Modular alternative semantics

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Overview

Alternatives in semantics

Alternatives are useful for many things semanticists like to think about:

- Questions denote sets of their possible answers:

$$[\![\text{who left?}]\!] = \{\textbf{left}\, x \mid \textbf{human}\, x\}$$

- Focus invokes things the speaker could have said:

$$[\![\text{BOB left}]\!]_f = \{\textbf{left}\, x \mid x \in [\![\text{BOB}]\!]_f\}$$

- And scalar items conjure up alternative utterances:

$$[\![\text{someone left}]\!]_s = \{f\, \textbf{left} \mid f \in [\![\text{someone}]\!]_s\}$$

Alternative *semantics*

Alternative *semantics* (Hamblin 1973, Rooth 1985) is useful, too:

- It's one way (among others) to derive alternatives.
- Principally, though, it's a *pseudo-scope mechanism*, used to get semantic action at a distance without island-violating movement.

This talk

After reviewing a couple standard approaches to alternative generation. . .

- Alternative-semantic (Hamblin 1973, Rooth 1985)
- Scope-based (Karttunen 1977, Cresti 1995, Heim 2011)

. . . I'll sketch a scope-based theory that (unlike either of the above) explains:

- Island insensitivity — empirical focus: **indefinites in English**
- Selectivity in island-escaping readings
- Interactions of alternatives and binding

The theory's **conservative**: uses (generalized versions of) tools that were under our noses the whole time (i.e., in the questions lit post-Karttunen 1977).

Alternative semantics

Alternative semantics in two easy steps

First ingredient: all meanings are sets.

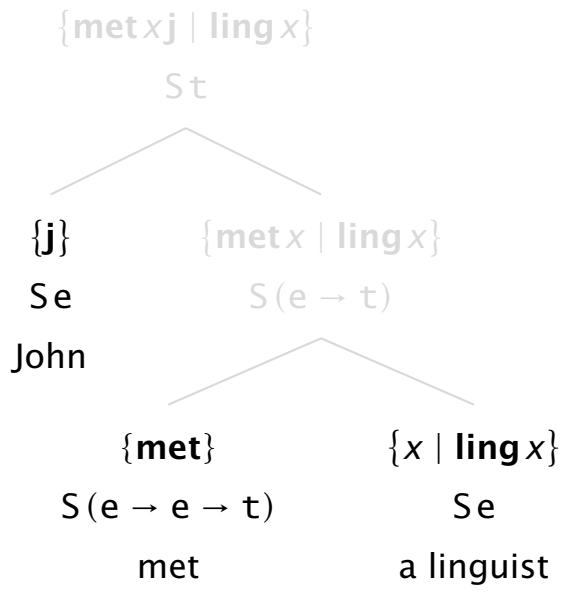
John $:: \mathsf{S}\,\mathsf{e}$	met $:: \mathsf{S}(\mathsf{e} \to \mathsf{e} \to \mathsf{t})$	a linguist $:: \mathsf{S}\,\mathsf{e}$
$[\![\text{John}]\!] = \{\mathbf{j}\}$	$[\![\text{met}]\!] = \{\mathbf{met}\}$	$[\![\text{a linguist}]\!] = \{x \mid \mathbf{ling}\,x\}$

$$\mathsf{S}\,a ::= a \to \{\mathbb{T}, \mathbb{F}\}$$
$$\mathtt{t} ::= \mathtt{i} \to \{\mathbb{T}, \mathbb{F}\}$$

Second ingredient: meaning combination is *pointwise* functional application.

$$[\![A\ B]\!] = \{f\,x \mid f \in [\![A]\!], x \in [\![B]\!]\}$$

A simple example: alternatives without movement



The basic intuition: do function application "inside the S".

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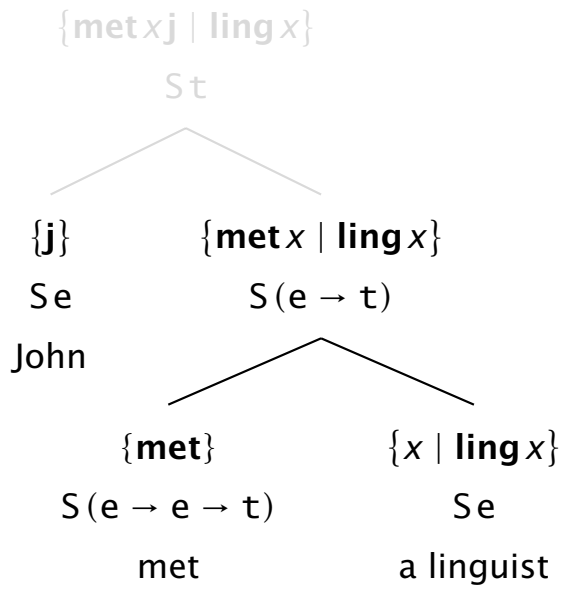

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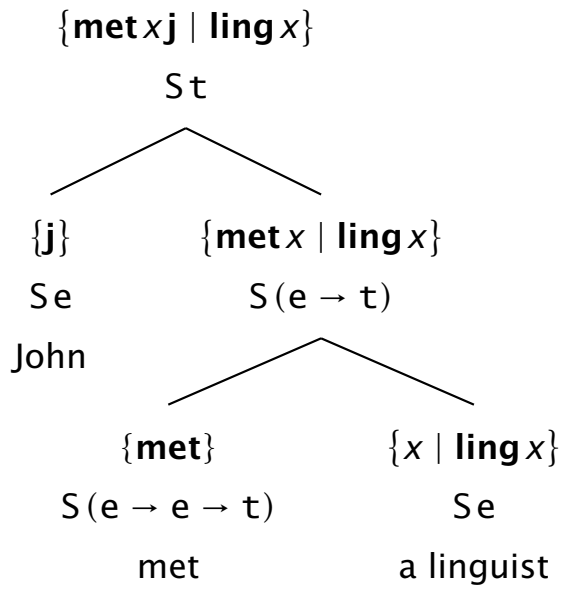

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Escaping islands (Fodor & Sag 1982, Rooth 1985, Reinhart 1997, ...)

1. **Exceptionally scoping indefinites:** (Our focus today)

   If [a rich relative of mine dies] I'll inherit a house.

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2. **Matrix readings of *wh* in situ:**

   Which linguist will be offended if [we invite which philosopher]?

3. **Indeterminate phrase quantification:**

   [[Dono hon-o yonda] kodomo]-mo yoku nemutta.

   which book-acc read child mo well slept

4. **Association with focus:**

   John only gripes when [MARY leaves the lights on].

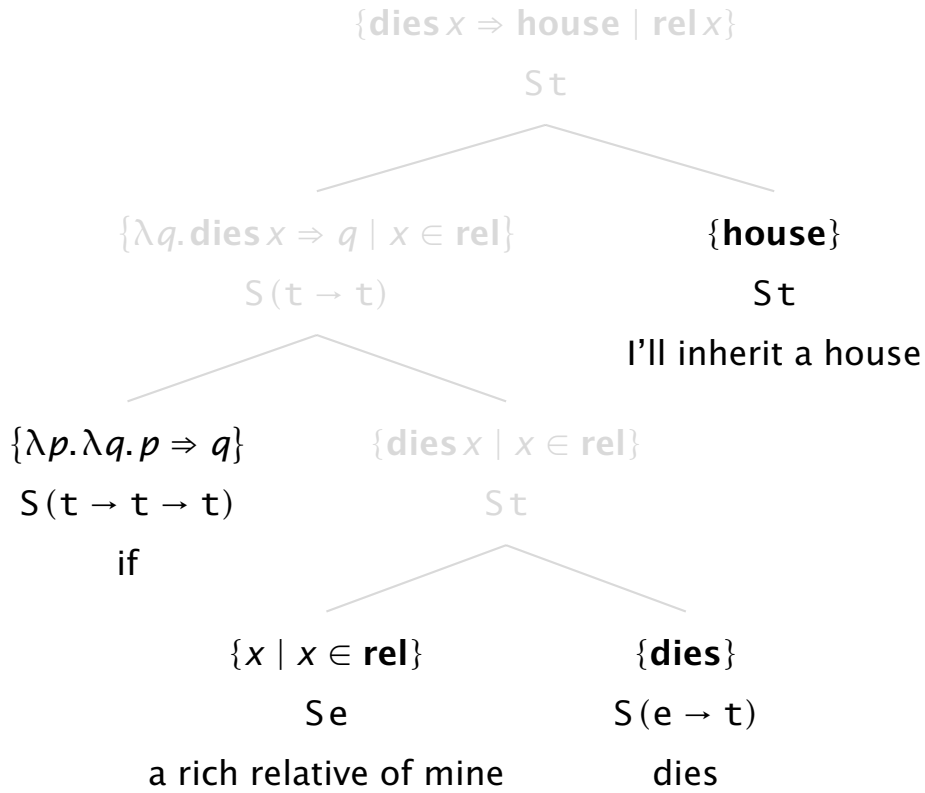
5. **Supplemental content:**

   John doesn't gripe when [Mary, a talented linguist, leaves the lights on].

6. **Presupposition projection:**

   John doesn't gripe when [the King of France leaves the lights on].

Island-escaping behavior, without movement



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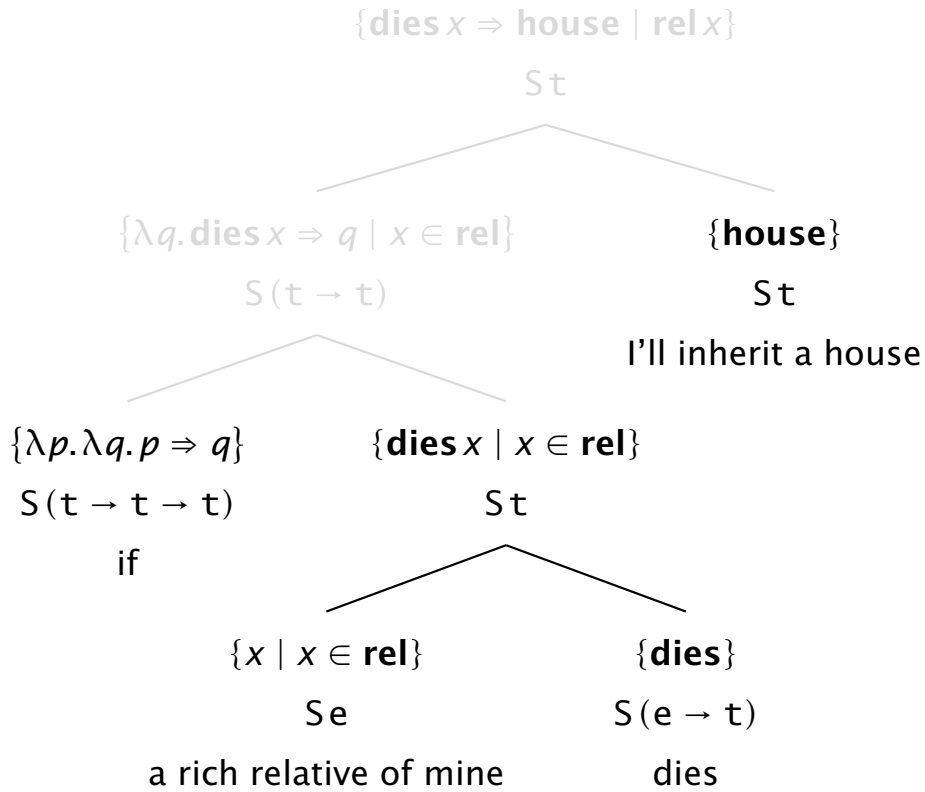

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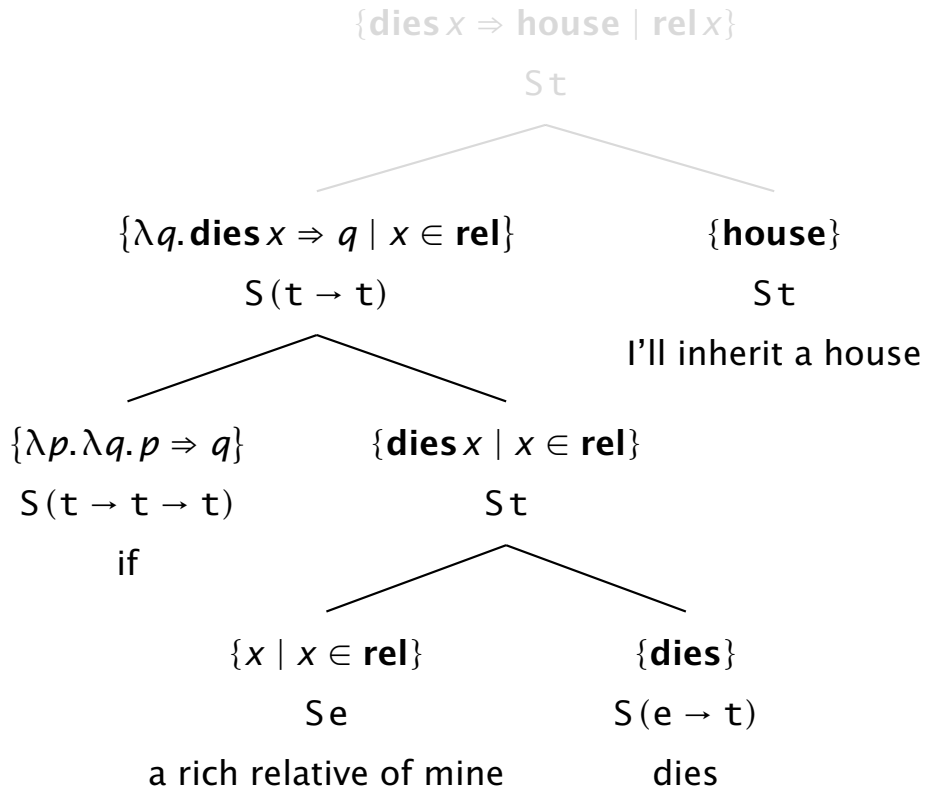

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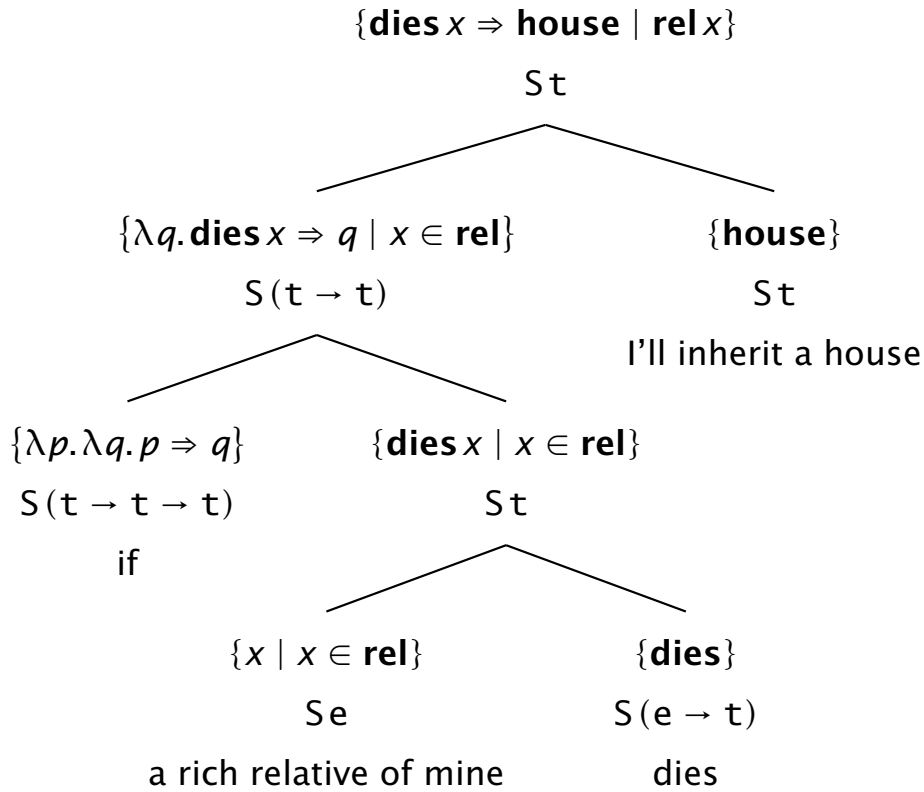

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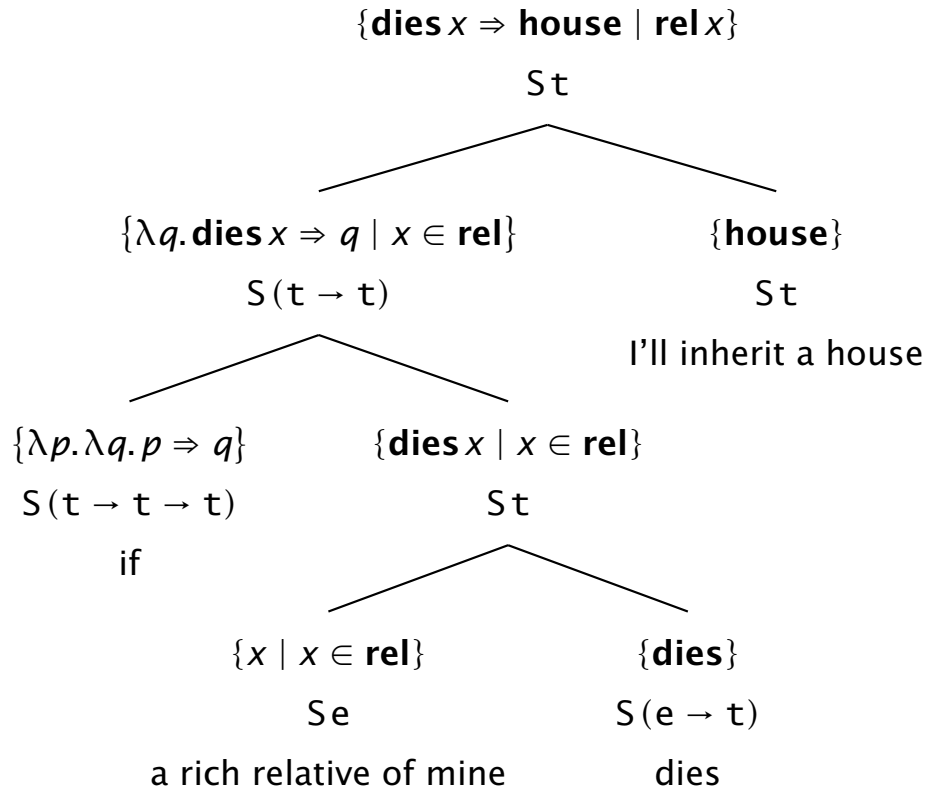

There is a true member of the resulting set iff one of my rich relatives is such that...

Issue #1: selectivity outside islands

When two alternative-inducing expressions live on island, they can take scope in different ways outside the island:

1. If [a phenomenal lawyer$_l$ visits a rich relative of mine$_r$], I'll inherit a fortune.

$$(\exists_{l,r} \gg \mathit{if}, \exists_l \gg \mathit{if} \gg \exists_r, \exists_r \gg \mathit{if} \gg \exists_l)$$

In alternative semantics, the [island]'s meaning doesn't distinguish lawyers and relatives. So there's no way to percolate one, but not the other, over the conditional.

$$\{\textbf{visits}\, x\, y \mid \textbf{lawyer}\, y, \textbf{relative}\, x\}$$

Selectivity, more generally

Like exceptional scope behavior, selective exceptional scope is general:

1. [JOHN only gripes when [MARY leaves the lights on]]$_C$, and
   [MARY **only** gripes when [**JOHN** leaves the lights on]] $\sim C$.
   (see Rooth 1996, Wold 1996, Krifka 1991, 2006, Charlow 2014)

[Interestingly, there's some data that seems to go against selectivity, as discussed by, e.g., Kratzer & Shimoyama (2002), Shimoyama (2006) (see also Beck 2006, Krifka 2006). Feel free to ask me about it.]

Issue #2: binding

Binding in a standard semantics, *sans* alternatives:

$$[\![\lambda_i\ \alpha]\!]^g = \underbrace{\lambda x.[\![\alpha]\!]^{g[i\to x]}}_{a\to b}$$

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Binding in alternative semantics is trickier (Poesio 1996, Shan 2004). We want a possibly non-singleon set of functions, type $\mathsf{S}(a \to b)$, but that's hard to come by:

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Can we use *choice functions* (cf. Hagstrom 1998, Kratzer & Shimoyama 2002)?

$$[\![\lambda_i\ \alpha]\!]^g = \underbrace{\{\lambda x.f\,[\![\alpha]\!]^{g[i\to x]} \mid f \in \mathbf{CH}\}}_{\mathsf{S}(a\to \mathrm{b})}$$

Binding, continued

But the result here is as if we'd interpreted any alternative-generators in α via *obligatorily Skolemized* choice functions (Charlow 2017b, cf. Shan 2004).

$$\begin{aligned}\{\lambda x.f\,[\![\mathrm{t}_0 \text{ saw a guy}]\!]^{g[0\to x]} \mid f \in \mathbf{CH}\} &= \{\lambda x.f\,\{\mathbf{saw}\,y\,x \mid \mathbf{guy}\,y\} \mid f \in \mathbf{CH}\} \\ &= \{\lambda x.\mathbf{saw}\,(f_x\,\mathbf{guy})\,x \mid f \in \mathbf{SkCH}\}\end{aligned}$$

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$$= \{\lambda x.\mathbf{saw}\,(f_x\,\mathbf{guy})\,x \mid f \in \mathbf{SkCH}\}$$

This over-generates functional readings (any alternative generator under a λ_i is interpreted functionally), and under-generates exceptional scope readings (since functional readings ≈ narrow scope, as emphasized by Kratzer (1998)).

1. Nobody λ_0 t_0 saw a linguist. $\rightsquigarrow \{\mathbf{nb}\,(\lambda x.\mathbf{saw}\,(f_x\,\mathbf{ling})\,x) \mid f \in \mathbf{SkCH}\}$
2. Everybody λ_0 t_0 would be happy if [a famous expert on binding cited them$_0$].
$\rightsquigarrow \{\mathbf{eb}\,(\lambda x.\mathbf{happy.if}\,(\mathbf{cited}\,x\,(f_x\,\mathbf{expert}))\,x) \mid f \in \mathbf{SkCH}\}$

Alternatives via scope

Two key ingredients (almost Karttunen 1977)

First ingredient: a way to conjure alternative-typed things from the æther.

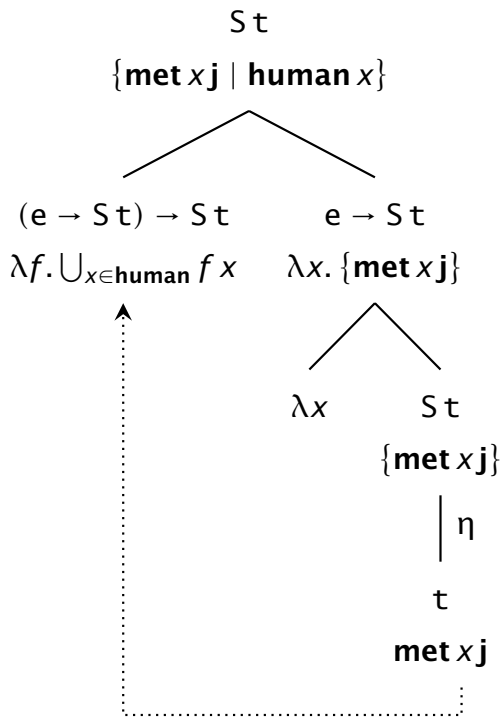
$$\eta := \underbrace{\lambda p.\, \{p\}}_{\mathtt{t \to St}}$$

Second ingredient: meanings that can take scope over alternative sets.

$$\text{who} := \underbrace{\lambda f.\, \bigcup_{x \in \textbf{human}} f\, x}_{\mathtt{(e \to St) \to St}}$$

A basic Karttunen-esque derivation

Here, we derive a meaning for *John met who?*



As with quantification, *scope-taking* is a crucial part of the story.

Generalizing the approach

What if we like alternatives for indefinites (e.g., Kratzer & Shimoyama 2002)?

$$[\![\text{John met someone}]\!] \rightsquigarrow \{\mathbf{met}\, x\, \mathbf{j} \mid x \in \mathbf{human}\}$$

No problem! We can generalize the scopal account (Heim 2011):

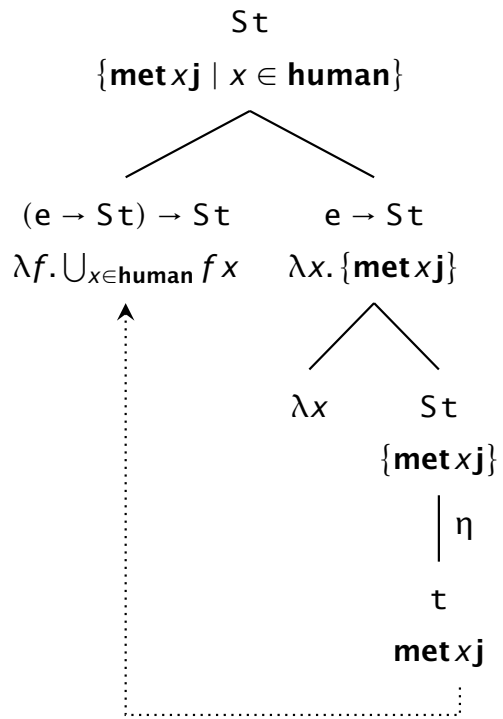
$$\eta := \underbrace{\lambda x.\{x\}}_{a \to \mathsf{S}\, a} \qquad \mathbf{someone} := \underbrace{\lambda f.\bigcup_{x \in \mathbf{human}} f\, x}_{(\mathsf{e} \to \mathsf{S}\, a) \to \mathsf{S}\, a}$$

Generalized types allow us to derive sets of individuals, VP meanings, etc.

[See Ciardelli, Roelofsen & Theiler 2016 for a rediscovery of this technique.]

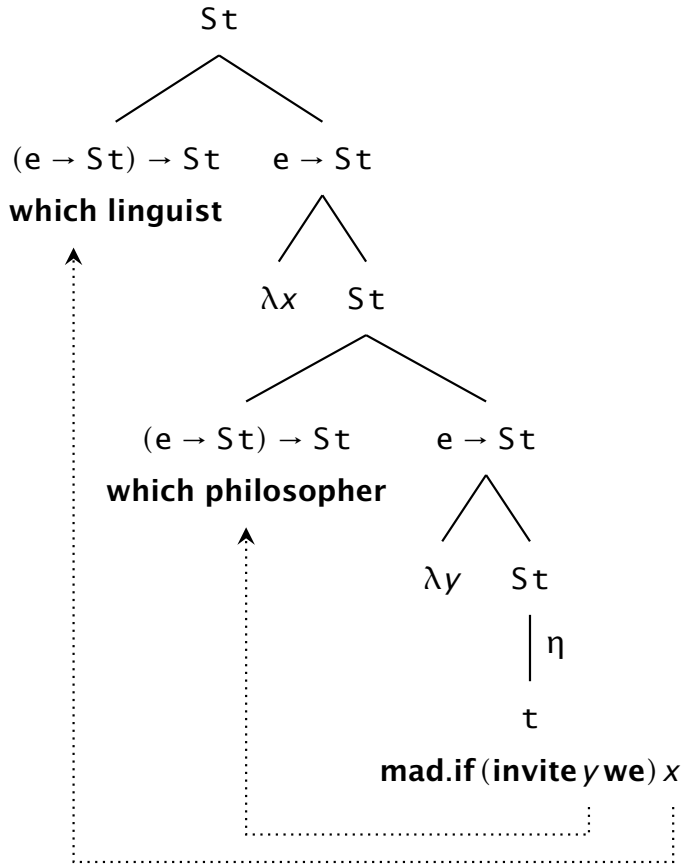
Indefinites inducing alternatives

Here, we derive *John met someone* (basically identical to *John met who?*).



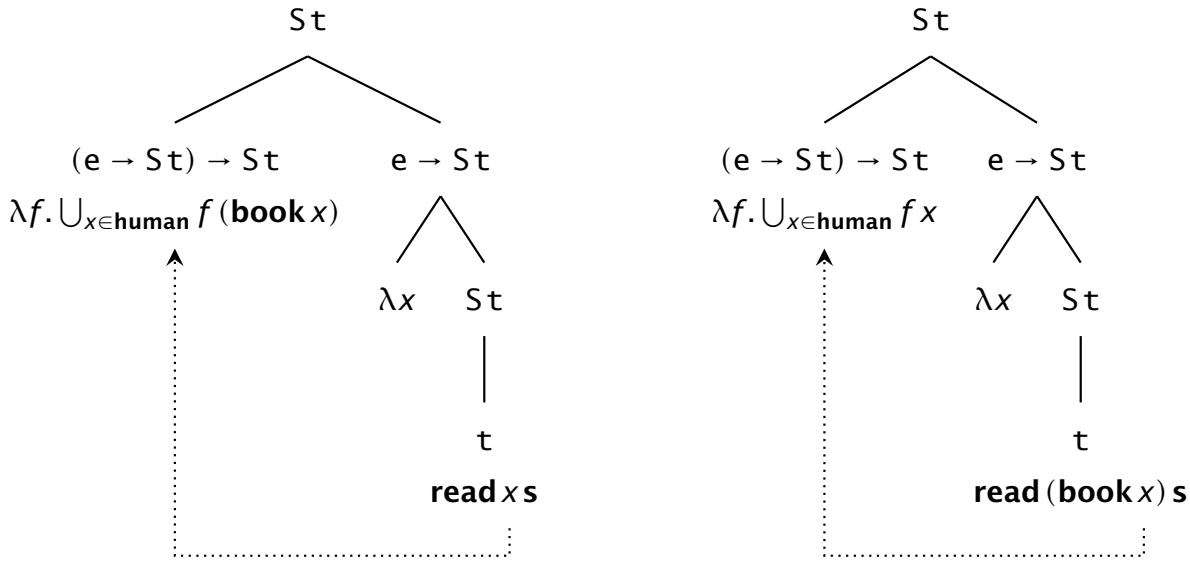
[Notice that we don't want to commit ourselves to thinking of declarative sentences with indefinites and questions as *precisely* the same sort of object, at least not in English.]

Issue #1: islands (*which ling will be mad if [we invite which phil]?*)



Composes (and gets the right meaning), but has [island]-violating scoping of *which philosopher* (e.g., Huang 1982, Dayal 1996, Reinhart 1998).

Issue #2: pied piping (*[whose book] did Simon read?*)



The left tree only allows answers like *I read P&P* (e.g., von Stechow 1996, Hagstrom 1998, Sternefeld 2001, Cable 2010). The right tree requires a weird movement.

[Well, actually, it's complicated — a lot depends on how intensionality is handled.]

Getting modular

Predicative uses of indefinites

One of the basic uses of indefinites is predicative:

1. I'm a linguist.
2. Mary considers John a linguist.

Two possibilities for the basic meaning of indefinites — on the left, as a set of individuals (i.e., a predicate); on the right, as a GQ:

$$[\![\text{a linguist}]\!] = \underbrace{\{x \mid x \in \textbf{ling}\}}_{\mathtt{se}} \qquad [\![\text{a linguist}]\!] = \underbrace{\lambda f.\, \exists x \in \textbf{ling} : f\, x}_{(\mathtt{e}\to\mathtt{t})\to\mathtt{t}}$$

No matter which you choose, you need a mapping from one to the other!

Taking the predicative use as basic (Partee 1986)

Let's suppose for concreteness that the predicative use of indefinites is basic (nothing much turns on this). What's the mapping into GQs?

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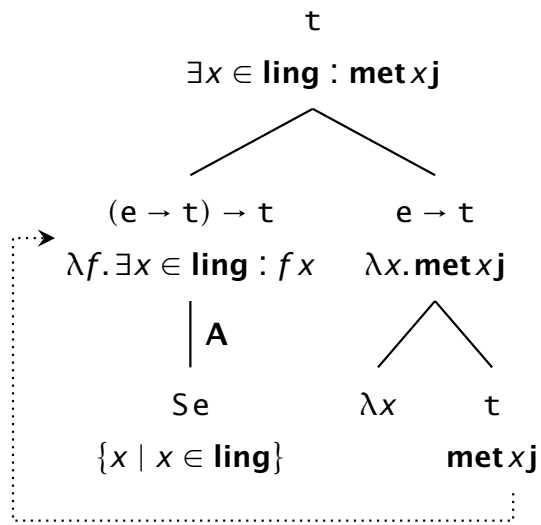
$$\mathbf{A} := \underbrace{\lambda m.\lambda f.\exists x \in m : f\,x}_{\mathsf{Se}\to(\mathsf{e}\to\mathsf{t})\to\mathsf{t}}$$



[If treating the GQ use as basic, the relevant mapping is **BE** $:= \underbrace{\lambda Q.\{x \mid \{x\} \in Q\}}_{((\mathsf{e}\to\mathsf{t})\to\mathsf{t})\to\mathsf{Se}}$.]

An observation

There is an interesting interaction between $\mathbf{A}$ and η:

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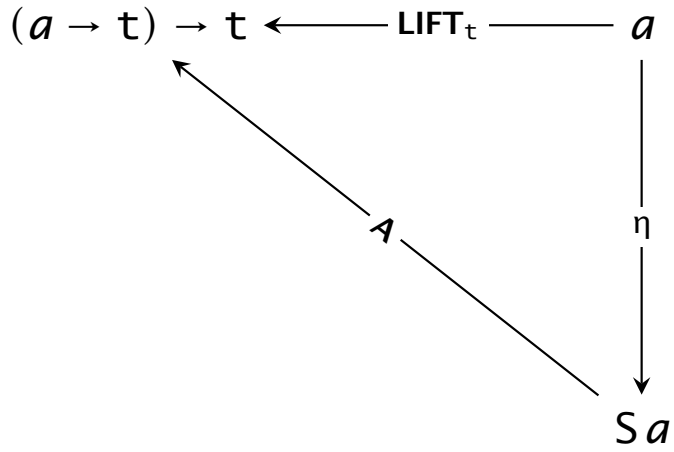
Do you recognize this? Sure, it's just Partee's (1986) **LIFT** operation, applied to x! In other words, **A** and η amount to a *decomposition* of **LIFT**!

$$\mathbf{A} \circ \eta = \mathbf{LIFT}$$

$$[f \circ g := \lambda x.\, f\,(g\, x)]$$

Partee (1986) triangle

This can all be summed up with (a portion of) the famous Partee triangle:



This diagram **commutes**: where there exist multiple paths between two nodes, those paths are *equivalent* (in particular, here $\mathbf{A} \circ \eta = \mathbf{LIFT}_{\mathtt{t}}$).

A modular vignette

Cresti (1995: 96), fn17 mentions an interesting possibility:

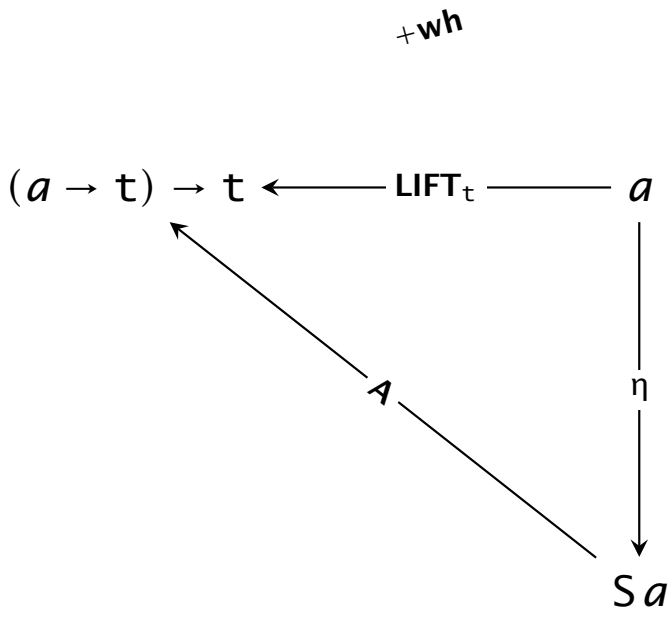
> [17] To be more explicit, we can imagine a *wh*-phrase as composed of an indefinite and a [+WH] component. So for instance, the meaning of *who* would be "some person x has property **P**" with [+WH] applied to it. In other words: 'λ**P**$\exists$x[**person**(x) $\wedge$ **P**(x)]', and '[+WH] $\rightsquigarrow$ λ**U**λ**W**λp[**U**(λu.**W**(u)(p))]'. So [+WH] applied to "some person . . ." is 'λ**U**λ**W**λp[**U**(λu.**W**(u)(p))] (λ**P**$\exists$x[**person**(x) $\wedge$ **P**(x)])' = 'λ**W**λp$\exists$x[**person**(x) $\wedge$ **W**(x) (p)]', as in (39).

In more familiar set-theoretic terms:

$$+\mathbf{wh} := \underbrace{\lambda Q.\lambda f.\{y \mid Q(\lambda x.\, y \in f\, x)\}}_{((e\to t)\to t)\to(e\to St)\to St}$$

[In fact, this mapping from GQs into things that can scope over sets was already in Karttunen, but as a composition rule.]

Adding to the Partee (1986) triangle



$(a \to \mathsf{S}\,b) \to \mathsf{S}\,b$

[The diagram still commutes! Exercise: verify this.]

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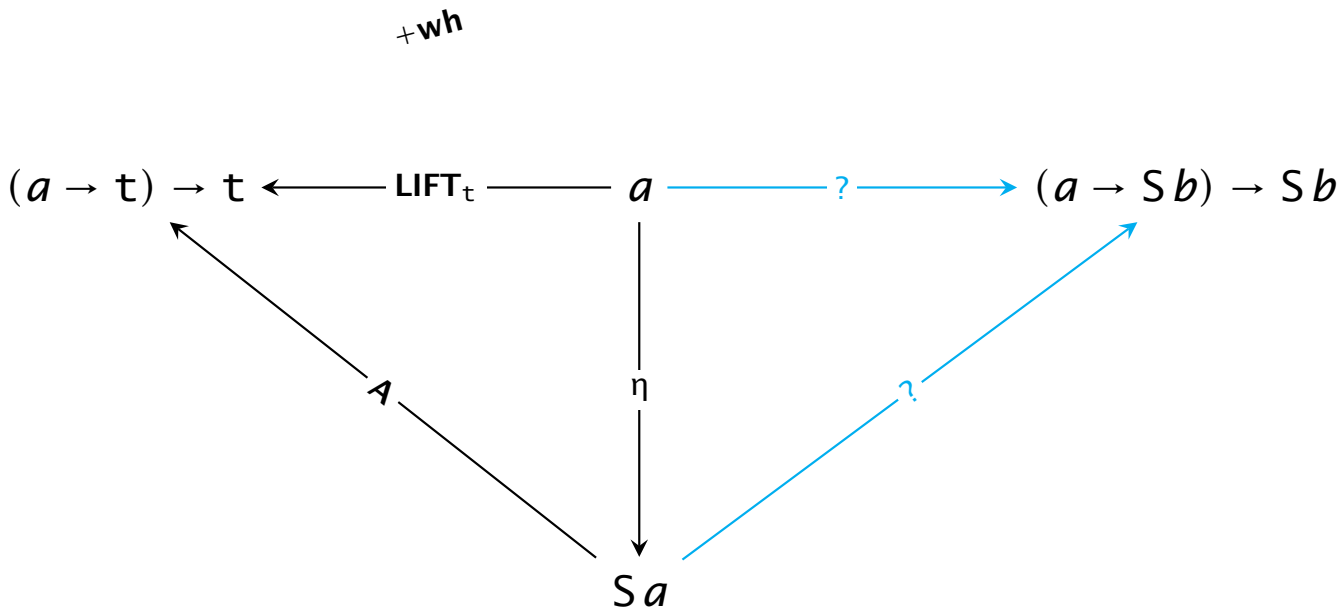

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My proposal: shift *sets* instead of GQs

That is, replace +**wh** with $\gg=$, defined as follows (η is unchanged!):

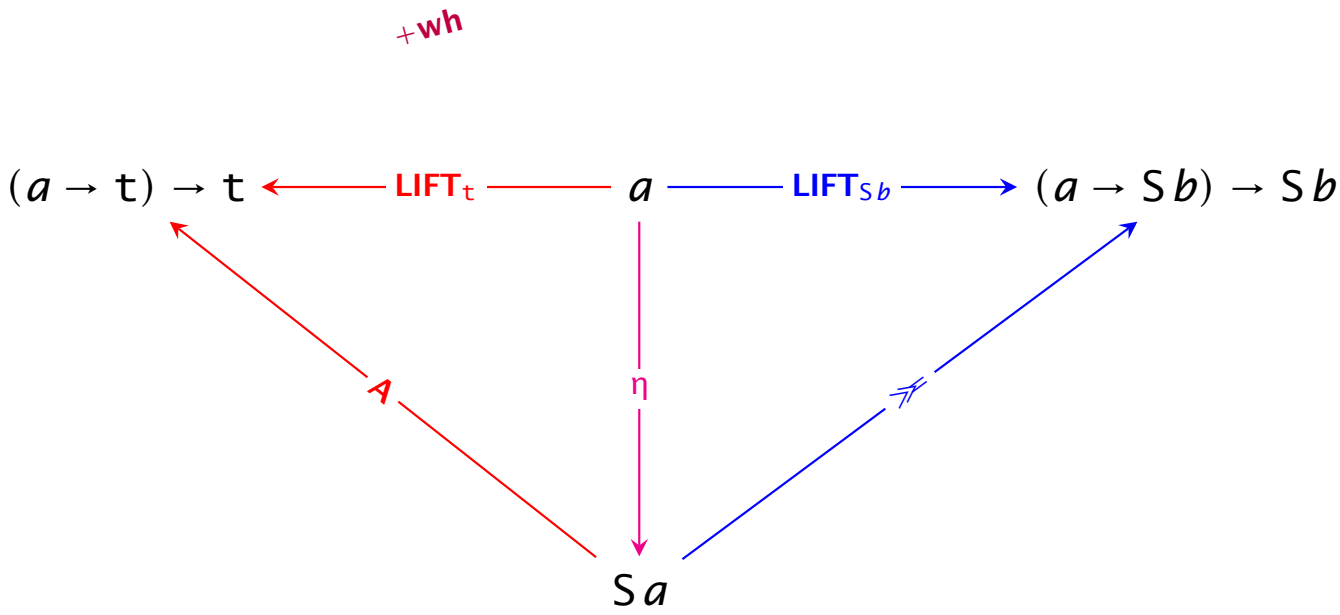
$$\eta := \underbrace{\lambda x.\{x\}}_{a \to \mathsf{S}\, a} \qquad \gg= := \underbrace{\lambda m.\lambda f.\bigcup_{x \in m} f\, x}_{\mathsf{S}\, a \to (a \to \mathsf{S}\, b) \to \mathsf{S}\, b}$$

The $\gg=$ shifter just maps sets into Karttunen's scopal meanings:

$$\mathbf{someone}^{\gg=} = \lambda f.\bigcup_{x \in \mathbf{someone}} f\, x$$

[Notice that +**wh** actually allows us to generate strange things like $\lambda p.\neg\exists x.\mathbf{human}\, x \wedge p = \mathbf{saw}\, x\, \mathbf{j}$.
This is a (weak) argument that applying $\gg=$ to sets might be preferable to applying +**wh** to GQs.]

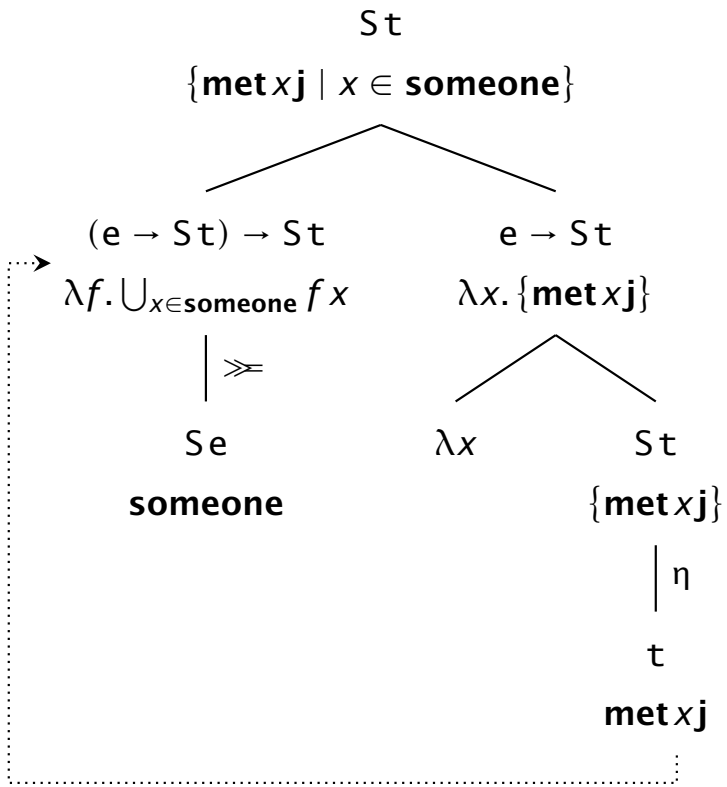
The Partee (1986) triangle++



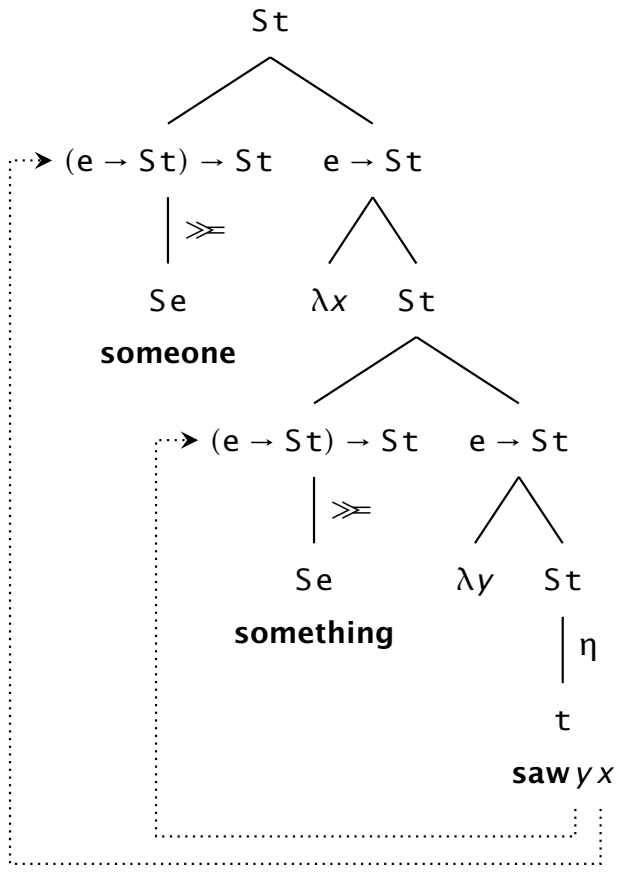
The diagram still commutes! Notice in particular that $\gg=$ is the same as $+\mathbf{wh} \circ \mathbf{A}$.

So the "innovation" I'm proposing is already, in a sense, implicit in the literature.

A simple case, with a familiar derivation



Two sources of alternatives



$= \{\textbf{saw}\, y\, x \mid x \in \textbf{someone}, y \in \textbf{something}\}$

Some more facts about these operations

Like η and **A**, η and $\gg=$ form a decomposition of **LIFT**:

$$\begin{aligned}(\eta\, x)^{\gg=} &= \{x\}^{\gg=} \\ &= \lambda f.\bigcup_{a\in\{x\}} f\, a \\ &= \lambda f.f\, x\end{aligned}$$

More generally, together they comprise something known as a **monad** (e.g., Wadler 1995, Shan 2002, Giorgolo & Asudeh 2012, Unger 2012, Charlow 2014).

- A monad is just a $\eta_{a\to T\,a}$ and a $\gg=_{T\,a\to(a\to T\,b)\to T\,b}$ satisfying some laws.
- Monads are useful when you want to *modularly* graft "fancy" things (e.g., alternatives) onto a baseline grammar (e.g., one built on function application).
- *Any* baseline will do, including neo-Davidsonian ones (cf. Champollion 2015).

Islands

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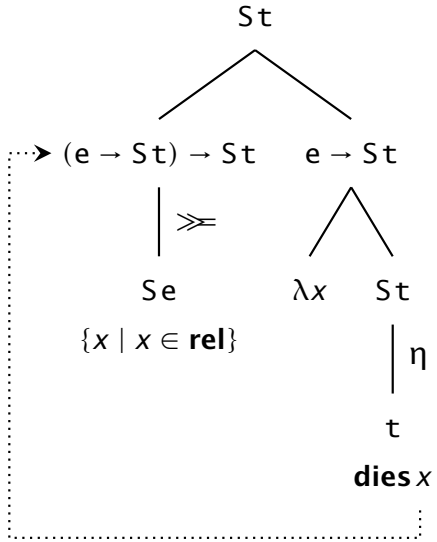
But they're not! We can apply $\gg=$ to *any* set of alternatives!

$$\gg= :: \mathsf{S}\,a \to (a \to \mathsf{S}\,b) \to \mathsf{S}\,b$$

Scoping the **island**: *if a rich relative dies, I get a house*



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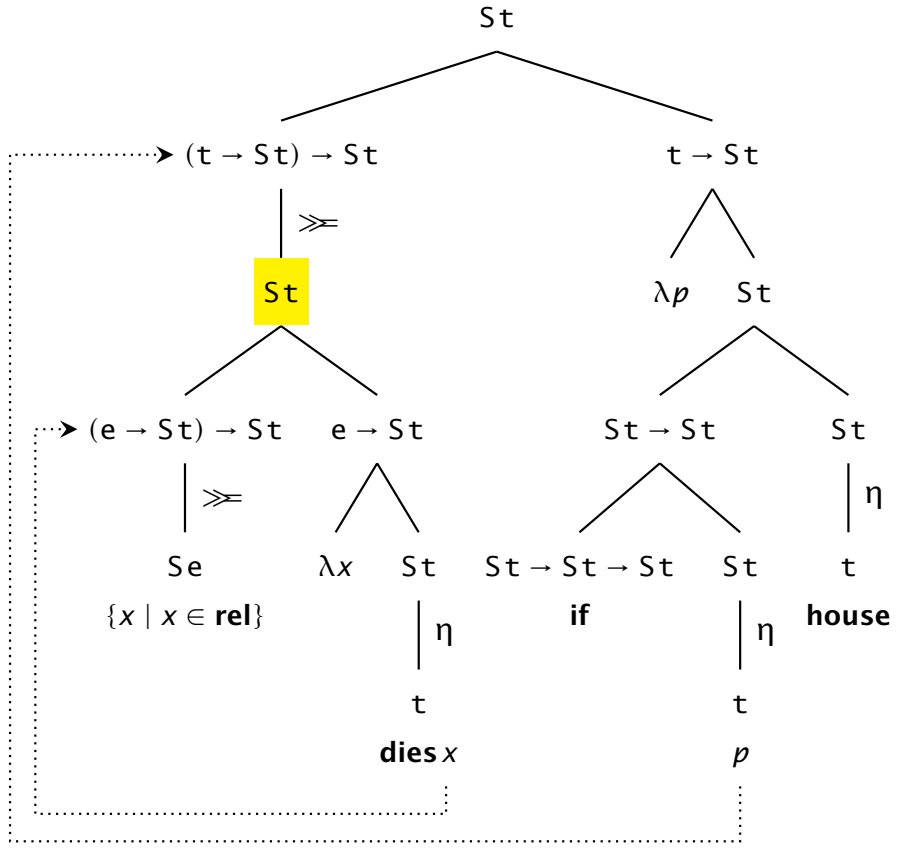

$$= \bigcup_{p \in \{\textbf{dies}\, x \mid x \in \textbf{rel}\}} \{p \Rightarrow \textbf{house}\}$$

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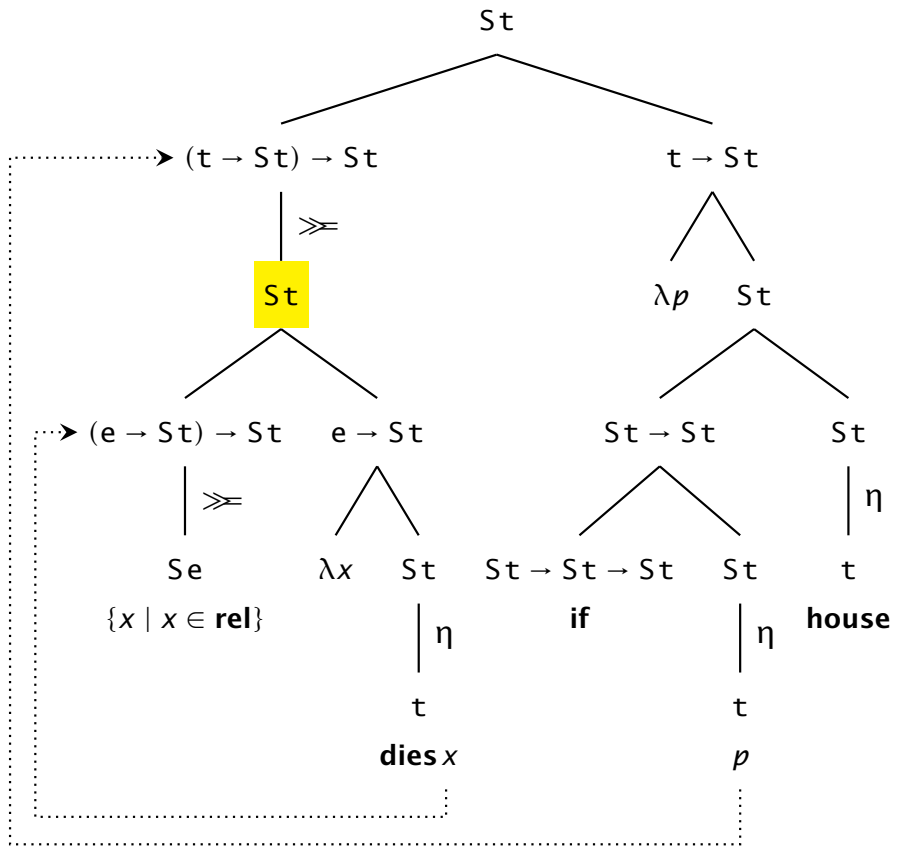
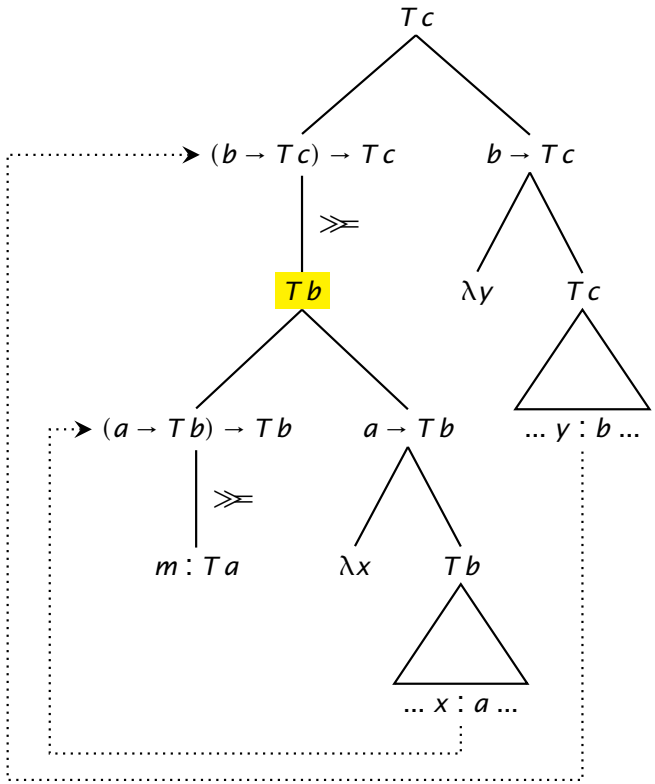
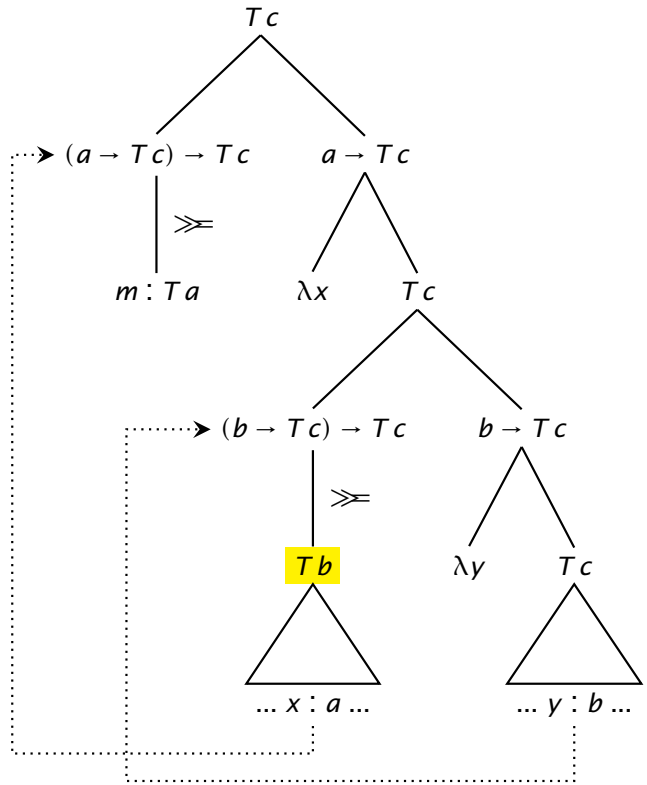


$$= \{\textbf{dies}\, x \Rightarrow \textbf{house} \mid x \in \textbf{rel}\}$$

Islands more generally:

For any monadic T, Left ≡ Right (this is known as the **Associativity** law). It's as if m had scoped out of the island, without actually doing so!





Pied-piping the island: Bavarian German

Heck (2008), citing Felix (1983):

1. Das ist die Frau, [die$_i$ wenn du t_i heiratest] bist du verrückt.
   this is the woman who if you marry are you crazy
   'This is the woman that you are crazy if you marry (her).'

2. *Das ist die Frau, die$_i$ du verrückt bist [wenn du t_i heiratest].
   this is the woman who you crazy are if you marry

[Is this contrast replicated in English?]

Finnish

The situation is even more striking in Finnish (Huhmarniemi 2012). Here is the canonical word order when you modify a VP with a PP (V-P-Obj):

1. Pekka näki Merjan [kävellessään [kohti puistoa]].
   Pekka saw Merjan walk towards park
   'Pekka saw Merja when he was walking towards a/the park.'

But here is how it looks when you try to form a with the Obj:

2. [[Mitä$_i$ kohti t_i]$_j$ kävellessään t_j]$_k$ Pekka näki Merjan t_k?
   What towards walk Pekka saw Merjan
   'What was Pekka walking towards when he saw Merja?'

You get the mirror-image word order!

This kind of movement

Is called **roll-up** or (even better) **snowballing** pied-piping. Overt and scopal (i.e., covert) forms of it are appealed to for a variety of languages.

We've already seen Bavarian German and Finnish. Other examples include Japanese (covert, Nishigauchi 1990), Gbe (overt, Aboh 2004), French (covert, Moritz & Valois 1994), and DP-internal word order cross-linguistically (overt, Cinque 2005).

Doing without covert pied piping

An equivalent way to formulate a monad is in terms of η and *two* functions $\circledast$ and μ:

$$\circledast := \underbrace{\lambda m.\lambda n.\{f\,x \mid f \in m, x \in n\}}_{\mathsf{S}(a\to b)\to \mathsf{S}\,a\to \mathsf{S}\,b} \qquad \mu := \underbrace{\lambda M.\bigcup M}_{\mathsf{S}(\mathsf{S}\,a)\to \mathsf{S}\,a}$$

["Equivalent" since, e.g., $m \gg\!= f = \mu\,(\eta f \circledast m)$]

Of course, $\circledast$ is just point-wise application, which leaves alternatives in situ! So while $\gg\!=$ derivations require scope and covert pied piping since $\gg\!=$ creates something of type $(a \to \mathsf{S}\,b) \to \mathsf{S}\,b$, more "conservative" modular options are available.

[η and $\circledast$ alone are known as an *applicative functor* (McBride & Paterson 2008).]

Higher-order meanings and selectivity

Data: selectivity

Indefinites on an island take scope **in different ways** outside the island:

1. If [a persuasive lawyer visits a relative of mine], I'll inherit a house.

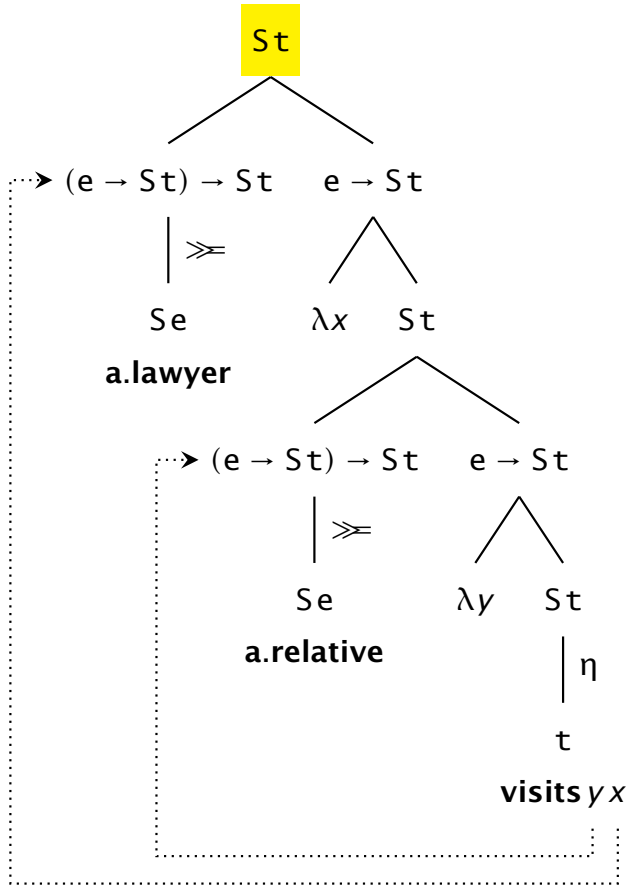
   $\checkmark \exists_{\textbf{lawyer}} \gg \textbf{if} \gg \exists_{\textbf{relative}}$, $\checkmark \exists_{\textbf{relative}} \gg \textbf{if} \gg \exists_{\textbf{lawyer}}$,
   $\checkmark \exists_{\textbf{lawyer}} \gg \exists_{\textbf{relative}} \gg \textbf{if}$

2. Every grad would be overjoyed if [some paper on indefinites was discussed in a popular grad seminar being offered this term].

   $\checkmark \exists_{\textbf{seminar}} \gg \forall \gg \exists_{\textbf{paper}} \gg \textbf{if}$

Indeed, such behavior is presupposed (if not directly argued for) by most accounts of exceptionally scoping indefinites (cf. Reinhart 1997, Brasoveanu & Farkas 2011).

Building the island. . .



$$= \{\textbf{visits}\, y\, x \mid x \in \textbf{lawyer}, y \in \textbf{relative}\}$$

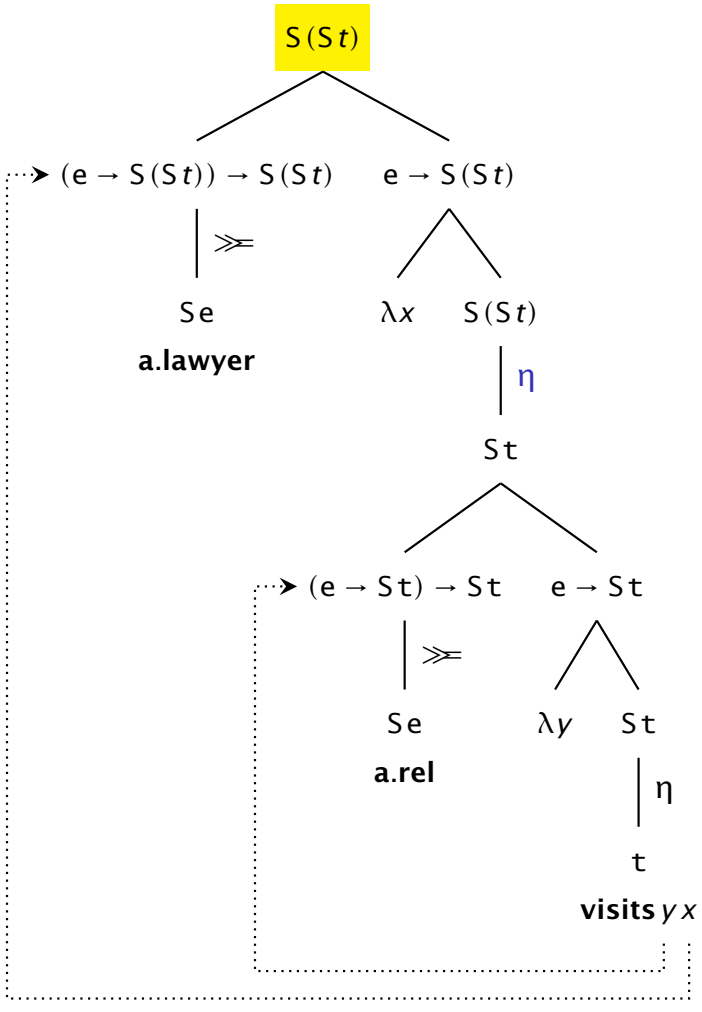
Executing our old exceptional scope trick...

$$\{\textbf{visits}\, y\, x \mid x \in \textbf{lawyer},\, y \in \textbf{relative}\}^{\gg=} = \lambda f.\bigcup_{p \in \{\textbf{visits}\, y\, x \mid x \in \textbf{lawyer}, y \in \textbf{relative}\}} f\, p$$
$$= \lambda f.\bigcup_{x \in \textbf{lawyer}, y \in \textbf{relative}} f\, (\textbf{visits}\, y\, x)$$

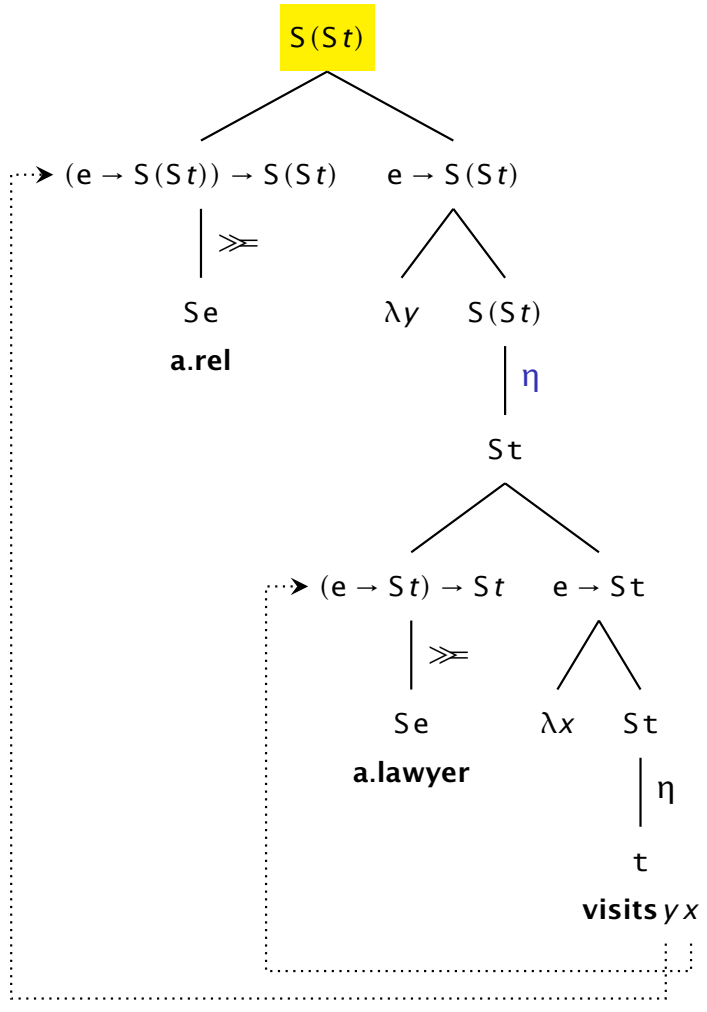
Oops... Looks like we've given *both* indefinites scope out of the island.

- Certainly, this is a possible reading — so, no over-generation.
- But it's not the *only* reading — so, under-generation?

Building higher-order meanings



$\{\{\textbf{visits}\ y\ x \mid y \in \textbf{rel}\} \mid x \in \textbf{lawyer}\}$



$\{\{\textbf{visits}\ y\ x \mid x \in \textbf{lawyer}\} \mid y \in \textbf{rel}\}$

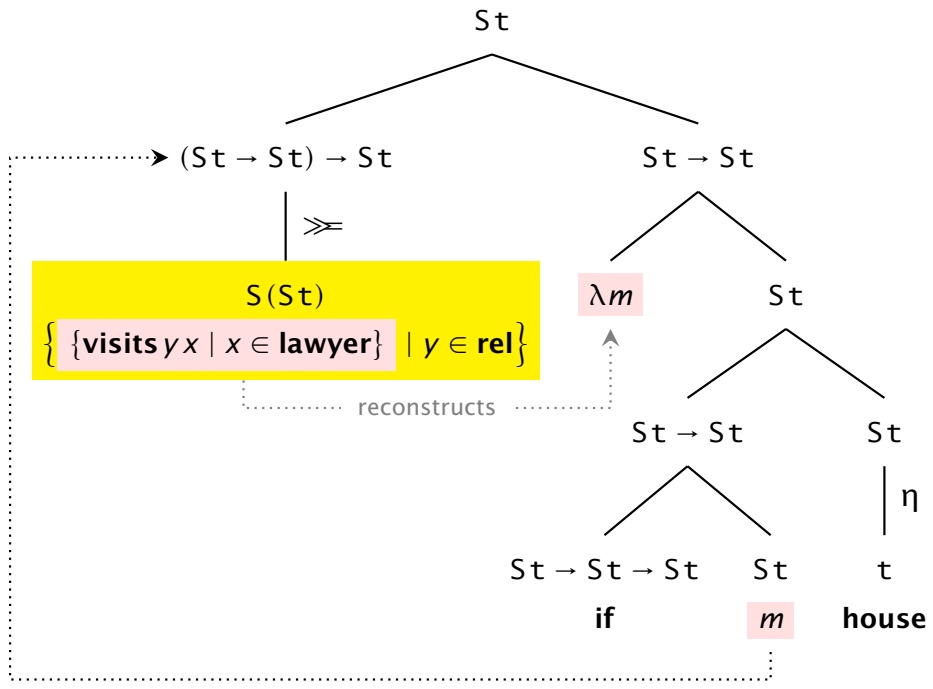
Higher-order meanings

If the lawyers are $\mathbf{L_1}$ and $\mathbf{L_2}$ and the relatives are $\mathbf{R_1}$ and $\mathbf{R_2}$, these higher-order sets amount to the following:

$$\left\{\begin{array}{l}\{\mathbf{visits}\,\mathbf{R_1}\,\mathbf{L_1},\,\mathbf{visits}\,\mathbf{R_2}\,\mathbf{L_1}\},\\ \{\mathbf{visits}\,\mathbf{R_1}\,\mathbf{L_2},\,\mathbf{visits}\,\mathbf{R_2}\,\mathbf{L_2}\}\end{array}\right\} \qquad \left\{\begin{array}{l}\{\mathbf{visits}\,\mathbf{R_1}\,\mathbf{L_1},\,\mathbf{visits}\,\mathbf{R_1}\,\mathbf{L_2}\},\\ \{\mathbf{visits}\,\mathbf{R_2}\,\mathbf{L_1},\,\mathbf{visits}\,\mathbf{R_2}\,\mathbf{L_2}\}\end{array}\right\}$$

(They're essentially transposes of each other.)

Deriving selectivity



$$= \{(\exists x \in \textbf{lawyer} : \textbf{visits}\, y\, x) \Rightarrow \textbf{house} \mid y \in \textbf{rel}\}$$

Summing up

We've learned that using η and $\gg=$ lets us exert a lot of control over which pieces of the island are evaluated where.

Higher-order meanings separate different sources of indefinite-ness, which allows multiple indefinites on an island to be distinguished outside the island.

Binding

Basic data

Consider the wide-scope indefinite reading of (1). If the [island] scopes over *every linguist*, how can the quantifier bind *her*? Call this **Generalized selectivity**.

1. Every linguist$_i$ is overjoyed if [a famous expert on indefinites cites them$_i$]. ($a \gg every$)

By contrast, when an indefinite *contains* a bound pronoun, the binder delimits its scope (Schwarz 2001, Brasoveanu & Farkas 2011). Call this **Roofing**.

2. No candidate$_i$ submitted a paper she$_i$ had written. (*$a \gg no$)

A slight tweak

Simply adding assignment-sensitivty to our helper functions predicts generalized selectivity (Sternefeld 1998, Charlow 2017a):

$$\eta := \underbrace{\lambda x.\lambda g.\{x\}}_{a \to \mathsf{GS}\, a} \qquad \gg= := \underbrace{\lambda m.\lambda f.\lambda g.\bigcup_{x \in m\, g} m\, x\, g}_{\mathsf{GS}\, a \to (a \to \mathsf{GS}\, b) \to \mathsf{GS}\, b}$$

$$\mathsf{GS}\, a ::= \mathsf{g} \to \mathsf{S}\, a$$

Still a monad, so our previous results all automatically carry over!

[See Kobele 2010, Kennedy 2014, and indeed the entire the dynamic-semantics literature (e.g., Barwise 1987, Groenendijk & Stokhof 1991, Muskens 1996) for independent motivation for assignment-sensitivity as a first-class part of semantic denotations.]

Rounding out the picture

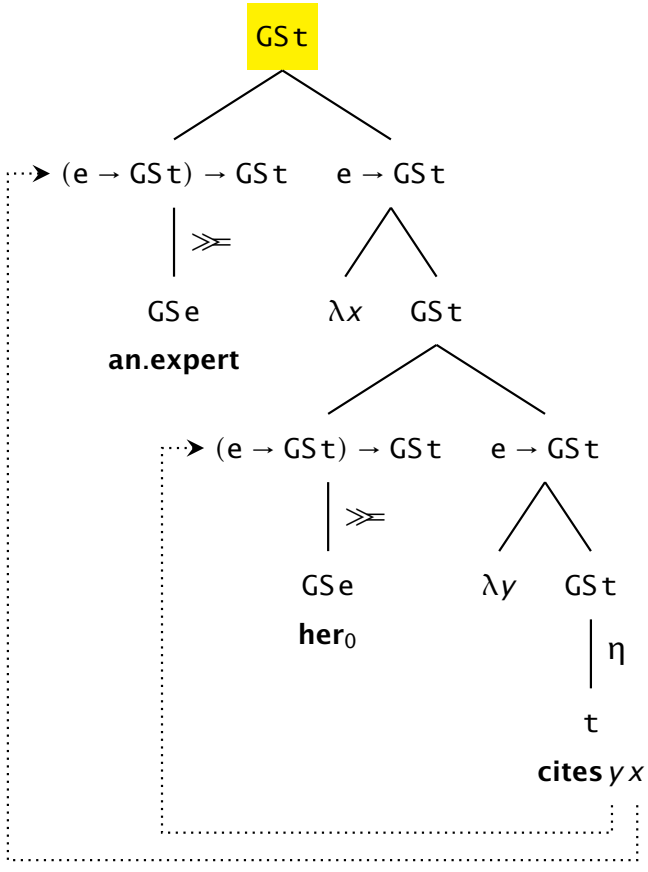
We give a couple entries for indefinites and pronouns (both type GS e), exact analogs of the meanings posited by Kratzer & Shimoyama (2002):

$$\textbf{an.expert} := \lambda g.\{x \mid x \in \textbf{expert}\} \qquad \textbf{she}_0 := \lambda g.\{g_0\}$$

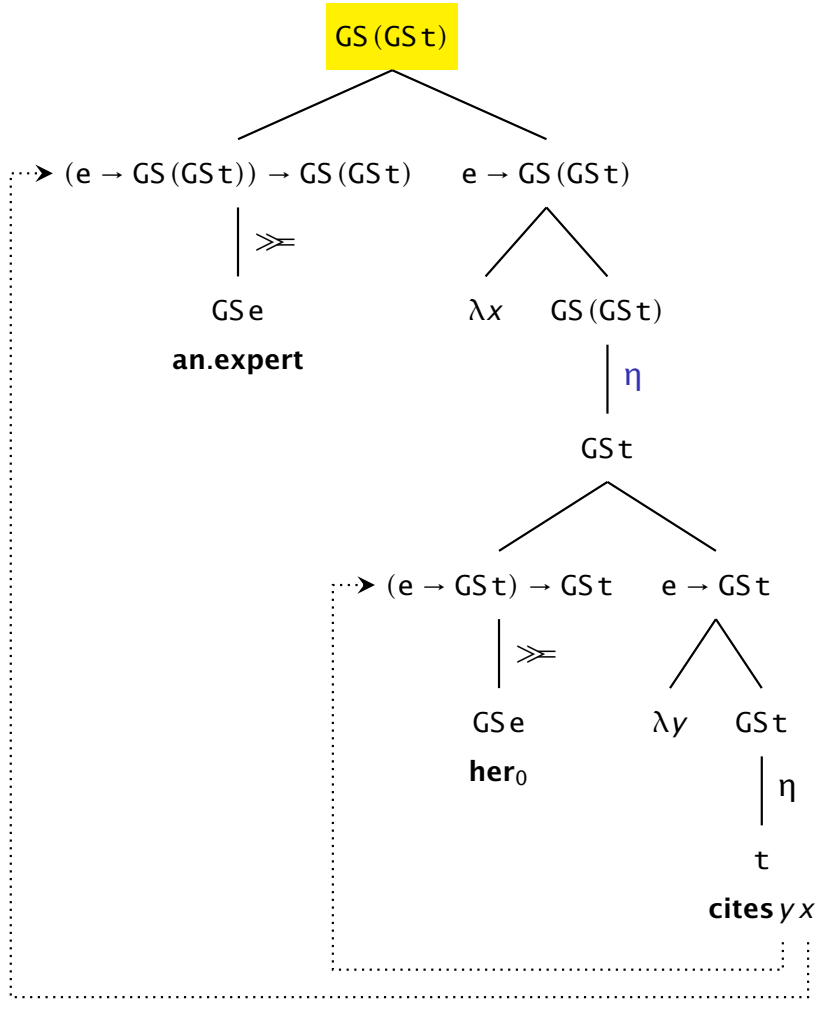
Binding is standard. Categorematic analogs of Büring's (2005) λ- and β- operators:

$$\lambda_i := \lambda f.\lambda x.\lambda g.f\,g[i{\to}x] \qquad \beta_i := \lambda f.\lambda x.\lambda g.f\,x\,g[i{\to}x]$$

A couple ways to derive *an expert cites her*$_0$

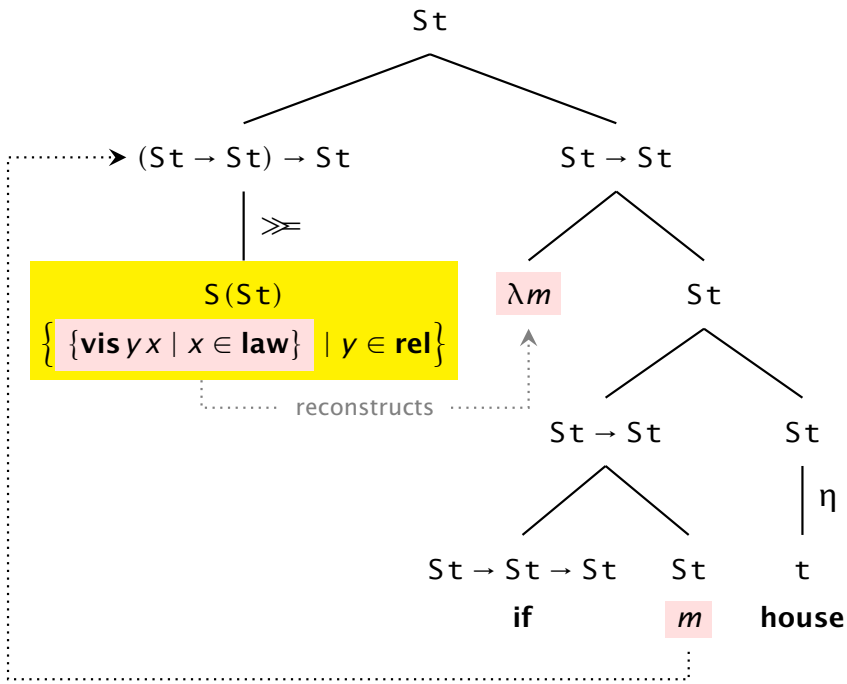


$= \lambda g.\, \{\textbf{cites}\, g_0\, x \mid x \in \textbf{expert}\}$

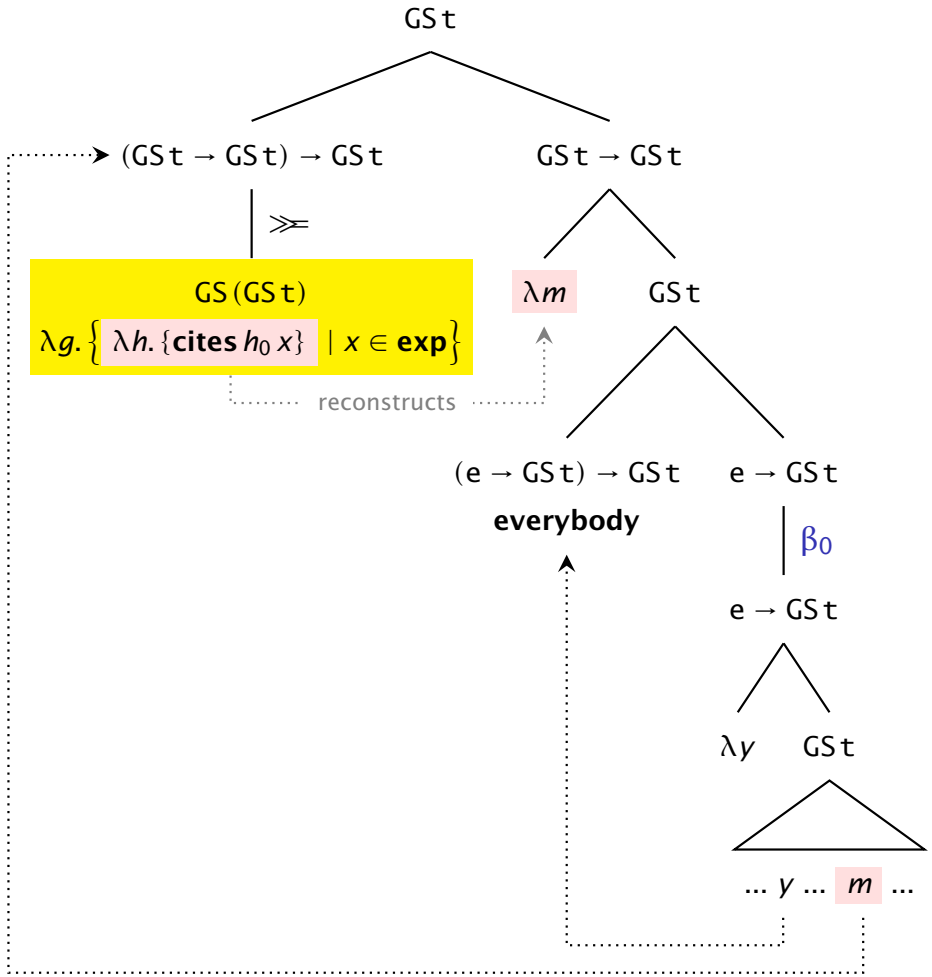


$= \lambda g.\, \{\lambda h.\, \{\textbf{cites}\, h_0\, x\} \mid x \in \textbf{expert}\}$

Generalized selectivity



Generalized selectivity

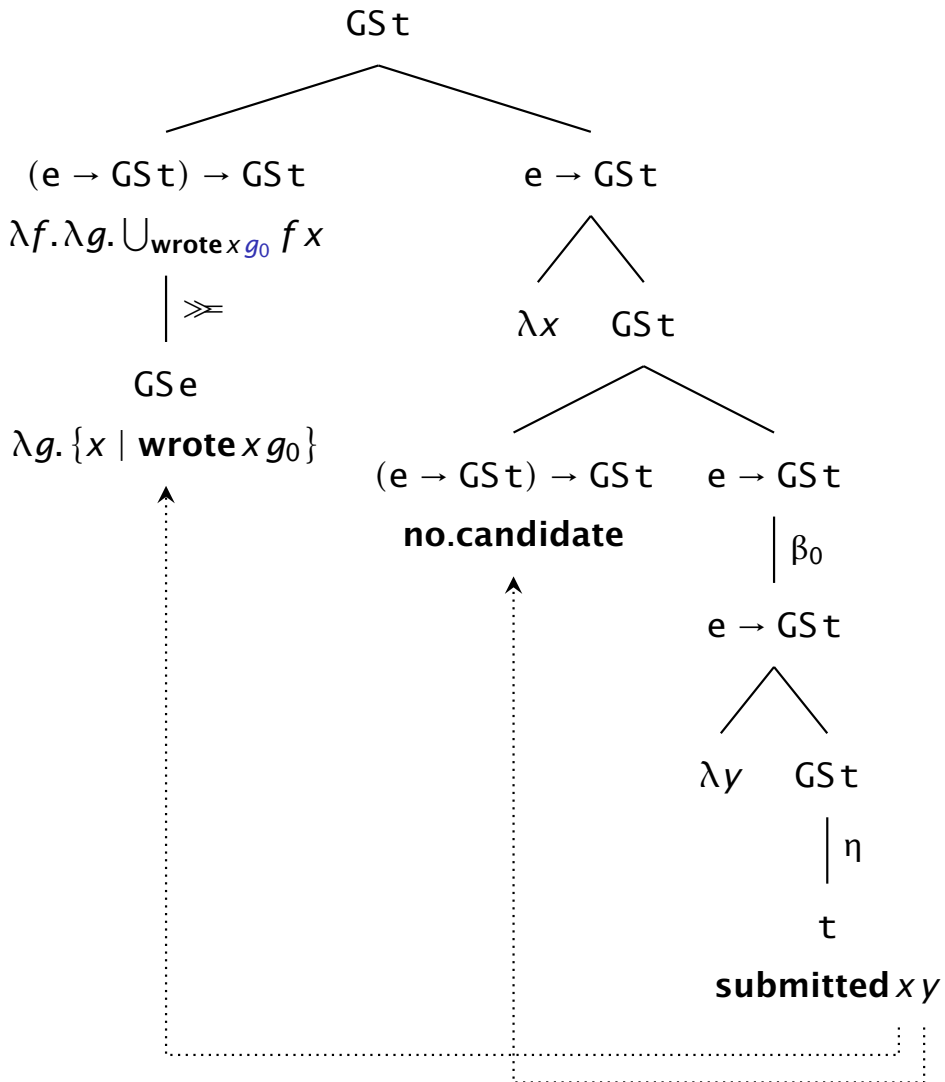


A general account of pied piping!

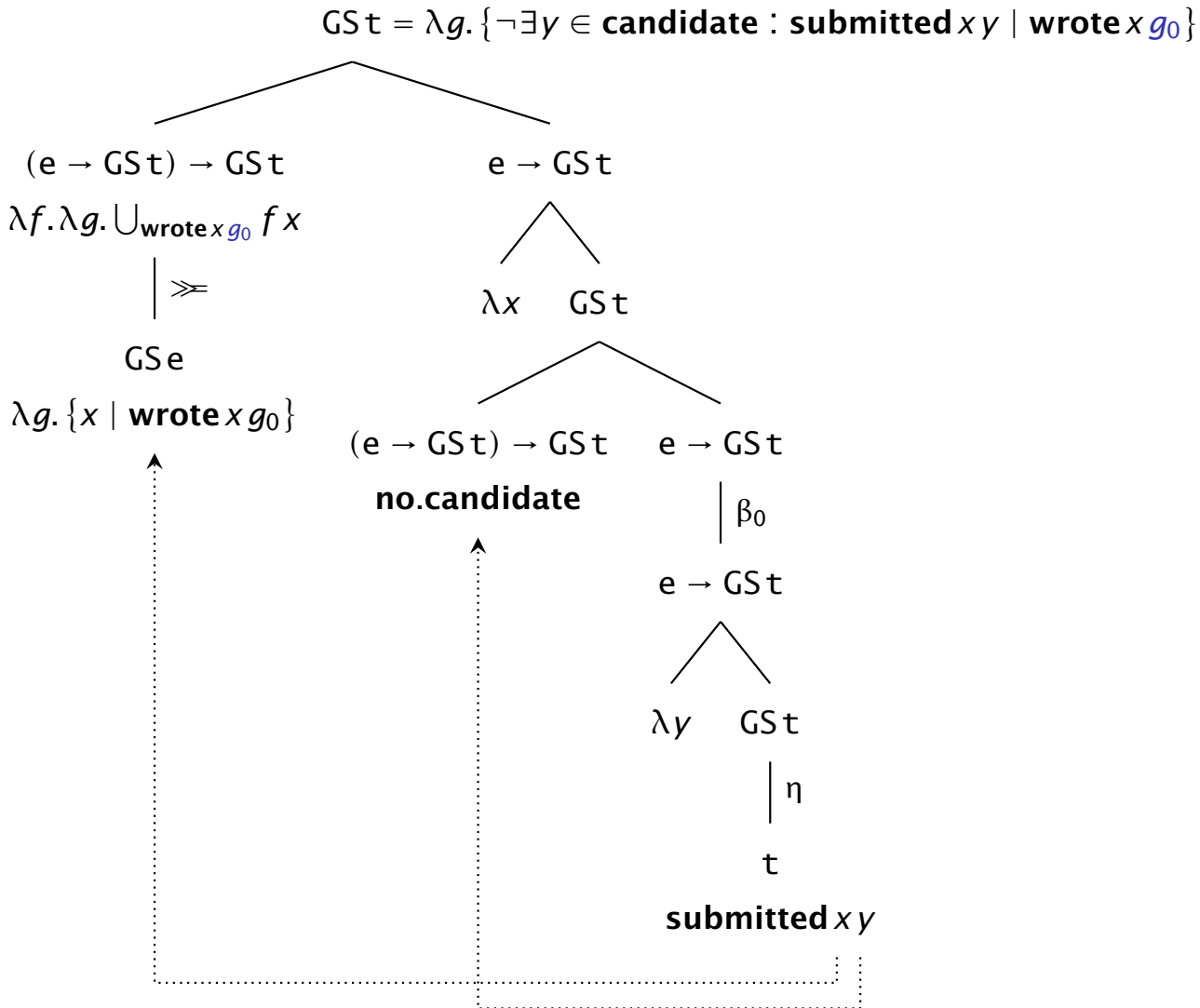
So we've got a fully general account of covert pied-piping, one which allows a fine degree of control over where different things on an island are evaluated, within a restrictive theory of syntax-semantics interface.

Extends immediately to *overt* pied-piping, as well.

Roofing explained



Roofing explained



Concluding

Summing up

Semantics with alternatives and alternative semantics are different things.

- We know how to use scope to do composition with alternatives. What's been missing is an account that explains island-insensitivity, too.
- The current best theory of island-escaping readings, alternative semantics, has some lacunae (principally, selectivity and binding).

I tried to show that we don't have to make any compromises.

- If we begin with our gold-standard theory of questions and then simply break off $\gg=$ from $[\![\text{who}]\!]$, we have a complete theory!
- Adding assignment-sensitivity completes the picture, allowing binding reconstruction and (c)overt pied-piping.

Something I didn't discuss

On the last slide, I called alternative semantics "our current best theory of island-escaping readings".

Proponents of *choice-functional* analyses (e.g., Reinhart 1997, Winter 1997, Kratzer 1998, Chierchia 2001, a.o.) might be surprised by this.

In fact, we improve on choice-functional analyses. Feel free to ask more.

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