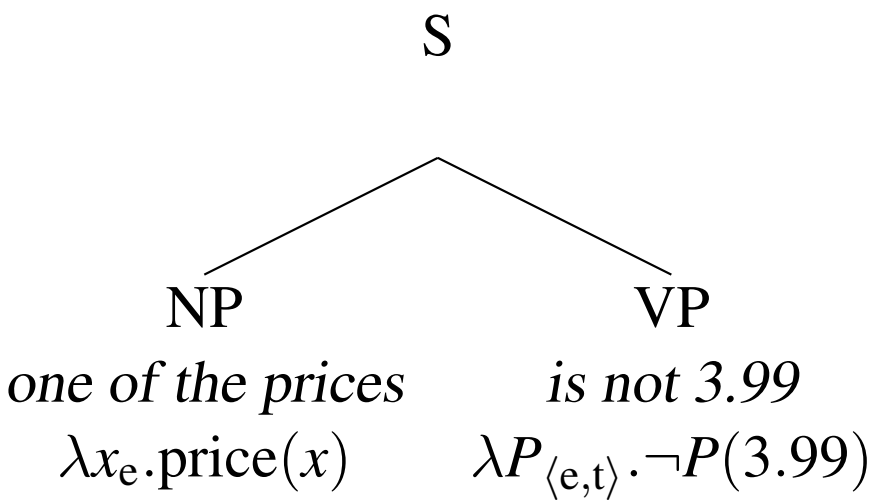

3.99: type e; lifted to $\langle et, t\rangle$ by *be*: $[\![be\ 3.99]\!] = \lambda P_{\langle e,t\rangle}.P(3.99)$

is not 3.99: negation applied to *be 3.99*

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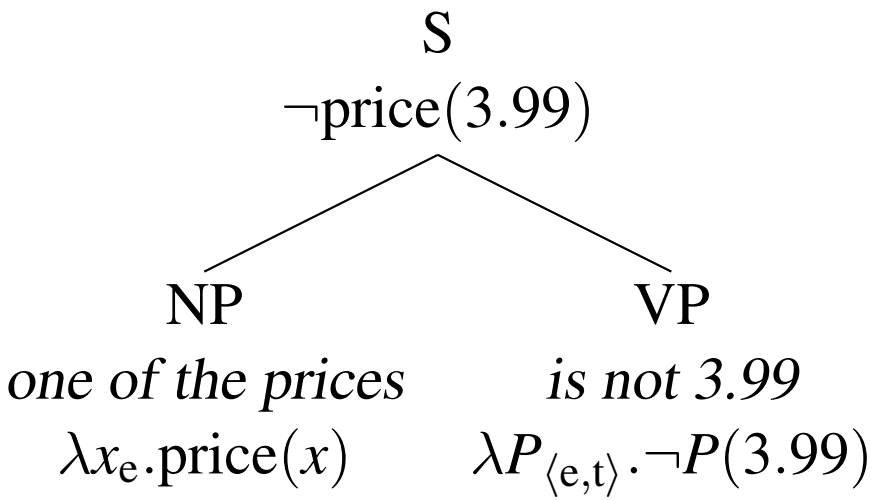

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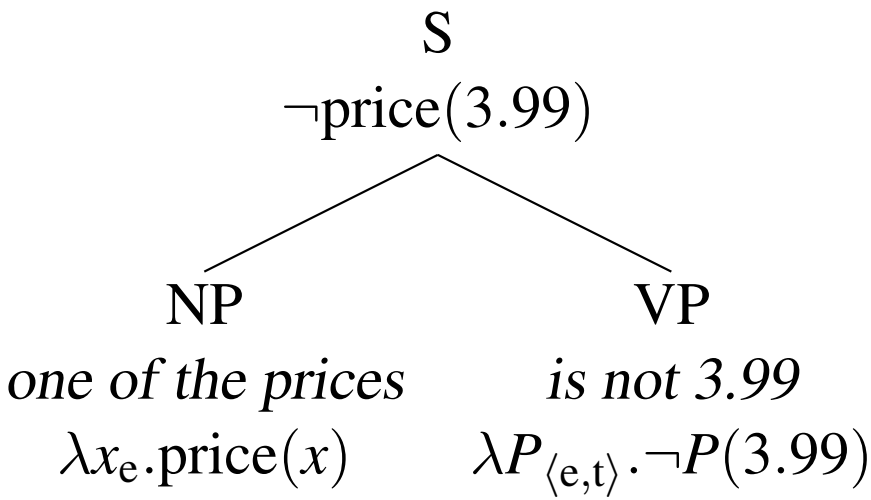

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But how dependent is this on an explicit semantics for Predicate Inversion?

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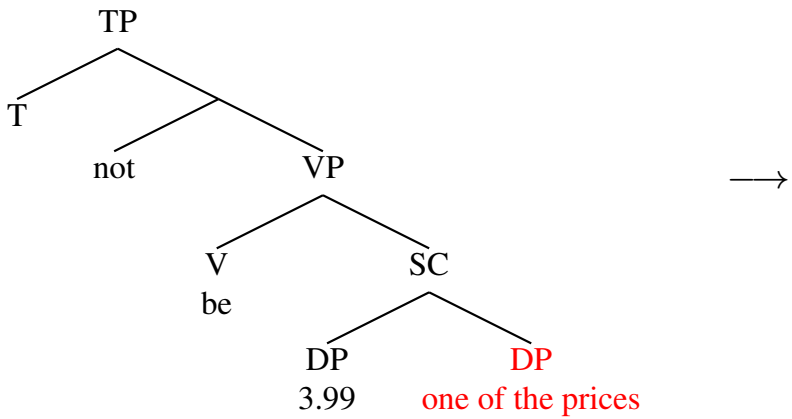
Underlying structure:



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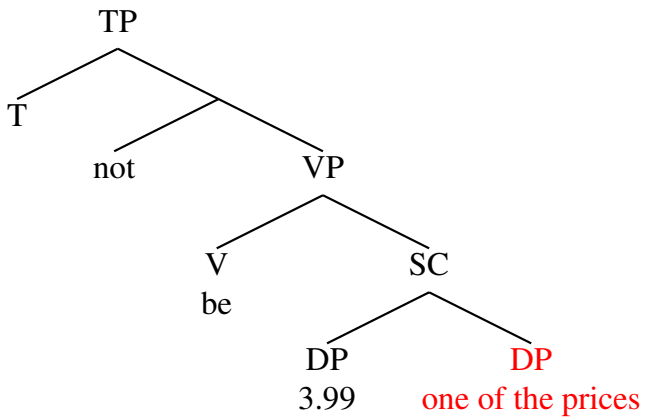

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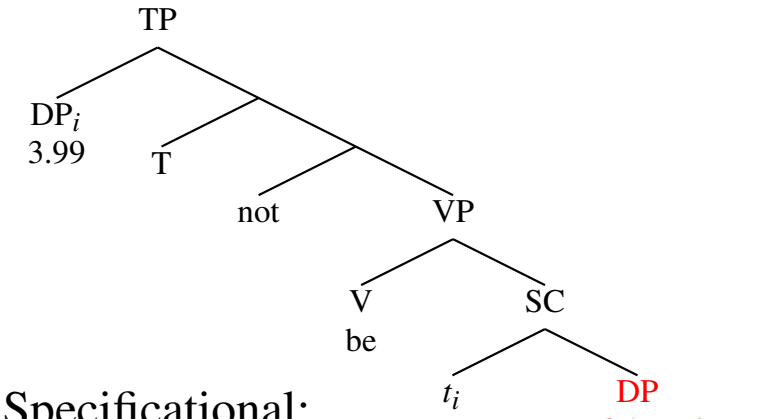
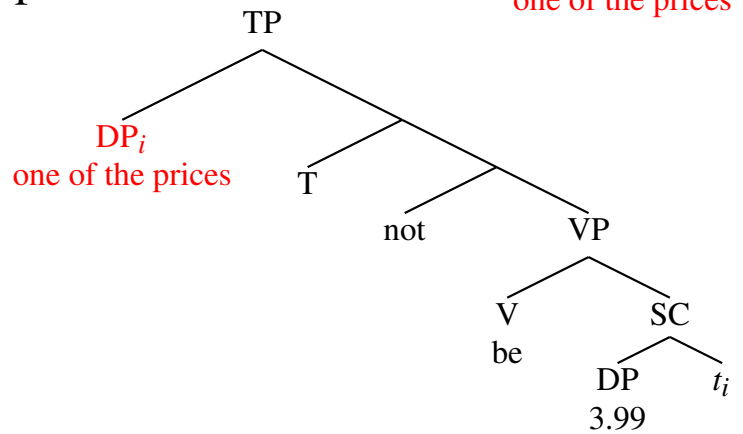
Predicational:



Specificational:



- Both have the same denotation as underlying structure, where negation outscopes *one of the prices*

Non-equivalence: *only*

(19) One of the prices is only 3.99. [Specificational: scalar *only*]

(20) Only 3.99 is one of the prices. [Predicational: non-scalar]

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Scalar reading of (19) is true iff:

There is a price p (out of the salient set of prices) such that:

- p is 3.99, and
- no number higher than 3.99 is p
- (and \$3.99 is low on the scale)

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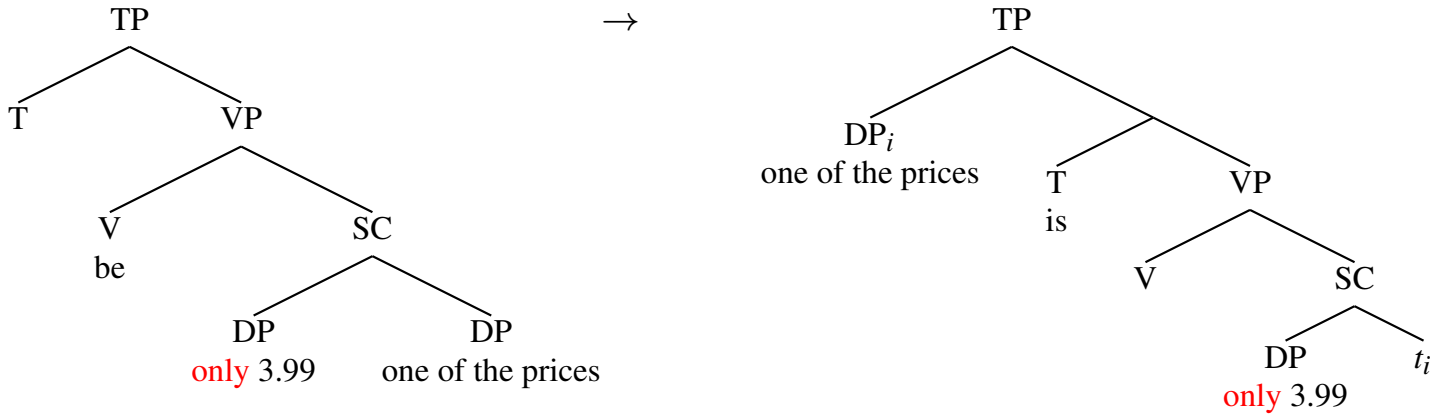
The argument

Individual Concept predicts the scalar reading; Predicate Inversion doesn't

Two sources for (19) under Predicate Inversion

(19) One of the prices is only 3.99. [Specificational]

- DP-*only*:



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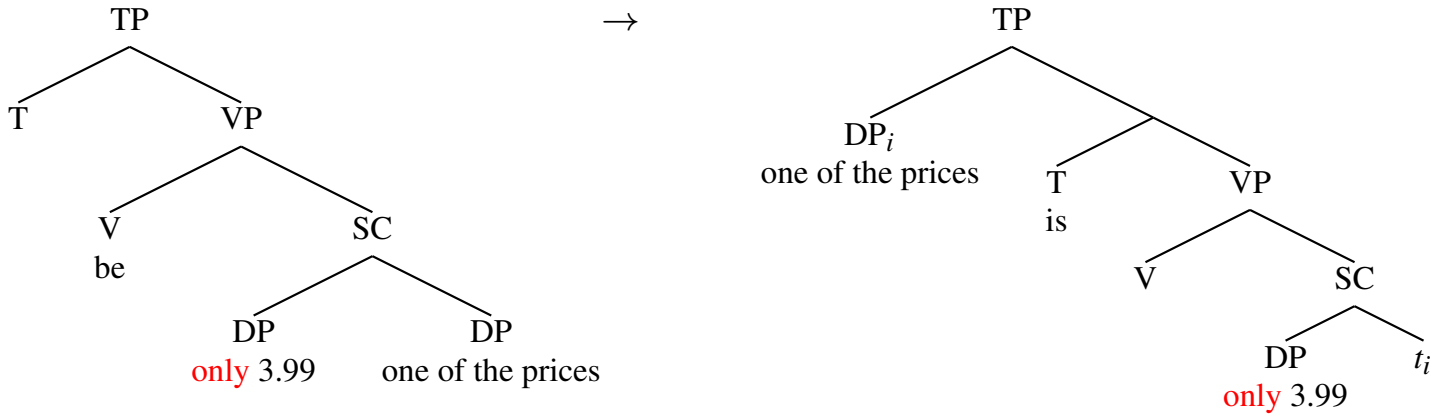
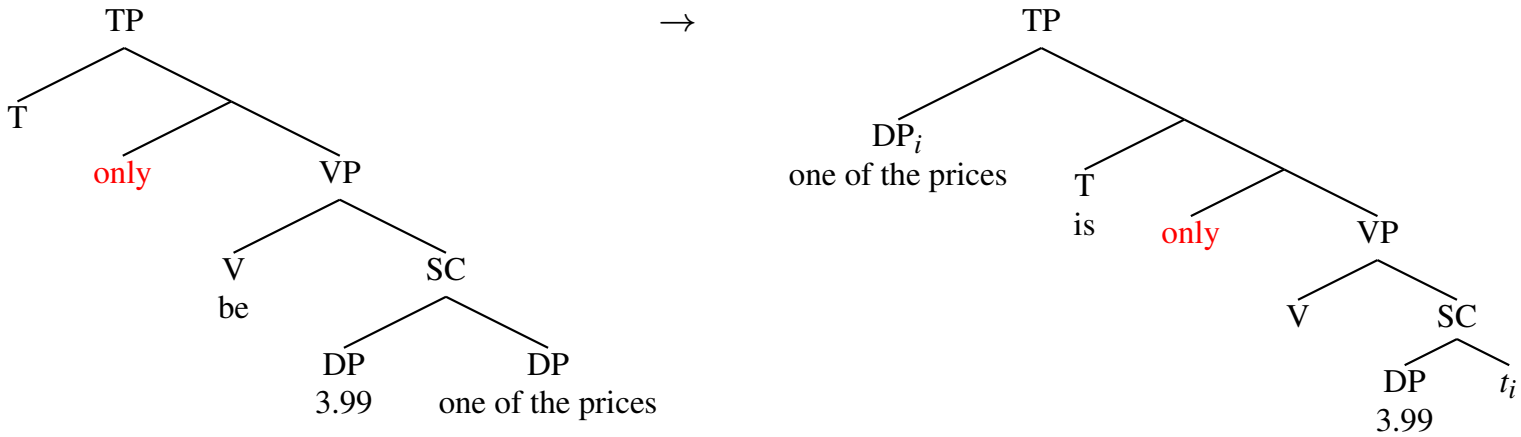


- VP-*only*:



DP-*only* doesn't derive a scalar reading

Because its predicational counterpart doesn't have one:

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More generally:

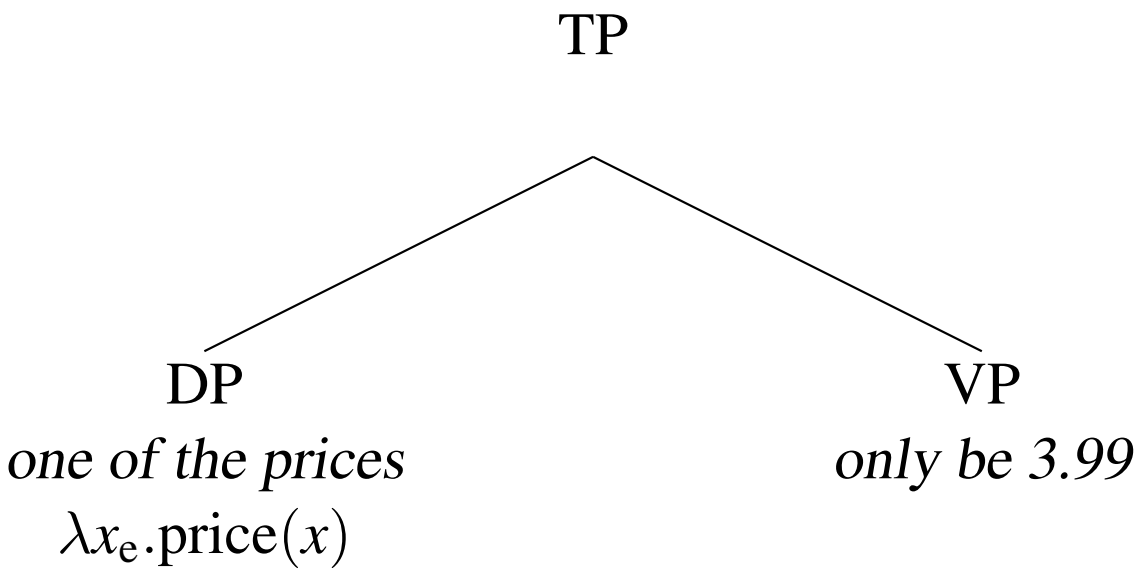
- Scalar *only* possible when attached to predicates, not arguments:

(21) She only married a janitor. [VP-*only*: scalar reading]

(22) She married only a janitor. [DP-*only*: no scalar reading]

VP-*only* derives the wrong scalar reading

(19) One of the prices is only 3.99. [Specificational]



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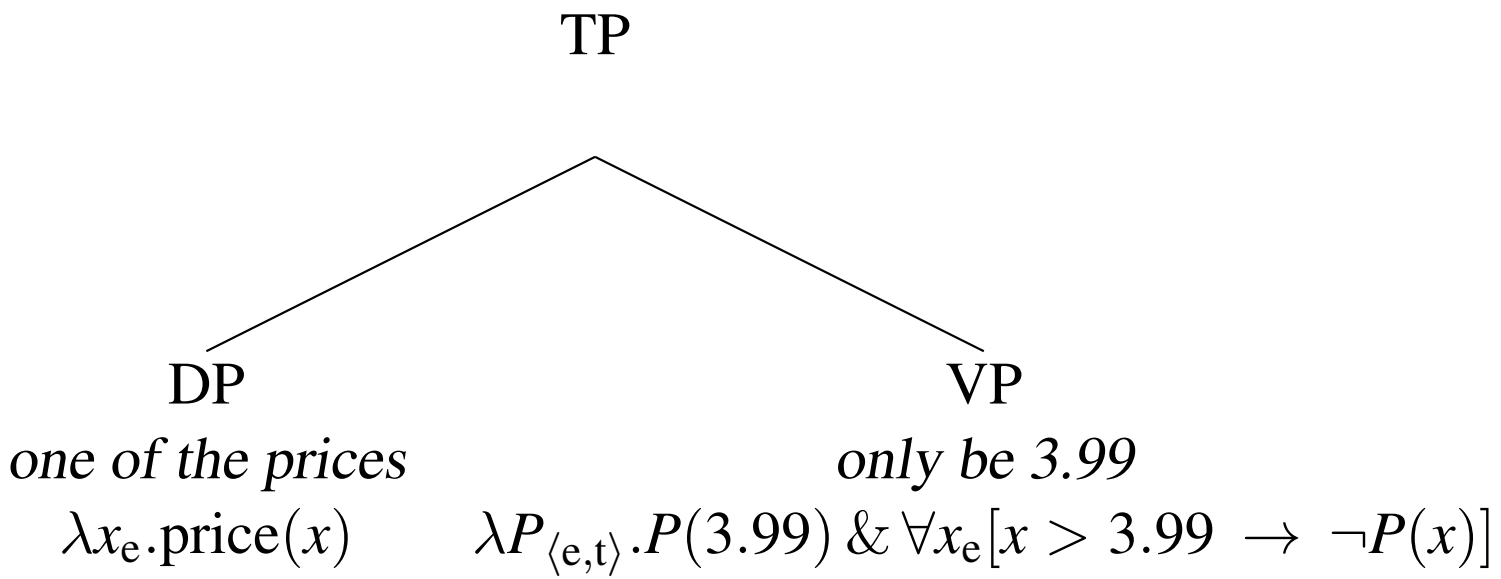

VP: $\langle$et, t$\rangle$ and scalar *only*

VP-*only* derives the wrong scalar reading

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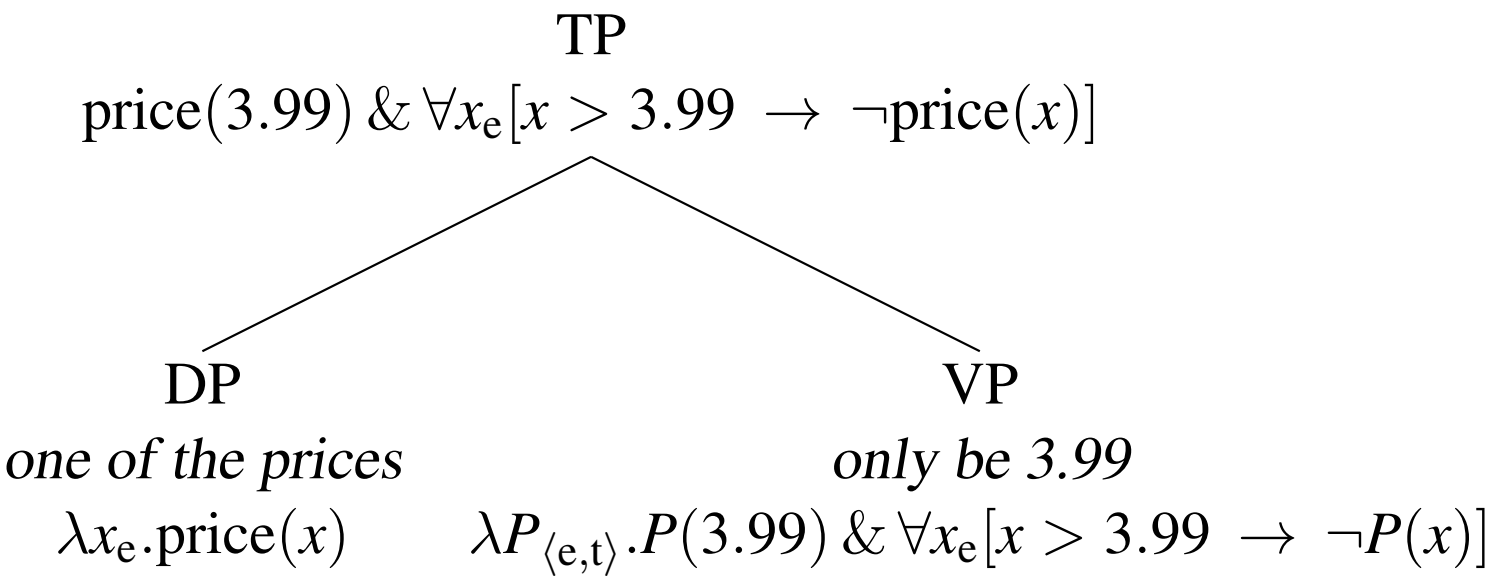

Wrong truth conditions

VP-*only* derives the wrong scalar reading

(19) One of the prices is only 3.99. [Specificational]

Denotation under Predicate Inversion:

$$\text{price}(3.99)\ \&\ \forall x_{e}[x > 3.99 \rightarrow \neg\text{price}(x)]$$

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The truth conditions derived by Predicate Inversion:

- 3.99 is a price, and
- no number higher than 3.99 is a price

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The truth conditions derived by Predicate Inversion:

- 3.99 is a price, and
- no number higher than 3.99 is a price

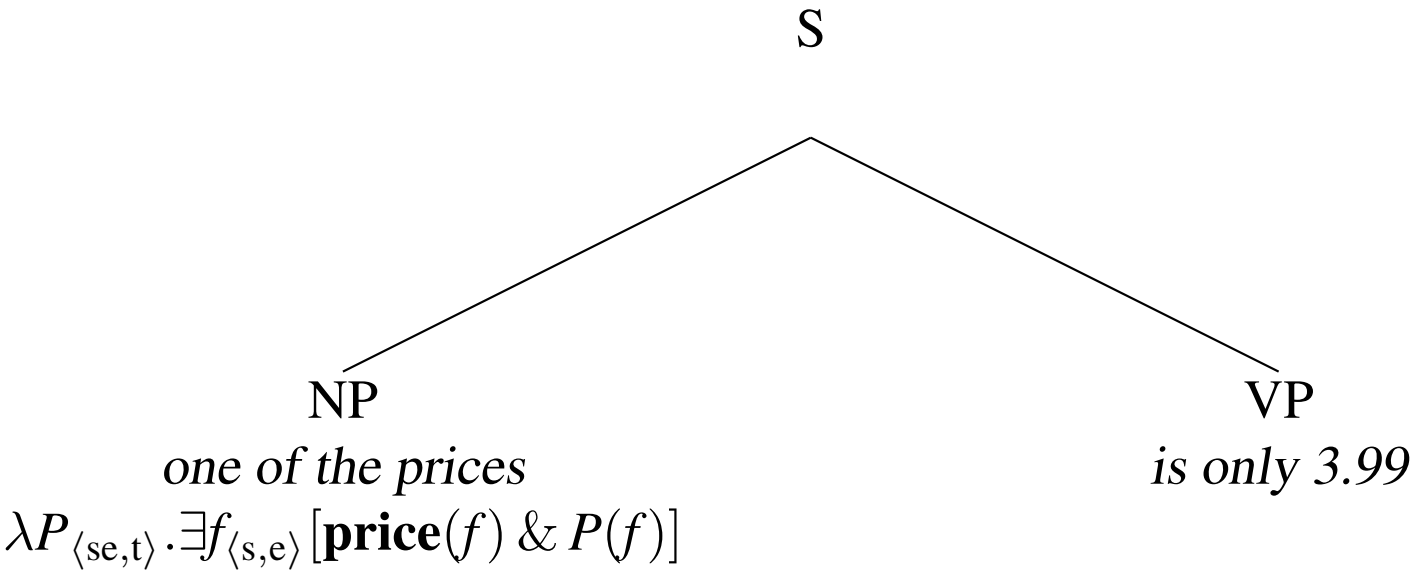
The actual truth conditions:

There is a price p such that:

- p is 3.99, and
- no number higher than 3.99 is p

Individual Concept derives right meaning

(19) One of the prices is only 3.99. [Specificational]



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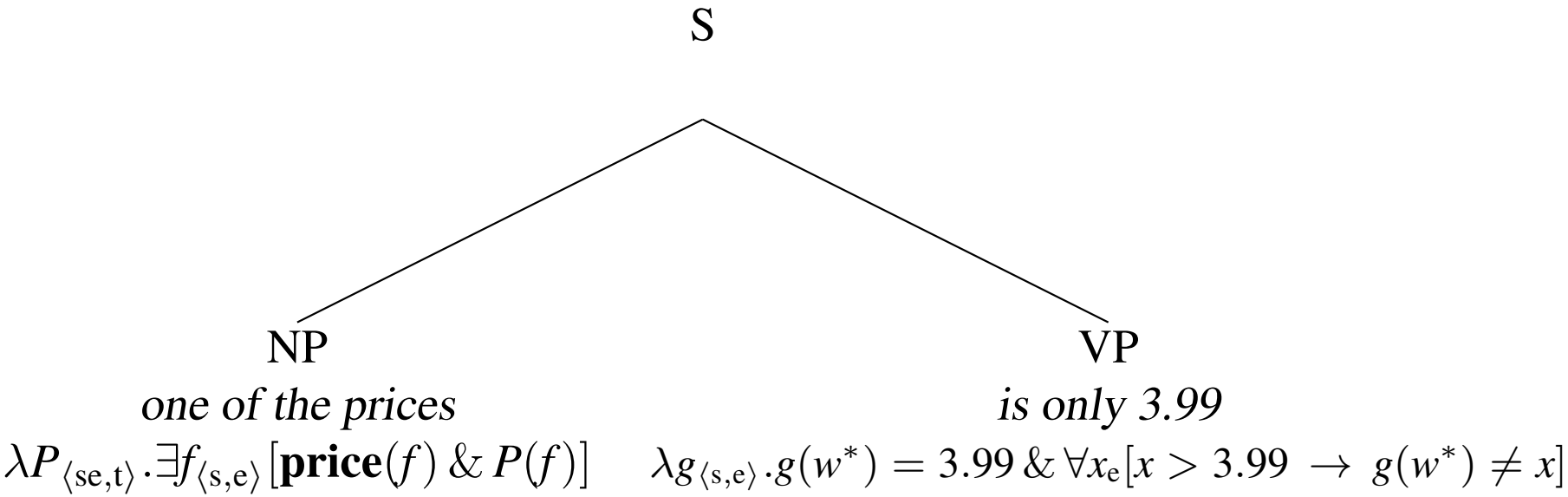

VP: $\langle se, t\rangle$ and scalar *only*

Individual Concept derives right meaning

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S

$\exists f_{\langle s,e\rangle}[\mathbf{price}(f) \,\&\, f(w^*) = 3.99 \,\&\, \forall x_e[x > 3.99 \rightarrow f(w^*) \neq x]]$

NP: *one of the prices*

$\lambda P_{\langle se,t\rangle}.\exists f_{\langle s,e\rangle}[\mathbf{price}(f) \,\&\, P(f)]$

VP: *is only 3.99*

$\lambda g_{\langle s,e\rangle}.g(w^*) = 3.99 \,\&\, \forall x_e[x > 3.99 \rightarrow g(w^*) \neq x]$

Right scalar reading:

There is a price concept f such that:

- f is 3.99 in w^*, and
- no number higher than 3.99 is f in w^*

Conclusion

Specificational subjects are individual concepts, not inverted predicates

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1. Coordination: specificational VPs select individual concepts as subjects

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2. Specificational subjects can quantify over individual concepts

Conclusion

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1. Coordination: specificational VPs select individual concepts as subjects
2. Specificational subjects can quantify over individual concepts
3. Non-equivalence of specificational and predicational sentences

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