The linguistics of desire

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In this intermediate/advanced class, we will discuss classic and current work on desire constructions.

`https://kaivonfintel.org/cssl18-desires`

shorter: `http://kvf.me/desire`

includes links to these slides, a shared Q&A doc and readings

How to participate:

- listen & think
- ask questions (in class, shared Q&A doc)
- consider other languages
- stay in touch

Prerequisites

https://kaivonfintel.org/prerequisites

Eight topics

Week 1:

1. Possible worlds semantics.
2. The semantics of desire.
3. The syntax of desire.
4. Complement/mood selection.

Week 2:

5. Conditional desires.
6. Anankastic conditionals.
7. X-marking.
8. X-marked desires.


The linguistics of desire

Human thought and language are navigating in a fifth dimension, a turbulent sea of possibilities.

The Twilight Zone, original intro (5th dimension)

https://www.youtube.com/watch?v=vB1Ot9MEOOs

- Propositions distinguish between regions of possibilities in the sea.
- Questions ask where we are in the sea.
- Epistemic modals talk about our evidence about where we are.
- Conditionals take us (hypothetically, temporarily) to a particular region to explore it more closely.
- Imperatives try to get us to move to a particular region.
- Desideratives express evaluations about various regions.

Today's agenda

A whirlwind tour:

- possible worlds semantics
- modals
- conditionals
- attitudes

(and your questions)

The basic notion of possible worlds semantics is

$[\![\alpha]\!]^w$: the extension of an expression α at a possible world *w*

$[\![\text{is-in-Rethymno}]\!]^w$ = the set of things in Rethymno in w

$[\![\text{Brianna}]\!]^w$ = Brianna

$[\![\text{is-in-Rethymno}]\!]^w$ = the set of things in Rethymno in *w*

$[\![\text{Brianna}]\!]^w$ = Brianna

$[\![\text{Brianna is in Rethymno}]\!]^w = 1$ iff Brianna is in Rethymno in *w*

The proposition expressed by a sentence ϕ

$\lambda w.\ [\![\phi]\!]^w \approx$ the set of worlds where ϕ is true.

The proposition expressed by *Brianna is in Rethymno*:
the set of worlds where Brianna is in Rethymno.

When such a proposition is asserted, the speaker is urging us to accept that we are located in the particular region of the sea of possibilities where the proposition is true.

“Intensional” operators create propositions about the truth of their prejacent propositions at certain worlds.

Two crucial points:

- anchoring to the “actual” world (evaluation world)
- context-dependency

Modals

must, have to, should, ought to, may, might, can, could, need

Brianna might be in Rethymno

true in a world *w* iff Brianna is in Rethymno in some of the worlds compatible with the evidence in *w*

$[\![might]\!]^w =$

$\lambda p.\exists w'$ compatible with the evidence in w : $w' \in p$

$[\![\textit{might}]\!]^w =$
$\lambda p.\exists w'$ compatible with the evidence in w: $w' \in p$

$[\![\textit{must}]\!]^w =$
$\lambda p.\forall w'$ compatible with the evidence in w: $w' \in p$

Two dimensions of modal meaning:

- modal force (necessity … possibility)
- modal flavor (epistemic, deontic, …)

(1) It has to be raining.

(2) Visitors have to leave by six pm.

(3) You have to go to bed in ten minutes.

(4) I have to sneeze.

(5) To get home in time, you have to take a taxi.

- Modals are quantifiers over possible worlds.
- Which possible worlds they quantify over constitutes their flavor.

- Force = quantificational strength (universal … existential)
- Flavor = type of anchoring

The general schema: $M\ [f(w)]\ (\phi)$

- M the quantificational relation between two sets of possible worlds
- $f(w)$ a set of possible worlds assigned by flavor *f* to the evaluation world *w*
- ϕ the prejacent proposition, a set of worlds where ϕ is true

(6) It has to be raining.

M universal quantification (subset relation)

$f(w)$ the set of worlds compatible with the evidence in w

ϕ the set of worlds where it is raining

$\rightsquigarrow$ the evidence in w entails that it is raining

(7) Iris can have one cookie after dinner.

M existential quantification (compatibility relation)

$f(w)$ the set of worlds that satisfy the parental wishes in w

ϕ the set of worlds where Iris has one cookie after dinner

$\rightsquigarrow$ the parental wishes in w allow Iris to have one cookie after dinner

Anchoring to the actual world:

- modals make a claim about the actual world via predicating the prejacent of a set of worlds determined by some feature of the actual world
- modal claims are contingent: whether they are true or not in the actual world depends on what the actual world is like and thus differs from world to world
- modal claims express propositions about the actual world and thus are embeddable and iterable

From syntax to interpretation:

- how does the modal get a prejacent proposition to work on?
- where does the flavor $f(w)$ come from?

Lots of implementation options. But core insight is important.

Simple flavors:

- epistemic (worlds compatible with some body of evidence)
- deontic (worlds that satisfy some set of rules)

Complex flavors

(8) Howard forgot to return his library book.
He has to pay a $5 fine.

complex flavor: the actual world circumstances + what the rules are

essentially complex:

- not just the circumstances: Howard may be a scofflaw who never pays fines
- not just the rules: Howard would not have failed to return the book

(9) Howard has to pay a fine.

quantifies over worlds

- where the same things happened as in the evaluation world
- and that afterwards are as good as possible according to the rules

insight: flavors can be complex

implementation: lots of options

Famously, Kratzer relativized the semantics of modals to two parameters:

- modal base (core flavor)
- ordering source (comparing worlds in the modal base)

Conditionals

(10) If Rosa left before 6am, she got there in time.

- epistemic flavor
- worlds compatible with the evidence + where Rosa left before 6am
- all of those worlds are worlds where she got there in time

Just like modals:

- quantificational force (universal)
- modal flavor (epistemic)
- anchoring to actual world (actual evidence)

plus: restriction to worlds where the antecedent is true

Obvious idea: *if* is a modal operator

if $[f(w)]\ (p)\ (q)$

- the antecedent p
- the modal flavor function $f(w)$
- the consequent q

true iff $\forall w' \in p \cap f(w)\colon\ q(w') = 1$.

An alternative:

- *if p* is a plural definite description of the *p*-worlds of a certain flavor
- the consequent is claimed to be true in those worlds

if $[f(w)]\ (p)$

= the plurality of worlds that contains the *p*-worlds in *f(w)*

What happens when we combine the *if p*-plurality of worlds with the consequent proposition?

- the consequent is a function from individual worlds to truth-values
- it can’t be directly applied to a plurality of worlds

The same thing happens in the case of pluralities of individuals!

(11) The students laughed.

- *the students* denotes a plurality of individuals (made up of all and only the students)
- *laughed* is a predicate of single individuals

The combination needs to be mediated.

*The students * laughed*

The *-operator “pluralizes” a predicate. The resulting plural predicate is true of a plurality iff the original predicate is true of every atom making up the plurality.

*if p, * q*

true iff *q* is true of every world in the plurality of worlds denoted by *if p* (or more precisely, *if f(w) p*).

Conditionals as plural definite descriptions:

- Schlenker 2004

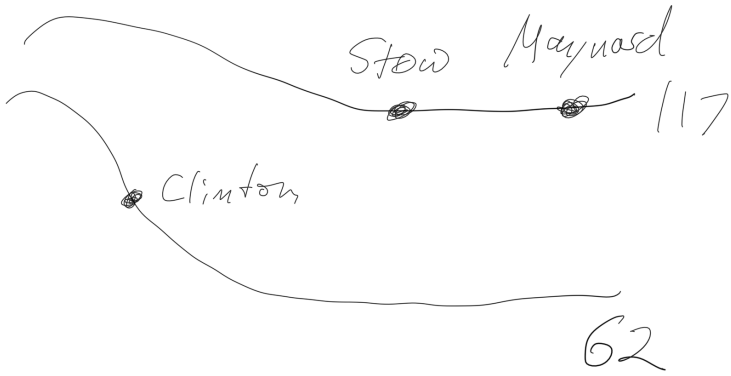
The interaction of modals and conditionals

(12) If she's in front of a big fortress, Brianna might be in Rethymno.

(13) If he returned the book late, Howard has to pay a fine.

The story from last year

Our friends Jacy and Macy have been driving in the Massachusetts hinterlands, inexplicably without iPhones or GPS, and are relying entirely on an old-fashioned map. They've just passed through a little town with an iconic New England church and are looking on the map to try to figure out where they are. They have concluded that they are either on Route 117 or on Route 62. There are two plausible candidate towns on Route 117 (Maynard and Stow) and just one on Route 62 (Clinton).


Stow
Maynard
117
Clinton
62

They are on Rte 62 (and don’t know it) or on Rte 117 (and don’t know it). They are in Maynard, Stow, or Clinton (and don’t know it).

(14) We might be in Maynard.

True since there are worlds compatible with their evidence where they are in Maynard.

(15) If we're on Route 62, we're in Clinton.

True because of the three towns that they know they might be in, only Clinton is on Rte 62.

Our semantics for conditionals (either the modal analysis or the plural description analysis) has the conditional take us to worlds that are (i) in f(w), here in the set of worlds compatible with their evidence and (ii) are antecedent worlds.

Among the worlds compatible with their evidence, all *p*-worlds (worlds where they are in Rte 62) are worlds where they are in Clinton.

Problem cases

(16) a. If we're on Route 117, we might be in Stow. True

b. If we're on Route 117, we might be in Clinton. False

c. If we're on Route 62, we must be in Clinton. True

These cannot be explained in our framework!

(17) If we're on Route 62, we must be in Clinton.

The conditional takes us to those worlds that are (i) compatible with their evidence, with what they know (which includes their knowledge that they don't know in which of the three towns they are) and (ii) where they are on Rte 62. In all of those worlds, they are in Clinton, but in none of them do they *know* or *have any additional evidence* that they are in Clinton.

The Restrictor Theory

Kratzer 1986:

> *the history of the conditional is the story of a syntactic mistake. There is no two-place* if …then *connective in the logical forms of natural languages.* If-*clauses are devices for restricting the domains of various operators.*

Kratzer's Thesis

If-clauses are devices for restricting the domains of various operators.

(18) If we're on Route 62, we must be in Clinton.

must [f(w) ∩ p] (we be in Clinton)

The only thing the *if*-clause is doing is restricting the flavor argument of *must*. There's no additional modal operator contributed by *if*.

(19) If we're on Route 62, we are in Clinton.

If *if* is a device for restricting the domains of operators, where is the operator being restricted here?

Kratzer: covert modals

We will return to these issues when we talk about conditional desires on Monday.

Attitudes

Hintikka's idea: Attitude predicates have the same basic semantics as modals.

(20) Naby believes that Brianna is in Rethymno.

- Naby's belief state in the actual world (whatever it is) determines a set of worlds
- these are the worlds that are "compatible with" the belief state
- nothing is going on in these worlds that contradict what the belief state thinks the world is like

x believes that p

$= \forall w' \in \mathrm{DOX}(x, w) : \ w' \in p$

x believes that p
$= \forall w' \in \mathrm{DOX}(x, w) : \ w' \in p$

where $\mathrm{DOX}(x, w)$ is the set of worlds compatible with x's belief state in w

- Like modals, attitudes are anchored to the actual world
- Unlike modals, the set of worlds they take us to is (i) lexically specified and (ii) depends on the subject of the attitude

The quantificational force of modals

- almost universally universal
- but see Slovenian *dopuščati*/Russian *dopuskat'* (Močnik 2017)

The simplest Hintikka semantics for *want*

x wants p

$= \forall w' \in \mathrm{DES}(x, w) : \ w' \in p$

The simplest Hintikka semantics for *want*

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where $\mathrm{DES}(x, w)$ is the set of worlds satisfying x's desires in w

Some predictions

- what desires *x* has may depend on what world they're in (desires are contingent)
- want ascriptions are non-trivial only when all of *x*'s desires can be satisfied jointly
- want ascriptions are upward entailing: if *x* wants *p*, *x* wants any logical consequence of *p*
- nothing is said about what desires are, just that we can ask of a world whether a desire is satisfied there