

Anankastic Conditionals and Related Matters

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Anankastic Conditionals

Georg Henrik von Wright's example:

(1) If the house is to be made habitable, it ought to be heated.

The house being heated is a necessary condition for it being habitable.

The Harlem Sentence

Kjell Johan Sæbø's example:

(2) If you want to go to Harlem, you have to take the A train.

A Minimal Pair (from Hare)

- (3) If you want sugar in your soup, you should ask the waiter.
- (4) If you want sugar in your soup, you should see a doctor.

The Plan

- ▶ The Obvious Theory
- ▶ A Kratzerian Sidetrack
- ▶ The Consensus and Its Squabbles
- ▶ The Pragmatics of Advice

The Obvious Theory

- ▶ The conditional antecedent takes us to worlds in which you want to go to Harlem.
- ▶ The consequent claims that in those worlds you have to take the A train to achieve your goals.
- ▶ In possible worlds terms: all the worlds in which you achieve your goals are worlds where you take the A train.
- ▶ The details of course matter: we only look at worlds where the facts (circumstances) on the ground (the public transportation system, geography, etc.) are the same as in the actual world.
- ▶ So, the *if*-clause takes us to worlds where your goals include going to Harlem. The consequent says of such worlds that to achieve your goals you have to take the A train.

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- ▶ The details of course matter: we only look at worlds where the facts (circumstances) on the ground (the public transportation system, geography, etc.) are the same as in the actual world.
- ▶ So, the *if*-clause takes us to worlds where your goals include going to Harlem. The consequent says of such worlds that to achieve your goals you have to take the A train.
- ▶ What's the big deal?

A Kratzerian Sidetrack

Kratzer taught us:

- ▶ a modal embedded in a conditional consequent is often the only real operator around
- ▶ the *if*-clause merely serves to restrict the modal

This is **not** what the Obvious Theory of Anankastic Conditionals looks like.

Modals – First Approximation

- ▶ The situation: John has obstructed his neighbor's driveway. Cambridge has a law against that. There is a \$25 penalty for first offenders.

(5) *John has to pay a \$25 fine.*

(6) LF: have to (John pay a \$25 fine)

- ▶ *have to ϕ* is true in w iff ϕ is true in all w' accessible from w .
- ▶ What accessibility relation?
 - ▶ deontic: what the law requires
 - ▶ but the law requires that you not obstruct your neighbor's driveway and if you don't, you don't have to pay a fine
 - ▶ so we wrongly predict our sentence to be false

Modals – Kratzer

- ▶ modal statements are doubly relative
 - ▶ modal base: the set of accessible worlds
 - ▶ ordering: a ranking of the worlds in the modal base
- ▶ both factors can be modeled by **conversational backgrounds**
 - ▶ functions from worlds to sets of propositions
 - ▶ modal base: the set of worlds where the relevant propositions are all true
 - ▶ ordering: rank higher worlds where more of the relevant propositions are true

A Technical Frame

For any world w , conversational backgrounds f , g , and proposition q :

$\llbracket \text{have to} \rrbracket(w)(f)(g)(q) = 1$ iff $\forall w' \in \max_{g(w)}(\cap f(w)) : q(w') = 1$.

John has to pay a \$25 fine

- ▶ modal base: a set of relevant circumstances
 - ▶ the fact that John obstructed his neighbor's driveway
- ▶ ordering: a set of propositions that the law would like to be true
 - ▶ nobody obstructs their neighbor's driveways
 - ▶ if anyone obstructs his neighbor's driveway, they pay a \$25 fine.

Advice

- (7) A: *I'm going to be in Harvard Square.*
B: *You'll have to try Burdick's hot chocolate!*

- ▶ modal base
 - ▶ a set of relevant circumstances, including the presence of Burdick's cafe in Harvard Square
- ▶ ordering source
 - ▶ a set of desires, preferences

Conditionals – Kratzer

- ▶ *if*-clauses restrict the modal base (via intersection)
 - (8) If John obstructed his neighbor's driveway, he has to pay a \$25 fine.
- ▶ modal base: a set of relevant circumstances
 - ▶ plus the “hypothetical” fact that John obstructed his neighbor's driveway
- ▶ ordering: a set of propositions that the law would like to be true
 - ▶ nobody obstructs their neighbor's driveways
 - ▶ if anyone obstructs his neighbor's driveway, they pay a \$25 fine.

Another Technical Frame

- ▶ *if p , have to q*
- ▶ $\forall w' \in \max_{g(w)}(\cap(f(w) \cup p)) : q(w') = 1.$

What the Harlem Sentence Should Mean

(9) If you want to go to Harlem, you have to take the A train.

- ▶ modal base: a set of relevant circumstances
 - ▶ plus the “hypothetical” fact that you want to go to Harlem
- ▶ ordering source
 - ▶ the set of your actual desires, preferences
 - ▶ Crucially, the “hypothetical” desire to go to Harlem is not necessarily part of your desires in the evaluation world

The Hoboken Problem

- ▶ You actually want to go to Hoboken, but I don't know that.
- ▶ I say the Sentence and (making certain assumptions about the geography of Metro New York) say the truth.
- ▶ But the Sentence is predicted to be false.
 - ▶ The best worlds where your desires (including your desire to go to Hoboken) are satisfied are not worlds where you take the A train (rather you take the PATH train).

- ▶ *if*-clauses can also restrict ordering sources
- ▶ in the Sentence, the *if*-clause adds a “hypothetical” desire to the ordering source
- ▶ BUT: it can't be the desire to **want to** go to Harlem, but must be the desire to go to Harlem
 - ▶ so, we must ignore the *want* in the *if*-clause (or treat it as a non-compositional signal that we are dealing with an ordering source conditional)

The Hoboken Problem again

- ▶ the Hoboken Problem persists!
- ▶ the ordering source now includes both your actual desire to go to Hoboken and your hypothetical desire to go to Harlem
- ▶ assuming that the two desires are factually incompatible
 - ▶ it would neither be true that you have to take the A train nor that you have to take the PATH train
- ▶ so, Sæbø incorrectly predicts the Harlem Sentence to be false
- ▶ *If you want to go to Harlem, you have to take the A train.*

The Mayoral Candidate

- ▶ Kratzer's example of an unhappy person
 - ▶ You want to become mayor.
 - ▶ You want to not go to the pub regularly.
 - ▶ You will become mayor only if you go to the pub regularly.
- ▶ Advice: *You could go to the pub regularly.*
- ▶ Another piece of advice:

(10) If you want to become mayor, you have to go to the pub regularly.

Diagnosis

- ▶ Instead of just adding the Harlem goal to the Hoboken goal,
- ▶ we need to knock out the Hoboken goal and **replace** it with the Harlem goal.
- ▶ This is unusual because ordering sources are meant to be able to cope with incompatibilities just fine.

Two Parts of the Consensus

1. **Nested Structure.** The *if*-clause does not restrict the advice modal. Instead, it constitutes a higher construction, in which the advice modal is embedded.
2. **Designated Goals.** The goal made salient by the *if*-clause serves to modulate the meaning of the advice modal.

There are different implementations and there are disagreements, as we'll see.

Return to the Obvious Theory?

- ▶ Anankastic conditionals do not seem to be amenable to the usual Kratzerian one-modal analysis of conditionals
- ▶ So, maybe we should return to the Obvious Theory, which involved a modal claim embedded in another modal-conditional construction set up by the *if*-clause

Two Layers of Modality

- ▶ the *if*-clause constitutes a higher structure, in whose “consequent” the advice modal claim is embedded
- ▶ modal₁ (if you want to go to Harlem)
[modal₂ (you take the A train)]

Examples of Two Layers of Modality

- (11) If Caspar vacuums on Saturday, then Chris has to cook dinner on Sunday. [Sarah Moss]
- ▶ Reading A: direct statement of the apartment rules (one layer of modality)
 - ▶ Reading B: containing a covert epistemic modal, i.e. as saying that if it is given that Caspar vacuums on Saturday, then it follows from the evidence available to the women that Chris is the one who must cook dinner on Sunday according to the apartment rules.
- (12) If Brittany spear drinks Coke in public, (it must be that) she has to drink Coke in public. [Zsófia Zvolenszky]

What Is the Higher Conditional Like?

- ▶ von Stechow, Krasikova, & Penka: The *if*-clause is a speech act conditional (of sorts).
- ▶ von Fintel & Iatridou: The *if*-clause restricts a higher covert (epistemic?) modal

Against the Speech Act Conditional Analysis

The *if*-clause behaves like a true conditional:

- (13) You only have to take the A train if you want to go to Harlem.
- (14) There is only beer in the fridge if you want it.

So, Are We Done?

Not yet:

- ▶ The Hoboken Problem arises for the Obvious Theory as well.
- ▶ Nothing prevents all of the worlds in the modal base of the higher modal to be worlds where you want to go to Hoboken.
- ▶ Adding to that the additional goal that you want to go to Harlem will not make it true that in all the best goal-achieving worlds you take the A train.

That is: the Obvious Theory also fails to get rid of the Hoboken goal.

Hardnosed Escape?

Does the Hoboken Problem really arise?

- ▶ In worlds where you (really!) want to go to Harlem, can you (really!) want to go to Hoboken as well, knowing that the two goals are incompatible?
- ▶ Perhaps, one could say that if you have two incompatible goals, you don't really want either of them.
- ▶ You actually don't know what you want in such a situation.
- ▶ So, perhaps when we are taken to worlds where you (really!) want to go to Harlem, those cannot be worlds where you also want to go to Hoboken.
- ▶ And so, the Hoboken Problem might not arise in the Obvious Theory.

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- ▶ You actually don't know what you want in such a situation.
- ▶ So, perhaps when we are taken to worlds where you (really!) want to go to Harlem, those cannot be worlds where you also want to go to Hoboken.
- ▶ And so, the Hoboken Problem might not arise in the Obvious Theory.
- ▶ But, there is another problem that definitely arises ...

Ruud van Nistelrooy

- ▶ Janneke Huitink's scenario

- ▶ both the A train and the C train go to Harlem, the C train will have Ruud van Nistelrooy on it, you want to meet Ruud van Nistelrooy.

(15) If you want to go to Harlem, you have to take the C train (because Ruud van Nistelrooy is going to be on that train).

- ▶ predicted to be true, but it doesn't seem to be true
- ▶ secondary goals (like kissing Ruud) should not matter

The Consensus

- ▶ Only the goal introduced by the *if*-clause matters
- ▶ All other goals are ignored for computing what has to happen
- ▶ “designated goal” (von Fintel & Iatridou)
- ▶ “salient goal” (Huitink)

Implementations: von Fintel & Iatridou

- ▶ The *if*-clause restricts a higher covert (epistemic?) modal
- ▶ It makes salient a particular goal,
- ▶ which then fills the “designated goal” argument of the advice modal
- ▶ The construction is elliptical:
- ▶ If you want to go to Harlem, then (to go to Harlem) you have to take the A train
- ▶ *ought*-advice takes into account secondary goals

Implementations: von Stechow, Krasikova, & Penka

- ▶ The *if*-clause is a speech act conditional (of sorts)
- ▶ It makes salient a particular goal,
- ▶ which then becomes the restriction of the modal base of the counterfactual (!) advice modal
- ▶ The construction is elliptical:
- ▶ If you want to go to Harlem, then (to go to Harlem) you have to take the A train
- ▶ The advice clause means something like “If you were to succeed in going to Harlem, you would have taken the A train”

Against the Counterfactual Analysis

- ▶ The advice modal doesn't track counterfactual intuitions
- ▶ Suppose that there are two obvious ways of getting to Harlem from where you are: the A train and a taxi
- ▶ I know that you are a cheapskate, so if you went to Harlem it would be by train
- ▶ Nevertheless, it is false that you have to take the A train
- ▶ A similar thought experiment could be done with the Ruud van Nistelrooy scenario

Weak and Strong Advice

- ▶ “For instance *If you want to get to London by noon, then you ought to go by train* picks out the best means without excluding the possibility of others, whereas *If you want to get to London by noon then you have to (must, will be obliged to etc.) go by train* implies that no other means exists.”
- ▶ Aaron Sloman: 1970, “*Ought and Better*”, *Mind*, 79(315): 385–394.

Evidence for Two Strengths

- ▶ *You ought to take the train, but you don't have to.*

Triple Relativity

- ▶ Advice Modals take three arguments:
 - ▶ modal base
 - ▶ ordering source – Level 1: designated goal(s)
 - ▶ ordering source – Level 2: subsidiary goals/desires
- ▶ the advice modals differ as to whether they care about subsidiary goals

Designated Goals

- ▶ the *to*-infinitive serves as the “designated goal” argument of the advice modal
- ▶ semantics for the modals:
 - ▶ *to p, ought to/should q* is true relative to a modal base and an ordering source iff all the best (according to the ordering source) worlds in the modal base where *p* is achieved are *q*-worlds
 - ▶ *to p, must/have to q* is true relative to a modal base and an ordering source iff all the worlds in the modal base where *p* is achieved are *q*-worlds

The Sentence Again

- ▶ *If you want to go to Harlem, you have to take the A train.*
- ▶ *If you want to go to Harlem, you have to take the A train (to go to Harlem).*
- ▶ The *if*-clause makes salient the goal of going to Harlem.
- ▶ That goal then fills the goal argument of the advice modal.

Ruud van Nistelrooy

- ▶ Janneke Huitink's scenario
 - ▶ both the A train and the C train go to Harlem, the C train will have Ruud van Nistelrooy on it, you want to meet Ruud van Nistelrooy.
- ▶ *To go to Harlem, you have to take the C train (because Ruud van Nistelrooy is going to be on that train).*
- ▶ We now predict this to be false, and we predict the ought-version to be true:
 - ▶ *To go to Harlem, you ought to take the C train (because Ruud van Nistelrooy is going to be on that train).*

Weak Antecedents

Brian Weatherson's examples:

- (16) If you want to go to Harlem, you have to take the A train.
- (17) If you'd like to go to Harlem, you have to take the A train.
- (18) If you'd care to go to Harlem, you have to take the A train.
- (19) If you're inclined to go to Harlem, you have to take the A train.
- (20) If you're thinking about going to Harlem, you have to take the A train.
- (21) If you think you might (want to) go to Harlem, you have to take the A train.

Re the latter sentences: it is just false that you have to take the A train to achieve your salient goal(s).

Success!

- ▶ Our analysis
 - ▶ is “compositional”
 - ▶ solves all the puzzle cases
 - ▶ the Hoboken problem
 - ▶ Hare’s pair
 - ▶ Kratzer’s mayor case
 - ▶ Ruud van Nistelrooy
- ▶ Ingredients
 - ▶ two layers of modality
 - ▶ designated goal argument of advice modals

The Semantics-Pragmatics Distinction

It is important to distinguish semantics from pragmatics.

Advice modals

- ▶ semantically: make a claim about something that is true in all/some of those worlds in which your goals are satisfied
- ▶ pragmatically: give advice as to how best to achieve your goals

Complex Goals

Roger Schwarzschild's sentence:

(22) (I know you want to go to Hoboken.) If you also want to go to Harlem, you have to take the A train.

Incomplete advice: doesn't help with going to Hoboken.

Kissing Pedro Martinez

- ▶ Jon Nissenbaum's scenario
 - ▶ both the A train and the C train go to Harlem, the C train will have Pedro Martinez on it, you want to kiss Pedro Martinez.
- ▶ # *To go to Harlem, you ought to kiss Pedro Martinez.*
- ▶ # *To go to Harlem, you can kiss Pedro Martinez.*

Breathe!

(23) #To go to Harlem, you have to breathe.

Werner: Better Truth-Conditions are Needed

Tom Werner. 2006. “An Analysis of Existential Anankastics: How to Get There from Here”. SALT presentation. Tokyo.

- ▶ Build new truth-conditions for advice modals.
- ▶ Can't review the details here.

Bad Advice

(24) To go to Harlem, you can kiss Pedro Martinez.

is bad advice, but it is not false! The following is not true:

(25) To go to Harlem, you can't kiss Pedro Martinez.

What's true is

(26) To go to Harlem, you can't just kiss Pedro Martinez.

But that does not contradict the semantic content of (24).

It Won't Hurt

- (27) I want to go to Harlem. Can I kiss Pedro?
- (28) It won't hurt . . . won't help, either.