

## Should is Multi-Modal

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### 1 Overview

- Kai is probably right about: moral dilemmas
- Kai is probably not right about: the Ross Paradox, Prof. Procrastinate
- The *logic of obligation* should treat obligation operators as modals
- The *semantics of natural language* should not treat *should* as a simple necessity modal. Rather it should treat it as *multi-modal*.

**The Classical Story.** Core ideas (Kratzer 1977, 1981, 1991b,a):

- Following Kripke and Lewis, modals quantify over possibilities.
- The domain is determined by two conversational backgrounds.
  - The **modal base**  $f$  supplies the body of relevant information
  - The **ordering source**  $g$  supplies a criterion for *ranking* possibilities
- Modals are GQ's: 2-place Q's with restriction and scope arguments
- Relative to  $f$  and  $g$  and world  $w$ , the domain of quantification is given by the  $\preceq_g$ -minimal possibilities compatible with  $g$ :  $\min(f(w), \preceq_g(w))$
- Evaluating a necessity modal WRT  $f, g, w \approx \forall$  over  $\min(f(w), \preceq_g(w))$ .
- Indicative antecedents conventionally restrict modal domains.

### 2 The Ross Paradox

A paradox seemingly about *weakening*, occurring with disjunction, NPIs...

- (1) a. (You should) post the letter!  $\nRightarrow$   
b. (You should) post or burn the letter!
- (2) a. (You should) pick the jack!  $\nRightarrow$   
b. (You should) pick any card!

- Problem: whenever  $\varphi \models \psi: \forall x\varphi \models \forall x\psi$ .
- Diagnosis: weakening prejacent seems to make *more things permitted*.

<sup>1</sup> Comments on Kai von Fintel's "The best we can (expect to) get? Challenges to the classic semantics for deontic modals"; Invited Session on Deontic Modals, APA Central Division Meeting, 17 February, 2012

**NON-CLASSICAL RESPONSE.** A common one: treat *permission* (in some sense) as *downward monotone* (Barker 2010; Cariani to appear).<sup>2</sup> That is very much in line with the Diagnosis. But this is problematic. Here's a model where (3) and (4) seem true:

- (3) You should have a beer
- (4) Having a *light beer* is worse than Armageddon

regular beer > no beer >



> light beer

These non-classical accounts predict either that (i) no such model is possible, or (ii) such a model is possible, but (3) is false there. (Barker's proposal actually runs into a *much worse* version of the problem: If  $q \models p$ ,  $\text{may}(p) \models \text{may}(q)$ .)

- This consequence is unsurprising. The permission inferences in the Ross Paradox are *free choice* inferences. Free choice inferences are generated by *alternative-introducing syntax*.
- In other words, treating the Ross Paradox as arising from the logical strength of the prejacent cuts things much too coarsely.

**VON FINTEL'S RESPONSE.** Treat these as free choice entailments or implicatures.

- In this paper he suggests implicatures.
- ...But in von Fintel & Gillies (2008), there's a curious quote: "Why a disjunction of two existential modal claims entails each of its disjuncts is a bit of a puzzle, but that it is an entailment is clear."

<sup>2</sup> Most responses in deontic and imperative logic just involve coming up with semantics for *should* on which it is not closed under entailment. That's not good enough—it fails to explain the source of the puzzle: the permissions of disjunctive *should*'s.

I happen to think, with [Cariani](#), they are entailments.

**THE DATA.** von Fintel cites cases where CANCELTION of the inference is ok:

- (5) A: Should John wear a tie or scarf?  
B: Yeah, actually, he should wear a tie

But there are parallel cases where cancelation seems bad:

- (6) A: Should John wear a tie or scarf?  
#B: Yeah, although it's not ok to wear a scarf

There are also comparable cases where cancelation seems ok, but an entailment seems present (cf. his 2008! Of course, maybe he has changed his mind about disjunctions of epistemic possibility modals.)

- (7) A: Might it be raining or snowing?  
B: Yeah, actually, it has to be raining (given the temperature)  
But: #B: Yeah, although it can't be snowing (given the temperature)

He also cites the REINFORCEABILITY of the inference:

- (8) John ought to wear a tie or a scarf, but the choice is up to him.

But compare:

- (9) It might rain or it might snow, I don't know which.  
(10) It might rain or it might snow. I guess the temperature will decide which.

There is also the fact that the entailment seems to disappear under EMBEDDING.

- (11) I doubt you have to wear a tie or a scarf  
(CAN'T mean you doubt a scarf is ok, but think a tie is required (?))

But again consider:

- (12) I doubt it might be raining or snowing  
(CAN'T mean you doubt it might be snowing, but think it might be raining)

Conjecture: this is because there is a more determinate way of expressing your state of mind—one that *doesn't leave it open* which entailment you reject. Cf.

- (13) I doubt Bob went to Paris and London  
(CAN'T, w/o stress, mean you doubt Bob went to P, but not that he went to L)  
(14) #Bob didn't go to Paris and London. He went to Paris. (bad unless stressed)  
(15) Bob didn't go to Paris AND London. He went to PARIS.

Notice the mention of stress; all of the readings that I said you "CAN'T" get become available if we *stress the connectives*. Cf. VP stress under negation:

- (16) I didn't *quit* smoking. In fact, I never smoked at all!

This makes available a reading for the negated sentence which is not normally available. (Note: I am not suggesting that the negation in the doubt cases is metalinguistic.)

Finally, von Fintel claims the following conjunction is "insane."

- (17) #Lynn doesn't have to wear a tie or a scarf, but she has to wear a tie.

So, though, is:

- (18) #Lynn should wear a tie or scarf, but she may not wear a scarf.

The data are... difficult.

**UPSHOT?** Does going in for an entailment account mean a non-classical semantics for deontic modals? Yes and no (but mostly no).

- I think the *logic of obligation* is best understood using necessity modals.
- The semantics of *natural language deontic modals scoping over alternative-introducing syntax* is not.
- See [Bar-Hillel \(1966\)](#) if (i) you are unclear about the distinction, (ii) wish to feel very bad about (i).

*Moral.* We need to be clear about what we're doing in the metalanguage.

- Consider a metalanguage representation  $O(\phi \vee \psi)$ .
- Is this meant to give the LF of a natural language sentence like *you should post or burn the letter*?
  - Suppose yes. Then, if the permissions are entailments of the natural language sentence,  $O$  is not a necessity modal.
  - Suppose no. Then  $O$  may be a necessity modal. The LF of the natural language sentence could be rendered as  $\nabla(\phi \vee \psi) := O(\phi \vee \psi) \wedge P\phi \wedge P\psi$  (cf. [Aloni 2007](#))

*Choices and alternatives.* I follow [Åqvist \(1964\)](#) (cf. [Groenendijk & Roelofsen 2009](#)) in distinguishing:

- Choice-offering readings of  $\phi \vee \psi$  (which present both  $\phi$  and  $\psi$  as alternatives)
- Alternative-presenting readings (not sure why he calls them that) of  $\phi \vee \psi$  (which present  $\phi \vee \psi$  and  $\neg(\phi \vee \psi)$  as alternatives)

Here is the best assessment of the data, in my view:

- *Natural language disjunctions* are semantically ambiguous between choice-offering and alternative-presenting readings. The correct reading for a disjunction at a context  $c$  is semantically represented, i.e., in the assignment of a logical form to that disjunction at  $c$ .
- Choice-offering readings are hard to get under negation. There should be some explanation for that. I don't know what it would be.

This view is really (and, it seems, appropriately) flexible. (OTOH it's not very predictive.)

### 3 Professor Procrastinate

Here is a model that seems to invalidate the following inference:

(19) Procrastinate should accept and write  $\not\Rightarrow$

(20) Procrastinate should accept

$$\text{accept} \wedge \text{write} > \neg \text{accept} \wedge \neg \text{write} > \text{accept} \wedge \neg \text{write}$$

That (19) seems true in this model and (20) does not motivates [Cariani](#) to define a semantics on which  $\text{should}(p)$  entails that every way realizing  $p$  surpass some benchmark.

**VON FINTEL.** There is a context change. We initially reject (20) on the assumption it will lead to  $\text{accept} \wedge \neg \text{write}$ . This assumption is dropped. Then (19) is acceptable.

- I agree this case is unpersuasive, but I reject von Fintel's explanation.
- For one, my attitude toward the likelihood of  $\text{accept} \rightarrow \text{write}$  is constant throughout: possible but unlikely. The range of options I take as available to Procrastinate is constant too. In what, then, does the context change consist?
- A better explanation is pragmatic. (20) is true, but unacceptable; saying someone should do something *ceteris paribus* leads them to plan on it. And that will likely lead to an undesirable outcome. See the last section of my [\(to appear\)](#).

**PARADOX WITHOUT CONTEXT CHANGE.** To support this, here is an example from [Castañeda \(1958\)](#):

- (21)
- a. You should see to it that: if you read the book you come see me
  - b. You should read the book  $\not\Rightarrow$
  - c. You should come see me

“[A] teacher who [issues the premises] has not thereby ordered or told his student to come to see him, *regardless of the student's reading of the book*” ([Castañeda 1958](#): 43-44).

Notice though that if *should* is a normal modal operator, it should validate:

$$\mathbf{K} : \text{should}(p \rightarrow q) \rightarrow (\text{should}(p) \rightarrow \text{should}(q))$$

So here we have an argument against *should* being treated as a modal operator.

- This case is not amenable to von Fintel's response. But it is amenable to mine.

### 4 Information Sensitivity

**DESIDERATA.** Explain the consistency (and the truth) of:

(22) If they're in A, we should block A

(23) If they're in B, we should block B

(24) We should block neither

**VON FINTEL'S ASSESSMENT.**

- To predict (24): “It is not obvious that that is a better world than one where nine miners survive because we choose not to run the risk...”  
It is not hard to (i) give the ordering source a plausible characterization that (ii) predicts (24) true.

I disagree: it **is** obvious that the best world is one where all are saved. It follows that *should* cannot quantify over the best possibilities. What then?

- Solution: *should* quantifies over possibilities that are good enough relative to (i) the Good, (ii) constraints on how you pursue the Good.  
+ Tracks w/ semantic work which suggests *weak* necessity modals are sensitive to *two* ordering sources: primary and secondary ([von Fintel & Iatridou 2008](#)).  
+ Since *must* is not doubly sensitive, we predict the following asymmetry:

(25)

- a: If they're in A, we should block A. If B, we should block B.
- b: But what do you think we should do?  
a: Block neither.

(26)

- a: If they're in A, we must block A. If B, we must block B.
- b: But what do you think we must do?  
a: #/?Block neither.

**MY VIEW.** The ordering for *should* is information sensitive (see [Charlow to appear](#)).

- Deontic ordering sources cull the value-relevant considerations—the things that count for an action (if it realizes it) or against an action (if it doesn't). In other words, they contain the *reasons*.

- But following Hawthorne & Stanley (2008) we should treat a fact as a reason (e.g., that blocking A saves everyone, supposing the miners are in A) only when that fact is *known*.
- Goals, in other words, need to be knowably actionable—we can intelligently act on them—to make a difference in the ranking.
- From the standpoint of practical reasoning, goals that are not knowably actionable are *undesirable*.

The proposition *we save everyone* is discounted in ranking worlds—worlds where everyone is saved (via lucky guess) are discounted from the standpoint of someone reasoning responsibly. Pretty sketchy, but still clear how this secures the truth of (24): worlds where we save nine are ranked above worlds where we guess correctly.

*Substantive and procedural ends.* A substantive end is saving everyone. A procedural end is a constraint on how we deliberate.

- Weak necessity modals tend to be sensitive to both kinds of end, with procedural ends functioning to *select* substantive ends for reasoning
- Strong necessity modals are sensitive simply to goals: no selection mechanism.

This suffices to explain the weak/strong asymmetry. N.B. the asymmetry isn't very clean; the following have the same truth conditions (although distinct LFs).

(27) We should block neither

(28) (To act as we should) we must block neither

If (28) is a reading for *we must block neither*, it is easy to predict we mustn't block either.

*Indicative antecedents shift the information.* Specifically they shift the information against which alternatives are evaluated. Kai denies this:

“We might think [the conditionals] involve an ‘objective’ kind of obligation where we do not take into consideration what we know but just... the facts.”

This story is incomplete. There is a reading on which entertaining the antecedent means taking up the standpoint of an informationally rich state—one that settles the miners' location. Call this the *Ramsey Reading*; cf. again my (to appear).

- On the RR the conditionals still come out true. The ordering source for that state contains *we save all ten miners*; from this standpoint it's ok to treat this as a reason for blocking A, since it's known that is a way to save all ten.
- The Ramsey Reading behaves like readings of conditionals whose analysis has been thought to require *iterated modalities*—in particular, *anankastics*, where evaluating the antecedent means modifying the ordering source to evaluate the consequent (von Fintel & Iatridou 2005).

- Ignoring it means missing this potentially fruitful line of inquiry. Indeed, I think the best explanation of anankastics is in terms of a Ramsey Reading.

I'm not sure why Kai thinks this would be “fatal to the classic semantics”. It does mean denying Kratzer's semantics for conditionals, but (i) that doesn't have much to do with the semantics for deontic modals, (ii) there are ways of understanding Ramsey Readings in the spirit of Kratzer's notion that antecedents restrict some operator or other (see, e.g., Charlow 2010; Isaacs & Rawlins 2008).

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