Presupposition projection as a scope phenomenon

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   - Karlos has a car. (presupposition)

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- How do we grammatically encode presuppositions in simple expressions (presupposition triggers)?
- How do presuppositions project in complex expressions?
  - The "projection problem" (Langendoen and Savin, 1971)

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  - Explore predictions
- Presupposition triggers in the scopes of propositional attitude verbs

We are here

1. The satisfaction theory
2. A scopal account
3. Presupposition and propositional attitude verbs

Rough sketch of how it works

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  - Might amount to set intersection (of sets of worlds, assignments, …)

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  - *Karlos brought his car* $\rightsquigarrow$ *Karlos has a car*

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- But sometimes it shouldn't happen.

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Compositional semantics

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     If α is a branching node and $\{\beta, \gamma\}$ the set of its daughter, then for any assignment a, α is in the domain of $[\![\cdot]\!]^a$ if both β and γ are, and $[\![\beta]\!]^a$ is a function whose domain contains $[\![\gamma]\!]^a$. In that case, $[\![\alpha]\!]^a = [\![\beta]\!]^a([\![\gamma]\!]^a)$.

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1. Karlos brought his car.

- *Functional Application* (Heim and Kratzer, 1998, p. 105, ex. 13′)
If α is a branching node and $\{\beta, \gamma\}$ the set of its daughter, then for any assignment a, α is in the domain of $[\![\cdot]\!]^a$ if both β and γ are, and $[\![\beta]\!]^a$ is a function whose domain contains $[\![\gamma]\!]^a$. In that case, $[\![\alpha]\!]^a = [\![\beta]\!]^a([\![\gamma]\!]^a)$.

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Compositional semantics: a rudimentary analysis of conditionals

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     - $\rightsquigarrow$ no presupposition ☺

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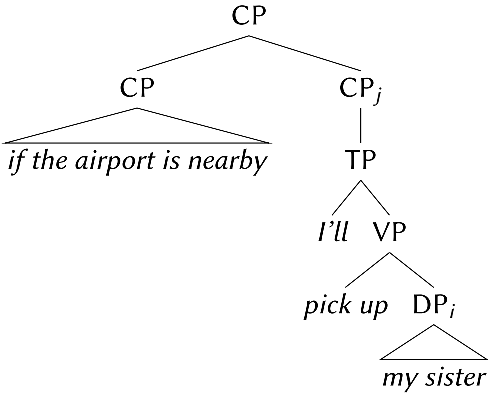
  - Used by Charlow (2020) to account for the exceptional scoping properties of indefinites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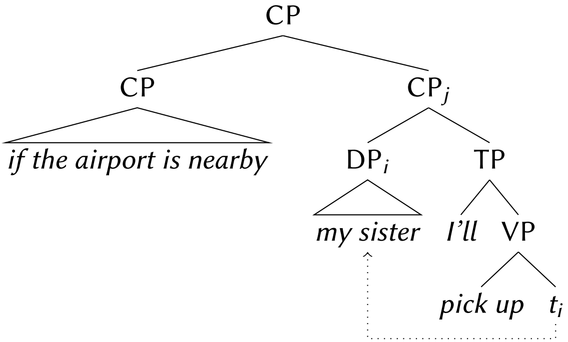

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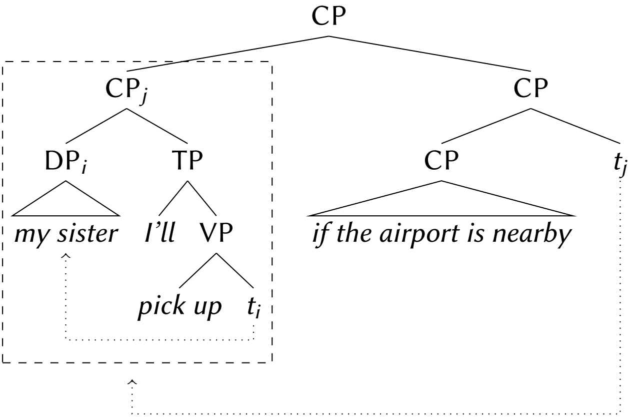

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Conclusion: a freer definition of the "Quantifier Raising" rule allows us to circumvent the proviso problem, provided…

- we have a non-compositional, static analysis of conditionals (and other filters)

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  - This move allows us to treat partial functions as total; e.g., a partial function of type $e \to t$ is now a total function of type $e \to t_{\#}$ that maps the part of its domain on which it is not defined to #.

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  - the unique car of $g(i)$ in w if one exists; otherwise, #

Two type shifts

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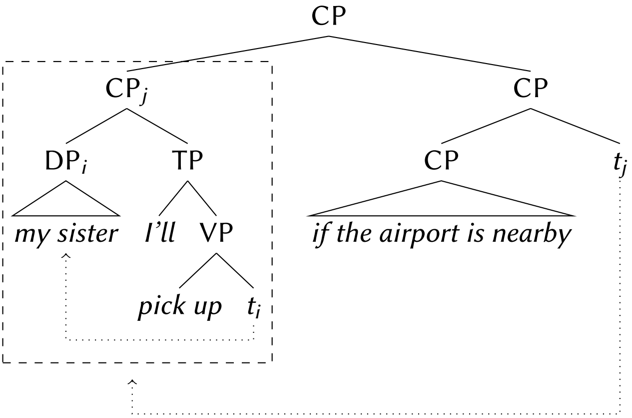
(Together, $(\cdot)^{\eta}$ and $(\cdot)^{\gg=}$ constitute a monad.)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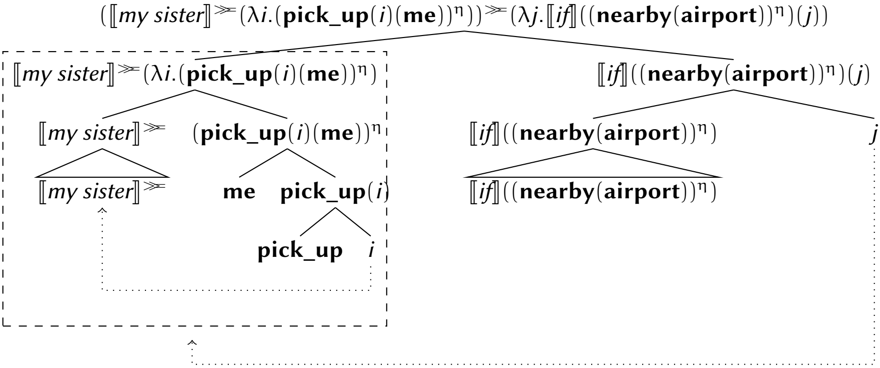

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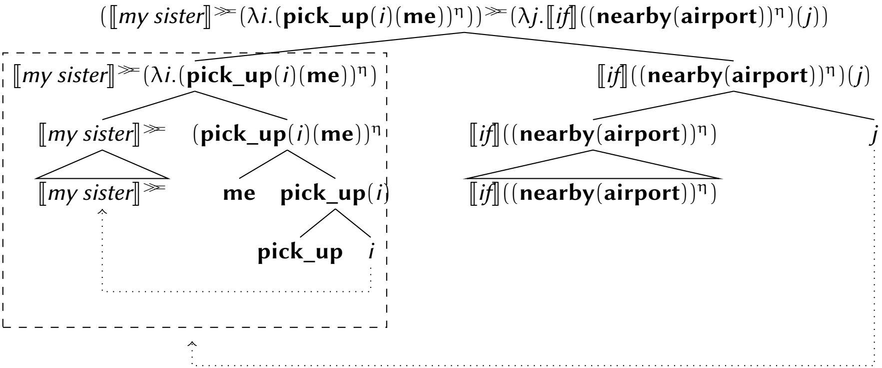

1 if I have a sister, and I pick her up if the airport is nearby
0 if I have a sister, the airport is nearby, and I don't pick her up
if I don't have a sister

Filtering…

For examples like

1. If Karlos has a car, he brought his car.

we simply don't scope the consequent clause above the filter, allowing presupposition satisfaction to go through.

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- Introducing Maybe types allows the system to be fully compositional.
- The foregoing analysis of filters is static, but making it dynamic (more straightforwardly in line with Heim (1983)) is a matter of further enriching the types (as done by, e.g., Rothschild (2011)).

We are here

1. The satisfaction theory
2. A scopal account
3. Presupposition and propositional attitude verbs

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- $[\![\textit{Karlos brought his car}]\!] =$

$$\lambda w^s. \begin{cases} 1 & \text{Karlos has a car and brought it} \\ 0 & \text{Karlos has a car and didn't bring it} \\ \# & \text{Karlos doesn't have a car} \end{cases}$$

Propositional attitude verbs

- $[\![believes]\!] = \lambda p^{s \to t_\#}, x^e, w^s . \forall w'^s : \mathbf{acc}_{w,x}(w') \Rightarrow p(w')$

$\Rightarrow$	1	0	#
1	1	0	#
0	1	1	1
#	#	#	#

$\{[\![\phi]\!]_{\mathcal{M},g'} \mid g[x]g'\}$	$[\![\ulcorner \forall x : \phi \urcorner]\!]_{\mathcal{M},g}$
$\{1\}$	1
$\{0\}$	0
$\{\#\}$	#
$\{1, 0\}$	0
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- Presupposition failure results if the presupposition fails to hold at some accessible world. (Inaccessible worlds don't matter.)

Propositional attitude filtering

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     $\begin{cases} 1 & \text{Ashley has a car, and it's in the lot in} w' \\ 0 & \text{Ashley has a car, and it's not in the lot in} \mathit{in} w' \\ \# & \text{Ashley doesn't have a car in} w' \end{cases}$

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   - Defined at any world w such that
     $\forall w'^s : \mathbf{acc}_{w,\text{Ashley}} \Rightarrow \text{Ashley has a car in} w'$

Out-scoping propositional attitude filters

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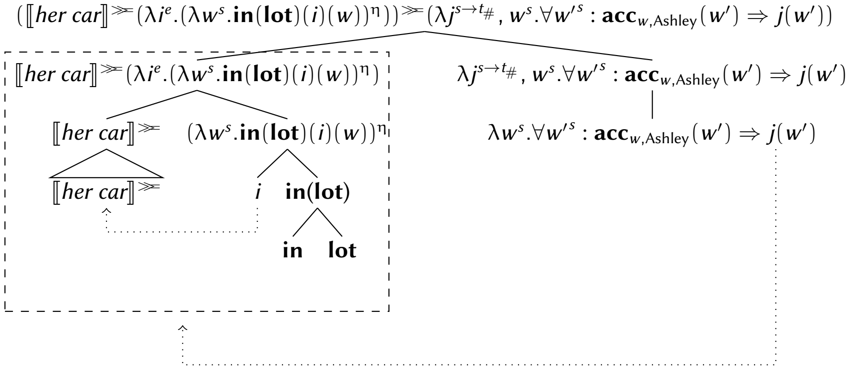

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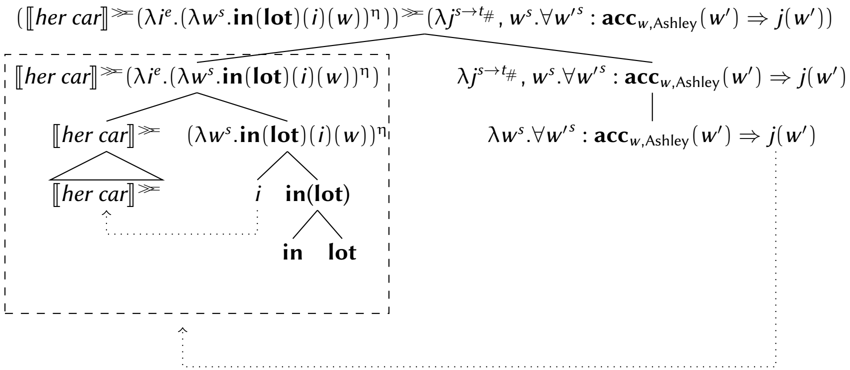

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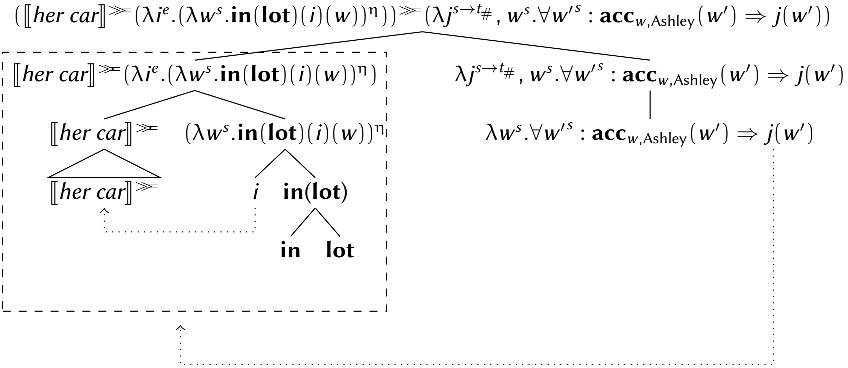

- The result evaluates to:
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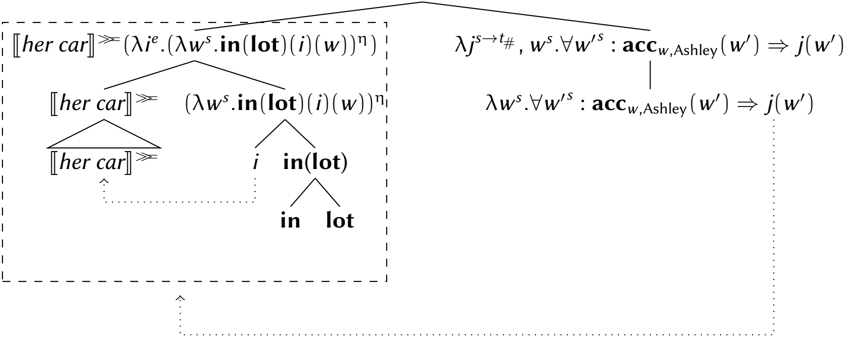
$$(\llbracket \textit{her car} \rrbracket^{\gg\!=}(\lambda i^e.(\lambda w^s.\mathbf{in}(\mathbf{lot})(i)(w))^\eta))^{\gg\!=}(\lambda j^{s\to t_\#}, w^s.\forall w'^s : \mathbf{acc}_{w,\text{Ashley}}(w') \Rightarrow j(w'))$$



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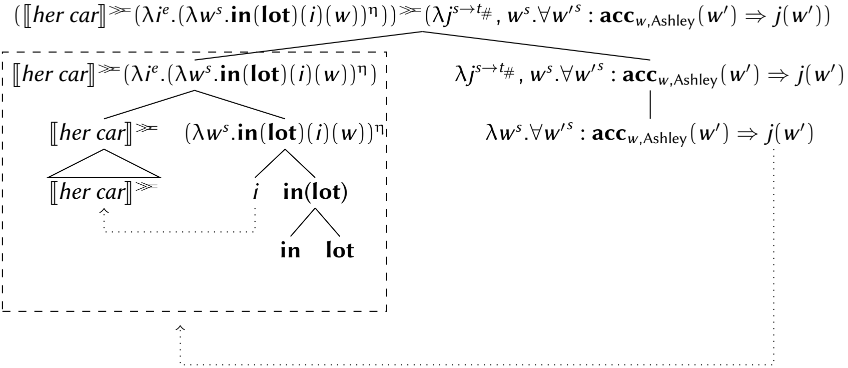

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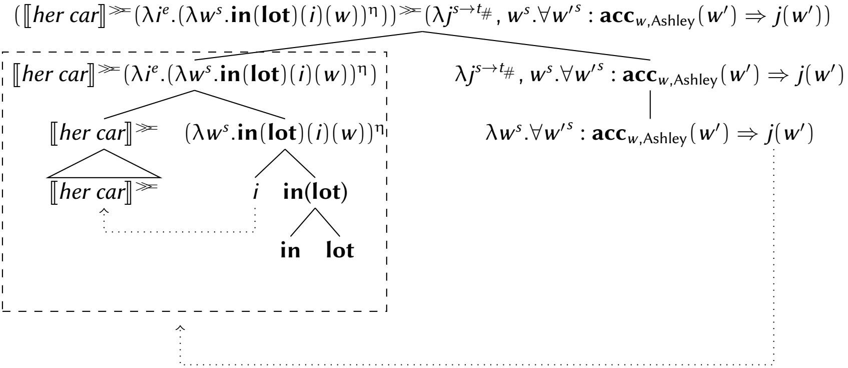

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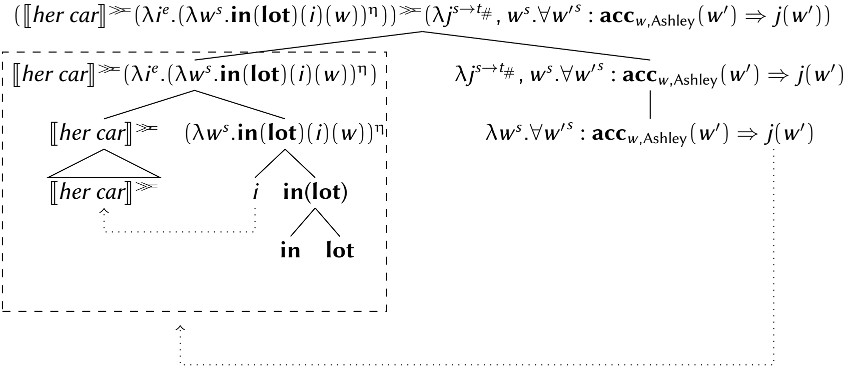

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    - #, if Ashley doesn't have a car in w

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- Could a scopal-mechanism be incorporated into pragmatic alternatives to the satisfaction account (Schlenker, 2008, 2009, 2010)?

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