How to do conditional things with words

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- What do conditionals mean and how do they work?
- What are speech acts and how do they work?
- What are conditional speech acts and how do they work?

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... and an excursus on the semantics of imperatives

What do conditionals mean?

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(2) Samantha either missed the early train or she's in her office by now.

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- Material implication?
  if p, q = not (p and not-q) = not p OR *q*

(2) Samantha either missed the early train or she's in her office by now.

(3) [Samantha missed the early train.] See I was right.

(1) If Samantha caught the early train, she's in her office by now.

- ~~Material implication~~? No!
  ~~*if p, q = not (p and not-q) = not p* OR *q*~~

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(3) [Samantha missed the early train.] See I was right.

(1) If Samantha caught the early train, she's in her office by now.

- Stalnaker/Lewis-ish
  if p, *q* = *q* in all relevant *p*-scenarios/worlds

How do conditionals come to mean what they mean?

Lewis/Kratzer/Heim: *if*-clauses restrict modal operators

(4) If Samantha catches the early train, she always has coffee before class.

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(5) If Samantha misses class, she should go to office hours.

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(5) If Samantha misses class, she should go to office hours.

(6) If Samantha caught the early train, MUST she is in her office by now.

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2. Base-generate outside; constrain restrictor variable

What do we do with conditionals?

The naive view: We do with conditional meanings/propositions whatever we do with “simple” meanings/propositions.

- assert
- doubt
- question
- bet
- promise
- command

So … what do we do with sentence meanings?

Speech acts update the conversational scoreboard.

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The scoreboard contains (at least):

- the common ground of commitments about how the world is
- the stack of questions under discussion (QUD)
- for every relevant individual, their To Do List (TDL)

Lewis, Stalnaker, Hamblin, Ginzburg, Roberts, Portner, Gunlogson, Farkas & Bruce, Krifka, Malamud & Stephenson ...

- Assertions (propose to) update the common ground
- Questions (propose to) update the QUD
- Commands etc. (propose to) update the TDL

The Edgingtonian Challenge

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Actually kind of hard to tell apart.

(7) I bet $5 the next throw is a five.

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(8) If the next throw is odd, I bet $5 it's a five.

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(8) If the next throw is odd, I bet $5 it's a five.

The bet in (8) is not a bet on a conditional proposition; it's a conditional bet.

- If the next throw is even, the bet is off.
- If the throw is odd, the bet is won if it's a five and lost if it's a one or three.

A conditional bet is a bet on the truth of consequent, conditional on the truth of the antecedent.

- When the antecedent is true, the bet is on and turns on the truth of the consequent.
- When the antecedent is false, the bet is off.

Conditional imperatives:

(9) If Alex comes, tell him I'm not here!

Excursus on the meaning of imperatives

(10) Tell Alex that I’m not here!

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Imperatives

- seem to convey commands
- speech act/dynamic operator? many
- performative deontic modal? Kaufmann

von Fintel & Iatridou. 2015. A modest proposal for the meaning of imperatives. `http://kvf.me/modest`

Weak uses of imperatives: acquiescence, indifference

(11) a. Can I open the window? Sure, go ahead, open it! I don't mind.

b. Which way should I turn? Go left, go right, I don't care.

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Imperatives in certain conditional conjunctions

(12) Ignore your homework and you will fail this class.

We propose adopting Portner's minimal, non-modal semantics for imperatives:

ignore-IMP your homework =
λx : x is the addressee. x ignores x's homework

- imperatives denote properties
- unembedded imperatives are put forward as possible additions to the hearer's To Do List (TDL)
- there are various possible levels of speaker endorsement (default: strong)
- there are no speech act operators in the object language

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What is the conditional doing here? If *if*-clauses restrict modal operators, but imperatives don't involve a modal operator, how are conditional imperatives even possible?

Time to regroup!

1. Give up. Take conditional imperatives to provide a knock-down argument against the non-modal analysis of imperatives. Adopt Kaufmann's theory.

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3. Conditional imperatives as instances of conditional speech acts!

Conditional speech acts

Speech acts update the conversational scoreboard.

- What does it mean for a speech act to be conditional?
- What is the compositional structure of conditional speech acts?

An idea that won't work:

> *It is as if one affirmed if p then q by handing the hearer [...] an envelope labeled "open in case p," and containing a slip of paper with q written on it.* *(Jeffrey 1963)*

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But conditional speech acts create real commitments (just conditional ones).

- Conditional bets are real bets (money might have to be set aside).
- Conditional imperatives are real imperatives (get ready to act).

We’re going to focus on imperatives and the TDL now …

[Adding triggers to the scoreboard]

- TDL before: set of properties
- TDL after: set of pairs of a trigger proposition and a property

An agent α should act to make all the properties on their TDL true that have a true trigger.

Unconditional imperatives: tautology T as the trigger

$\Big\{\langle T, \lambda x.\ x$ sends email to Sabine and Thony tonight$\rangle$,

$\langle \lambda w.$ the talk goes badly in $w, \lambda x.\ x$ has one extra beer tonight$\rangle\Big\}$

Cf. Jeff Horty's systems for non-monotonic deontic logic

So, conditional speech acts are speech acts that place a triggerable commitment on the scoreboard.

How does one perform
a conditional speech act?

Three ways:

- speech acts in a subordinate context created by a prior speech act
- speech act operators restricted by an *if*-clause
- speech acts with a special content that effects a conditional commitment

Way #1: Supposition and subordinate speech acts

(14) Suppose Alex comes.
Tell him I'm not here!

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(14) Suppose Alex comes.
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(15) Alex might come.
Tell him I'm not here!

- The *suppose*/*might* utterance makes salient a hypothetical context where Alex comes.
- The imperative speech act can then be interpreted as happening relative to that hypothetical context.
- We need a process by which the outcome of such a subordinate speech act is recorded in the global scoreboard with a conditional commitment.

Interpretation in the hypothetical context is optional:

(15) Alex might come.
Tell him I'm not here!

(16) Alex might come.
Clean your room!

Could *if*-clauses be treated just like *suppose*-utterances?

No: *if*-clauses embed freely while *suppose* doesn't.

Way #2: *if*-clauses restricting speech act operators

If sentences contain speech act operators, then *if*-clauses could restrict them and all we would have to do is write the semantics of the speech act operators so that they give rise to conditional commitments when they are restricted by an *if*-clause.

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But that's a big if. Portner argues that there are no speech act operators.

In any case, if there are speech act operators, it's fairly easy to give them a semantics that lets us conditionalize them with an *if*-clause.

For example:

(17) $[\![\text{IMP}]\!] = \lambda p.\lambda Q.\lambda s.\ s^+$
where s^+ is just like s except that
$TDL^{\alpha}_{s^+} = TDL^{\alpha}_{s} \cup \{\langle p, Q\rangle\}$,
where α is the addressee

Way #3: Restriction “from below”

Conditional bets again:

(18) I bet that [if the next throw is odd, it’s a five].

(19) I bet that [the next person through the door wears a hat].

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These express conditional bets. But there’s no restrictor high enough to operate on the *bet*-expression.

(20) Make it so that if Alex comes, you tell him that I'm not here!

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(21) Arrest any trespasser!

von Fintel & Gillies. 2015. Hedging your *if*s and vice versa.
`http://kvf.me/hedging`

(22) A: If the next throw is odd, it's a five.

B_1: Maybe so.

B_2: Actually, that has only a 1-in-3 chance.

If *so* and *that* pick up the meaning of the conditional in (22A), how can the result be a restricted *maybe* and a restricted *have a 1-in-3 chance*?

1. A three-valued (or partial proposition) meaning for *if p, q* + a three-value-sensitive meaning for operators (Belnap)
2. A dynamic semantic reconstruction of the three-valued approach
3. A high-type meaning for *if p, q*, waiting for an operator to restrict

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Solution in Kratzer (2015)

4. Material implication + plus introduction of p as a proposition that can restrict operators elsewhere

5. Triggered meanings: $\langle p, \phi \rangle$ (trigger + ordinary meaning)

really, a kind of structured meaning

Also needed:

- a meaning for any operator (or operation, such as a speech act) that can take a restriction from below such that it can profitably combine with the meaning of *if p, q*

A sample, proof-of-concept analysis

1. The denotation of the conditional imperative

(13) If Alex comes, tell him I'm not here!

Meaning: λw : Alex comes in w. $\lambda x.\ x$ tells Alex I'm not here

$\rightsquigarrow$ only defined for worlds where Alex comes and then denotes the property of telling Alex I'm not here

2. What speech act the utterance of such a conditional imperative performs

Uttering a partial function f from worlds to properties puts on the hearer's TDL the pair of the proposition that f is defined and the property it denotes when defined

$$\left\langle \lambda w.\ w \in \mathrm{dom}(f),\ \text{the } P : \exists w \in \mathrm{dom}(f).\ P = f(w) \right\rangle$$

In our case:

$\left\langle \lambda w.\ \text{Alex comes in } w, \lambda x.\ x \text{ tells Alex I'm not here} \right\rangle$

If this is on your TDL, whether you are supposed to tell Alex that I'm not here, turns on the truth of the trigger proposition that Alex comes.

Since what we want to put on the TDL is a triggered property, maybe having the conditional imperative denote a triggered property is the easiest solution.

The nature of conditionals

Conditionals involve the evaluation of expressions that are sensitive to the context within a hypothetically updated context.

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Essential ingredients:

- a way to hypothetically update the context
- context-sensitive expressions (such as modals)
- a way to update the global scoreboard based on what happened in the hypothetical context

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2. Grammatical restriction: *if*-clause + restricted operator
3. Restriction “from below”: operator-hungry meaning that can feed a restrictor-sensitive meaning from below

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Given this rich typology of conditional meanings and constructions, and the tendency to try to find a one-analysis-fits-all theory, it's no wonder that we have not reached a consensus of how conditonals work.

New work to be taken into consideration by

- Will Starr
- Craige Roberts
- Daniel Harris
- Paul Portner

Please send comments to

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Again, slides at kvf.me/ampra

Starr (cf. also Harris):

(23) Close the door and I'll distract Chris!

Starr (cf. also Harris):

(23) Close the door and I'll distract Chris!

(24) If Chris tries to leave, close the door and I'll distract him!