The *only* class

Kai von Fintel

http://kvf.me/cssl19-only

Last chance for meeting me at CreteLing this year

http://kvf.me/meet

Sign up for one of 10 meeting slots of 15 minutes each, tomorrow, Friday July 26, 12-1pm, and 4-5:30pm

Today: one of the toughest puzzles I know

Day Seven:
(Minimal) Sufficiency

You’re visiting Boston and are planning to host a nice dinner party in the apartment you’re renting. You want to serve some good cheese. You call one of us for advice about getting some good cheese.

The Sufficiency Modal Construction

(1) To get good cheese, you only have to go to the North End.

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Sufficiency

Going to the North End is a feasible method of getting good cheese.

Minimality

Going to the North End is no big deal.

(2) a. To get good cheese, you only have to go to the North End.

b. To get good cheese, all you have to do is go to the North End.

c. The only thing you have to do to get good cheese is go to the North End.

d. To get good cheese, {it's enough / it suffices} to go to the North End.

The *only have to* puzzle

It is not true that you have to go to the North End to get good cheese. There are other places that sell good cheese, although they might be a bit harder to get to. At the same time, apparently we are truthfully saying that going to the North End is the only thing you have to do. But how can it be that we don't have to do X but at the same time X is the only thing we have to do?

Straightforward reading also exists

(3) I only have to give one more lecture this week.

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This does have the straightforward reading: I do have to give one more lecture and that's all and it's not all that much.

Some contestants

- von Fintel, Kai & Sabine Iatridou. 2005/2007. Anatomy of a modal construction. *Linguistic Inquiry* 38(3). 445–483. doi:10.1162/ling.2007.38.3.445.
- Krasikova, Sveta & Ventsislav Zhechev. 2006. You only need a scalar *only*. *Proceedings of Sinn und Bedeutung* 10.
- Franke, Michael. 2006. Teleological necessity and *only*. *Proceedings of the ESSLI Student Session* 11.
- Alonso-Ovalle, Luis & Aron Hirsch. 2018. Keep *only* strong. *SALT* 28. 251–270. doi:10.3765/salt.v28i0.4439.

A related puzzle?

(4) Just the thought of food made me hungry.

(5) Just the thought of him sends shivers down my spine.

Coppock & Beaver 2014, Coppock & Lindahl 2015

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Compare:

(6) I only have to [think]$_F$ of food and I get hungry.

The SMC cross-linguistically

vF&I07 investigate the cross-linguistic picture of the SMC. Some core results:

1. The SMC is wide-spread.
2. It can be expressed with *only* or with *ne … que*-type constructions.
3. Not all modals participate. In particular, the modal needs to be able to scope under negation.
4. The SMC seems to activate readings that the modal otherwise doesn't have.
5. There are several ways of providing the goal.

English

(7) To get good cheese,

a. you only have to go to the North End.

b. #you only must go to the North End.

French

(8)

Si	*tu*	*veux*	*du*	*bon*	*fromage,*	*tu*
if	you	want	of.the	good	cheese	you
n'as		*qu'à*	*aller*	*au*	*North*	
NE-have		QUE-to	go	to.the	North	
End.						
End						

Greek

(9) *An thelis kalo tiri, dhen*
if want.2SG good cheese NEG

echis para na pas sto
have.2SG EXCEPT NA go.2SG to.the

North End.
North End

Tagalog

(10) *Kung gusto mong bumili ng*
if want you.COMP buy tasty

mainam na keso, kailangan mo
cheese need you only go

lang pumunta sa North End
to North End

Norwegian

(11) *Hvis du vil til Oslo, er det bare*
if you want to Oslo is it only

aa sette seg paa toget.
to sit REFL on the.train

'If you want to go to Oslo, you only have to get on a train.'

Several ways of connecting the goal

(12) a. To get good cheese, you only have to go to the North End.

b. If you want good cheese, you only have to go to the North End.

c. You only have to go to the North End and you will get good cheese.

How does the SMC work?

Scalar *only*?

This certainly feels like a scalar *only*. What's excluded is that you have to do anything **more than** going to the North End. And plausibly, we also hear that going to the North End is low on the scale (what scale?).

But what about the positive component? We learn that going to the North End will suffice to get good cheese. Not literally, but once we're there, it's routine to find the shops and buy the cheese.

Let's compute

$\text{only}_{C,\leq}(p)$

- presupposes that either p or some r in C such that $p < r$ is true
- asserts that all alternatives r in C such that $p < r$ are false

have-to$_G$ (p)

to achieve goal G, *p* is necessary

$\approx$ in all worlds where *G* is achieved, *p* is true

We'll write $\Box$ for *have-to* from now on.

(13) $\text{only}_{C,\leq}\ (\Box_{\text{cheese}}\ (\text{NE}_F))$

Let's assume that the relevant alternatives to the North End are Little Italy in New York City, North Beach in San Francisco, and of course Amsterdam.

(13) $\text{only}_{C,\leq}\ (\Box_{\text{cheese}}\ (\text{NE}_F))$

only then works with a *C* that contains the propositions denoted by sentences of the form "to get good cheese, you have to go to *x*", where *x* is one of the relevant alternatives to the North End.

The alternatives are ordered: having to go to the North End is lower on the scale than the others.

(13) $\text{only}_{C,\leq}\ (\Box_{\text{cheese}}\ (\text{NE}_F))$

asserts that none of the higher ranked alternatives (that in all good cheese worlds we go to *x*) are true

This seems adequate and true. In not all good cheese worlds do we go to a particular place, let alone one further away than the North End.

(13) $\text{only}_{C,\leq}\ (\Box_{\text{cheese}}\ (\text{NE}_F))$

presupposes that either in all good cheese worlds we go to the North End or some other *x* is such that in all good cheese worlds we go to *x*.

Wrong! None of the alternatives is true. No place is the only place to get good cheese.

Narrow scope for *only*?

(14) $\Box_{\text{cheese}}$ ($\text{only}_{C,\leq}$ (NE_F))

To get good cheese, you have to do the following: only go to the North End, that is: go to the North End (or further) and no further.

Wrong! It is *not* required to go to the North End and nowhere further. One *can* go to New York if one wants.

vF&I07: split scope

Decompose *only* into two separate syntactic components:

- a high negation
- a lower quantifier: something different or higher ranked than the prejacent

Modelled after a simple idea of how the *ne … que* construction works in French.

(15) not: $\Box_{\text{cheese}}\ (\exists_{C,\leq}\ x \neq (\text{NE}_F))$

asserts that in not all cheese worlds do we do something other than (or higher ranked than) going to the North End. This is fine, but we already got that earlier.

What about the presupposition? vF&I07 adopt a weak existential proposition that then embeds under $\Box$: in all cheese worlds, we do something.

The idea is that assertion and presupposition together deliver that in some cheese worlds we do nothing other than/more than going to the North End. If so, the North End must be a place where one gets good cheese.

Alonso-Ovalle & Hirsch

Argue convincingly (building on Ippolito 2008) that the weak existential presupposition is not adequate. They advocate a return to the strong presupposition.

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But then how is the puzzle solved?

AT LEAST ex machina

Alonso-Ovalle & Hirsch allow themselves the insertion of a covert AT LEAST operator:

(16) only_C ($\Box_{\text{cheese}}$ AT LEAST (NE_F))

AO&H's AT LEAST

$$\mathsf{ATLEAST}_{C,\leq} = \lambda p.\lambda w:$$

$$\forall p' \in C\,(p \leq p').\ \exists p'' \in C\,(p \leq p'' \,\&\, p''(w))$$

In its presupposition, AT LEAST is scalar: it presupposes that its prejacent (p) is lowest-ranked among alternatives. With respect to assertion, AT LEAST makes an existential claim: it says that some alternative ranked at least as high as p is true. In effect, AT LEAST takes its prejacent and delivers a disjunction with its prejacent as one disjunct: either p is true or some higher-ranked alternative is.

NB: With a mere preorder, this wouldn't quite be accurate.

Let us calculate

(17) only_C ($\Box_{\text{cheese}}$ AT LEAST (NE_F))

presupposes that the prejacent (or something stronger) is true: in all cheese worlds we go to the North End or somewhere further

(17) only_C ($\Box_{\text{cheese}}$ AT LEAST (NE_F))

asserts that nothing stronger than the prejacent is true: there is no *x* further than the North End such that in all cheese worlds we go to *x* or somewhere further

(17) only_C ($\Box_{\text{cheese}}$ AT LEAST (NE_F))

presupposition and assertion together mean that in some cheese worlds we go to the North End and no further. So, the North End is a minimal place to get cheese.

The obvious danger: Overgeneration

(18) Karen only introduced everyone of her friends AT LEAST to her janitor.

This should be able to mean something like (presupposition) she introduced everyone to the janitor or someone higher-ranked and (assertion) there is no *x* higher-ranked than the janitor such that she introduced everyone to *x* or someone higher-ranked than *x*

In other words: the minimal person she introduced friends to is the janitor but she presumably introduced some friends to other, higher-ranked people. **This is wrong**. The sentence means that the janitor is the only person she introduced everyone to.

vF&I07 on constraints

1. splitting only works when the modal can take scope under negation
2. the relation between the two parts may be subject to intervention effects (minimally those that come between negation and an NPI it licenses)

Manufacturing scalar *only*

Consider the possibility that scalar *only* is actually the composition of complement exclusion *only* + a scalar operator like AT LEAST.

only_{C_2} ($\text{ATLEAST}_{C_1,\leq}$ *p*)

C_1: alternatives to *p*

C_2: alternatives of the form "$\text{ATLEAST}_{C_1,\leq}$ *x*"

only$_{C_2}$ (ATLEAST$_{C_1,\leq}$ *p*)

presupposes that either *p* is true or something strictly higher on $C_1, \leq$

asserts that no *x* in the set of alternatives to *p* are such that either *x* is true or something strictly higher on $C_1, \leq$

- Consider then the possibility that in the SMC, the *only*-part is allowed to separate from AT LEAST and move up, obeying constraints that deliver the observed distribution of sufficiency readings.

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NB: this is completely unworked out.

Where we are

The Sufficiency Modal Construction seems to be an unsolved puzzle. More work is needed.

Just the thought

(19) Just the thought of food made me hungry.

Coppock & Beaver: Something that is no more than the thought of food made me hungry. Narrow scope within the predicate that the determiner applies to.

(19) Just the thought of food made me hungry.

Coppock & Lindahl: Take a circumstantial modal base, add the thought of food to it and nothing else/more, and voila: hunger.

Stay tuned …

If time remains

Ask Me Anything