I Believe I Can \( \varphi \)

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1 Aim

Our subject is ability modals: modals as used in sentences like

(1) John (can/is able to) go swimming this evening.
(2) Mary cannot eat another bite of this rotten meal.
(3) Louise is able to pick Roger up from work today.

sentences which can be paraphrased "S is able to/has the ability to \( \varphi \)."

We raise problems for extant approaches to 'can' and make a new proposal.

2 The Orthodox Approach

Treat 'can' as an existential quantifier whose domain of quantification is fixed by a modal base \( h \) and ordering source \( g \):

\[
\text{Can}(\varphi(S)) = 1 \iff \exists w' \in \text{BEST}_{h,g,w} : \varphi(S) = 1.
\]

The standard proposal: modal base is \textit{circumstantial}; ordering source 'holds fixed certain intrinsic features of the agent in question' (Vetter, 2013).

This account is \textbf{much too weak}: Jo is playing darts and needs a bullseye. Jo’s young daughter Susie exclaims:

(5) I can hit the bullseye on this throw.

But Susie can’t hit a bullseye: she can barely hit the dartboard!

But (5) is predicted to be true, since it is \textit{compatible} with Susie’s intrinsic properties (and local circumstances) that she hit a bullseye.

A \textbf{natural reply:} add facts about \textit{normality} into the ordering source.

\textbf{Response:} (a) Hitting the bullseye is unlikely but not obviously \textit{abnormal}. (b) But even granting that it is abnormal, this approach gets other cases wrong. Susie, a competent English speaker, is able to utter the sentence

(6) The world is everything that is the case.

But this would be very abnormal, and so this response predicts

(7) Susie can utter (6) now.

is false.

One way to fix intuitions here is to imagine that Susie does go for the shot, and that the dart falls far short of the dartboard.

So that only normal worlds count as best. Cf. Portner (2009), who makes ‘can’ a \textit{good possibility} modal; that proposal runs into the same problem.

Since she is a non-philosopher and child; at least as abnormal as hitting the bullseye!
3 The Universal Account and The Dual

A different response: abilitative ‘can’ has universal quantificational force.

This approach can’t account for the dual of can. A brief digression on the dual:

- Some have claimed that ‘can’ has no dual. But, as with any modal, we can form the dual simply by stacking negations above and below ‘can’.
- ‘Cannot not/but’ realize this structure, and thus are duals of ‘can’.
- Why has this been overlooked? Confusion may have arisen from the idea that if ‘can’ had a dual, it would be a universal ability modal.
- Call the class that includes ‘can’ and its dual practical modals. This delineation is important from typological and philosophical p.o.v.s.

End digression. The problem for the universal account is it predicts that ‘cannot but’ has existential force. This is far too weak. Consider:

(8) I cannot but eat another cookie now.

(8) expresses a kind of compulsion: no matter how things turn out, I will end up eating another cookie. This isn’t captured if ‘cannot but’ is existential.

4 The Conditional Analysis

A more promising approach:

(9) Conditional Analysis: \[ [S \text{ can } \phi]_{c,w} = 1 \text{ iff } [\phi(S)]_{c.f_c(w, \text{try}(S, \phi))} = 1. \]

\( f_c(w, \psi) \) is the contextually given selection function from Stalnaker (1968).

‘try(S, \phi)’ denotes \([S \text{ tries to do } \phi]_c\).

The conditional analysis (‘CA’) is on the right track, but has serious problems:

A. CA predicts ‘can’ is non-monotonic. This is counterintuitive:

(10) John can swim the butterfly at MIT tonight.

seems to entail

(11) John can swim at MIT tonight.

And it makes the CA incompatible with the Fauconnier-Ladusaw analysis of NPIs, since NPIs are licensed under negated ability modals:

(12) John can’t find any dance partners.

One might doubt that ‘can’ is up monotone; it isn’t obvious that

(13) ‘I can ride a bike with training wheels.’ \( \not\equiv \) ‘I can ride a bike.’
But we suspect this can be explained pragmatically; (14) looks true:

(14) I can ride a bike with training wheels, so technically I can ride a bike.

B. The CA also delivers the wrong results for ‘cannot but’, which is predicted to mean that if S tries not to ϕ, she does ϕ. This is too weak: rather, the dual means that S will ϕ no matter what S does.

C. CA has counterexamples which show it is both too weak and too strong:

- Too weak: Ann asks John to dinner; he says

(15) I can’t go, I’m going to a movie.

The CA predicts (15) is false, since John goes to dinner if he tries.

- Too strong: Jones is a skilled golfer and has an easy shot to make:

(16) Jones can make this shot.

is true, even if he misses because (say) a gust of wind comes along.

Given how \( f_c \) is defined, the closest world where Jones tries to make the shot is the actual world. Since he misses, CA predicts (16) is false.

- Too strong: S can do something, but not if she tries to do it:

(17) David can breathe normally for the next five minutes.

is true, but if David tried to breathe normally, he wouldn’t.

5 Our Proposal

We think that CA is on the right track. We preserve its insights but avoid its problems by adding quantification over a contextually supplied set of actions.

Our Proposal: \( \left[ \text{S can } \varphi \right] \ac_S \wedge w = 1 \text{ iff } \exists A \in \Ac_S: \left[ \left[ \varphi(S) \right] \ac(A, \text{try}(S, A)) \right] = 1. \)

i.e. “S can ϕ” is true just in case there is some contextually salient action A such that the closest world where S tries to do A is a world where ϕ is true.

At a first pass, we might assume that when an ability modal claim has the form “S can ϕ”, then \( \Ac_S = \{ \varphi, \bar{\varphi} \}. \) If we make this assumption in evaluating

(18) Louis can go for a swim in the MIT pool tonight.

then if Louis would go swimming if he tried, we predict (18) is true.

6 Problems Avoided

Flexibility in how \( \Ac_S \) is set allows us to avoid the problems for CA.

C. Cases: (i) where CA is too weak: Recall John, who says

(19) I’m not able to go [to dinner]; I’m going to a movie.

E.g.: CA predicts that if Sam will hit the top of the dartboard if she aims for the bottom, and vice versa (and these exhaust possibilities), ‘Sam cannot but hit the top’ and ‘Sam cannot but hit the bottom’ are both predicted to be true. Thanks to R. Stalnaker.

From Thomason (2005). John plans to go to a movie, but has no special commitment to do so. That the modal is abilitative, not deontic, can be seen from retraction data.

From Austin (1961). Judgments are clearest here with imperfective aspect.

See Vranas (2010). A possible response to all these cases: distinguish the selection function for abilities from the Stalnaker selection function. Problem: not very predictive. We think we can do better.

\( \Ac_S \) is a set of actions that are practically available to an agent S in a context c, and \( f_c \) the selection function as above.

See Chisholm (1964) for a similar suggestion.

But, crucially, \( \Ac_S \) won’t always be set this way.

Cases addressed in reverse order of presentation.
Since John has decided against this action.

If John tries to go to dinner with Ann, he succeeds; but this doesn’t suffice for ‘John can meet Ann for dinner tonight’ to be true. That follows only if *meeting Ann for dinner* is practically available to John.

In this case, we deny this condition is met; thus (19) has a true reading.

To test this response, we should ask whether insisting on the availability of *meeting Ann for dinner* can modulate intuitions. Suppose Ann replies:

(20) Of course you *can* meet me—just skip the movie!

(20) is true since (20) forces *meeting Ann for dinner* into $A_{c,John}$.

(ii) Cases where CA is too strong: Recall golfer Jones:

(21) Jones can make this shot.

is true. Suppose that if Jones had aimed to the right of the pin, he would have made the shot. Let *aiming to the right* be in $A_{c,Jones}$.

A worry about over-generation: Bob is playing chess against Kasparov. If $A_{c,Bob}$ includes every possible course of play, we wrongly predict

(22) Bob can beat Kasparov in this match.

Provided the relevant contextual parameters are held fixed.

Known by S? By the speakers? Hypothesis: this constraint is derivable from general pragmatic considerations.

is true. So we need to place default constraints on what goes into $A_{c,S}$: an action is in $A_{c,S}$ only if it is known to be a way for her to do $\varphi$.

Finally, there is something relevant s.t. if David tries to do that (e.g. working on a problem set), he breathes normally; so we predict a true reading for

(23) David can breathe normally for the next five minutes.

B. We make the right prediction about the dual of ‘can’:

Dual: $[S \text{ cannot but } \varphi]_{c,w} = 1$ iff $\forall A \epsilon A_{c,S} : [\varphi(S)]_{c,f,(w,\text{try}(S,A))} = 1$.

I.e. no matter what S tries to do (among the actions we are treating as practically available in c), S does $\varphi$.

A. Finally, our account predicts that ‘can’ is *upward monotone*.

7 Conclusion

We have argued the orthodox, universal, and conditional accounts don’t work, but that our variation on the CA does.

We preserve the standard approach on which ‘can’ is an existential quantifier. The quantificational structure differs from the orthodox framework; a similar approach has been pursued for a wide variety of other modals.

Open questions: graded ability ascriptions; what kind of connection we need between S and $\varphi$; actuality inferences; upshots for free will debate.
References


