There's something about "any"

Seminar week 3: Is there any time for scope? Winter 2014/2015

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We now cover Partee 1993, but we're going to do it from the ground up.

Topic, it has something to do with focus.

Information structure: a different level of sentence analysis.

- Typically, we analyse sentences in terms of traditional categories like subject, predicate, etc.
- But another way to look at it is information structure: what is presented when, how.
- There is a complex relationship between predicate and information structure.
  - More obvious in languages other than English.

So how do we identify topics?

In English, usually the subject.

> **A topic**
>
> Bob ate a jelly donut.

It's hard to tell out of context, but usually we'd say that we're describing something about Bob – the topic.

So how do we identify topics?

In English, usually the subject.

A fronted topic

A jelly donut, Bob ate.

A *very* marked structure in English, but it identifies that we are describing the donut.

(I'm probably answering the question, "So what *did* happen to a jelly donut?")

Let's try that in German.

A topic

Bob isst einen Berliner.

A fronted topic

Einen Berliner isst Bob.

The fronted topic is probably not very marked to the native speakers here.

- But dare I assume that you would assume that I'm talking about the jelly donut?

Then "focus" is the information I'm imparting.

A topic and a focus

A jelly donut, **Bob ate**.

What happened to the jelly donut? Bob ate it.

But I can disrupt the focus through intonation.

Again, different languages have different ways of doing this.

Add emphasis

A jelly donut, **BOB** ate.

I really want to tell you that it's Bob who ate the jelly donut.
("WHO was it that ate the jelly donut?")

But I can disrupt the focus through intonation.

Well, it starts getting artificial:

Add emphasis

A jelly DONUT, Bob ate.

("What jelly object did someone eat?") Better:

Add emphasis, without fronted topic.

Bob ate a jelly DONUT.

Focus has a certain logical power.

> **Emphasis on the adjective.**
>
> Bob ate a JELLY donut.

Things this seems to entail:

- Bob ate something.
- There are objects with the property "jelly".
- Bob did not eat some other kind of donut, he ate a jelly donut. ⇐ highly emphasized
- . . . ?

But are all entailments equal?

No! Some definitions from Partee 1996 citing Hajičová (that I didn't assign).

    (i)   meaning proper: A is a (part of the) meaning proper of B, if B entails A and not-B entails not-A;

    (ii)   presupposition: A is a presupposition of B, if B entails A and not-B entails A;

   (iii) allegation: A is an allegation of B if B entails A and not-B does not entail A nor does it entail not-A.[1]

                                           (Hajičová 1984:99)

(An emanation of the famous "Prague school" focus on information structure.)

So let's test these.

No emphasis

Bob ate a jelly donut.

Things this seems to entail. What kinds of entailments?

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- Bob ate something. I say allegation.

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Bob ate a jelly donut.

Things this seems to entail. What kinds of entailments?

- Bob ate something. I say allegation.
- There exist objects with the property 'jelly'.

So let's test these.

No emphasis

Bob ate a jelly donut.

Things this seems to entail. What kinds of entailments?

- Bob ate something. I say allegation.
- There exist objects with the property 'jelly'. I say presupposition.

So let's test these.

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So let's test these.

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Bob ate a jelly donut.

Things this seems to entail. What kinds of entailments?

- Bob ate something. I say allegation.
- There exist objects with the property 'jelly'. I say presupposition.
- Bob did not eat some other kind of donut, he ate a jelly donut. I say allegation.

Let's try it again.

Emphasis returned.

Bob ate a JELLY donut.

Things this seems to entail. What kinds of entailments?

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- Bob ate something. I say presupposition.
- There exist objects with the property 'jelly'. I say presupposition.
- Bob did not eat some other kind of donut, he ate a jelly donut. I say meaning.

And now for something completely different. (You might think.)

What is the structure of a scope?

Every woman ate.
$\forall x \ \text{woman}(x) \rightarrow \text{eat}(x)$

To verify this in our model:

- We first have to select each woman.
- Then we have to check of that woman ate.

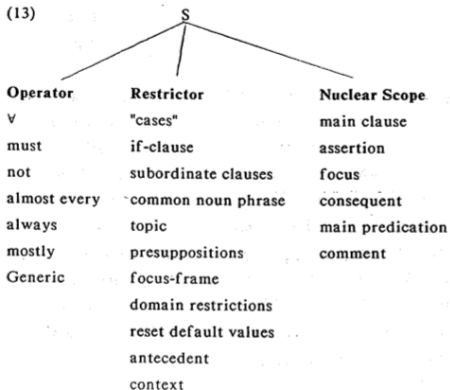# This suggests a natural organization.

Every woman ate.
$\forall x\ \text{woman}(x) \rightarrow \text{eat}(x)$

To verify this in our model:

- We first have to select each woman. the restrictor
- Then we have to check of that woman ate. the nuclear scope

Partee 1993 lays it out for us. . .

The tripartite structure of scope.

(13)

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Operator	Restrictor	Nuclear Scope
∀	"cases"	main clause
must	if-clause	assertion
not	subordinate clauses	focus
almost every	common noun phrase	consequent
always	topic	main predication
mostly	presuppositions	comment
Generic	focus-frame	
	domain restrictions	
	reset default values	
	antecedent	
	context	

...and proposes a natural relationship.

(Ah ha! Not so completely different after all!)

Restrictor = topic (or "focus-frame" or "background")
Nuclear scope = focus

"Every woman ate a jelly donut" → what we're talking *about* is women, and what information we're introducing is the eating of a jelly donut.

Now we come to the items of Partee's concern.

What is the scope of negation?

(1) I didn't get that book from Mary.
(2) I got that book from Mary.

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What is the scope of negation?

(1) I didn't get that book from Mary.
(2) I got that book from Mary.

Since (1) and (2) contradict each other, we assume that the negation is global.

$$(1) = \neg(2)$$

Except that, it's not so simple.

What is the scope of negation?

Add emphasis

(1) I didn't get that book from MARY.
(2) I got that book from MARY.

Except that, it's not so simple.

What is the scope of negation?

Add emphasis

(1) I didn't get that book from MARY.
(2) I got that book from MARY.

Still a contradiction. Except, what is being contradicted is whether it was Mary that gave the book.

- Why is the scope of negation narrower after emphasis? No presupposition here.

Presuppositions help us disentagle.

(3a) This time John's COUSIN didn't cause our victory. (3b) This time John's cousin didn't cause our VICTORY.

- Presupposition in (3a): there was a victory.
  - Is entailed whether or not the cause of the victory was John's cousin.
- Allegation in (3b): there was no victory.
  - Neither entailed nor not entailed by John's cousin's role.

This allows Partee, Hajičová to generalise.

Generalisation.

Allegations in topic become presuppositions.
Allegations in focus do not.

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Generalisation.
Allegations in topic become presuppositions.
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So negations should create presuppositions when they're in the topic. You can see it here:

(4) Charles didn't come because Mary was ill.

(The negation is in the topic.)

Remember when we talked about "any"?

It's a "negative-polarity item".

- That means it must usually* exist in a "downward-entailing" environment.
- Upward-entailment: implies a larger set of events, preserves semantic "strength".
  - John ran fast $\Rightarrow$ John ran.
  - (But not the other way.)
- Downward-entailment: reverses semantic "strength".
  - Nobody ran $\Rightarrow$ Nobody ran fast.
  - (But not the other way.)

*There's something called "non-monotone" but let's leave this out.

And Partee runs immediately into a problem.

(7) Mary didn't give any employee a raise because she was SOFT-HEARTED.

(ie, she may or may not have given a raise, but it wasn't because she was soft-hearted.)

Why is this a problem?

And Partee runs immediately into a problem.

(7) Mary didn't give any employee a raise because she was SOFT-HEARTED.

(ie, she may or may not have given a raise, but it wasn't because she was soft-hearted.)

Why is this a problem?

- The negation is in the topic, but it creates an allegation. Why not presupposition?
- The "any" (NPI) creates the possibility that she gave someone a raise.
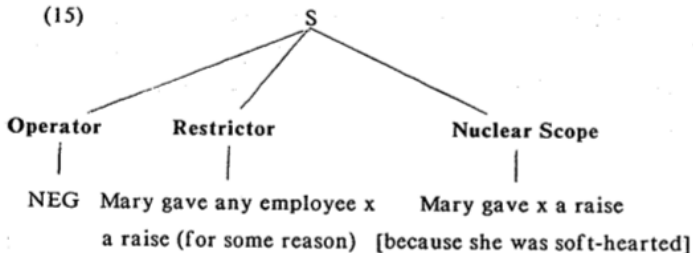
Now put the "any" inside the focus.

(8) Mary didn't give any employee a raise because her company was having financial difficulties.

Now "any" is clearly within the focus, so it should produce allegations properly.

Which it does, because if Mary's company wasn't having financial difficulties, it doesn't tell us whether anyone got a raise.

Does this make it worse?

"Any" is in the restrictor of the negation operator – topic.

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                              S
                       ╱      │      ╲
                 ╱            │              ╲
          Operator      Restrictor            Nuclear Scope
             │               │                      │
           NEG     Mary gave any employee x     Mary gave x a raise
                   a raise (for some reason)   [because she was soft-hearted]
```

But it's what is licensing the NPI?

So maybe this analysis of negation is wrong.

"If" clauses license NPIs, but they are not full quantifiers, only restrictors.

(16) (i) *if*-clauses act as restrictors only on strong operators,
      operators that are monotone decreasing in their first
      (restrictor) argument; OR

    (ii) when *if*-clauses are used as restrictors on operators
      that are not monotone decreasing on their first
      argument, those *if*-clauses do not license NPIs; otherwise
      they do.

According to Partee, (ii) is correct.

Which would explain why this works. . .

. . . again, according to Partee.

(17) a. Sometimes, if a man feeds a dog some bones, it bites him.
b. *Sometimes, if a man feeds a dog any bones, it bites him.
[may be OK on some irrelevant readings]

And that let's us put "any" in the right place.

Because NPIs are licensed when they're in the scope of a restrictive operator.

(7) Mary didn't give any employee a raise because she was SOFT-HEARTED.

(Except, uh, it wasn't clear to me which operator was strong.)

So I guess that's for class discussion! Yay!

Next week, Champollion!