Dynamic Expressivism about Deontic Modality

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Outline

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2 Dynamic Semantics
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Expressivism
This is What a Bee Fly Looks Like

An Expressivist Thesis
One can communicate a state of mind without referring to that state of mind and communicating a fact about it (or: describing a property of it). (E.g. Gibbard 1986: 473)

- Just as I communicated my state of attention without referring to it
- Just as you communicated your state of disgust without referring to it
What’s the Controversy?

The Short Version

Why is this expressivist thesis controversial when applied to language?

Natural language semantics has profitably drawn on logical semantics (e.g. Tarski and Kripke)

Profits have relied exclusively on non-expressivist ideas in those logical semantic theories

They’ve relied exclusively on reference

The profits: compositionality and empirically adequate definitions of logical consequence and consistency

Composition and Communication

The Fregean Communion

“It is astonishing what language can do. With a few syllables it can express an incalculable number of thoughts, so that even a thought grasped by a human being for the very first time can be put into a form of words which will be understood by someone to whom the thought is entirely new. This would be impossible, were we not able to distinguish parts in the thought corresponding to the parts of a sentence, so that the structure of the sentence serves as an image of the structure of the thought.”

Frege on Force vs. Content

Connectives only Compose Truth-Conditional Content

Fregean Separatism (1923: 2-5)

“In language, the simplest case of a compound thought seems to be that of two main clauses conjoined by ‘and’. But... [i]n an assertoric sentence we must distinguish between the thought expressed and the assertion. Only the former is in question here, for acts of judgement are not said to be ‘conjoined’. I therefore understand the sentence conjoined by ‘and’ to be uttered without assertoric force.”

Beyond Fregean Logic

Laws of Truth and Expressivism

Let us agree with Frege: logic fixes the meaning of and

But we might resist the conclusion that and only combines truth-conditional content by resisting the view that logic concerns only laws of truth

What then?

Dynamic Perspective (Heim, van Benthem, Veltman, et.al.)

Logic concerns laws governing the flow of information and motivation, i.e. transitions in logical and affective space.

Dynamic expressivism: some transitions don’t amount to referring to a point and stating a fact about it
### Classical Intensional Semantics

#### Reference and Description

**Logical Semantics**

- $[A] = \{ w \mid w(A) = 1 \}$
- $[\neg \phi] = W - [\phi]$
- $[\phi \land \psi] = [\phi] \cap [\psi]$
- $[\phi \lor \psi] = [\phi] \cup [\psi]$

- Sentences refer to a region of logical space, by referring to points and saying whether they fit some description
- Reference of complex determined by reference of whole
- No way to accommodate expressivist thesis

### Consistency and Consequence

#### No Room Here for the Expressivist Thesis

**Consequence**

- $\phi_1, \ldots, \phi_n \vdash \psi \iff ([\phi_1] \cap \ldots \cap [\phi_n]) \subseteq [\psi]$
  - Region of logical space (collectively) referred to by premises, is included in space referred to by conclusion

**Consistency**

- $\phi_1, \ldots, \phi_n$ are consistent $\iff ([\phi_1] \cap \ldots \cap [\phi_n]) \neq \emptyset$
  - $\phi_1, \ldots, \phi_n$ do not (collectively) refer to nothing
  - Referring and describing serve a function that is not achieved when they refer to nothing

- Both essentially rely on referential concepts

### Descriptivist Preference Semantics (Lewis, Hansson)

- $[\text{Must } \phi] = \{ w \mid \forall w_1, w_2; w_2 \succ w_1 \text{ if } w_2 \in [\phi] \land w_1 \notin [\phi] \}$
  - **Must** $\phi$ is true in $w$ just in case every $\phi$-world is (strictly) preferred in $w$ to every $\neg \phi$-world
  - $w_1 \succ w_2$: $w_1$ is strictly preferred to $w_2$ in $w$

- Distinguishes worlds by referring to preferences in those worlds and saying something about them
- Thus: non-expressivist!

### Communication: Modal Model

#### No Room Here for the Expressivist Thesis

- Useful model of how representational communication:
  - Providing information = excluding possibilities (Stalnaker, Lewis)
  - One agent has some information, i.e. can rule out some possibilities $w_1, \ldots, w_n$.
  - They can then utter a sentence $\phi$ that excludes those possibilities, i.e. $w_1, \ldots, w_n \notin [\phi]$.
  - By combining this information with theirs, hearer agent can rule out some possibilities: $s \cap [\phi]$
    - $s$ is set of worlds, those compatible w/what agents are mutually supposing for purposes of exchange.
**Basic Dynamic Semantics**

**Just Information**

**Classical Picture**
- Sentences refer to regions of logical space
- Interpreters use utterances of them to shift to region of logical space within region referred to

**Dynamic Semantics (Purely Informational Version)**
- Sentences: recipes for moving around logical space
- Atomics: zoom in on a particular region
- Conjunction: apply each recipe in turn
- Disjunction: apply recipes separately; ‘merge’ results
- Negation: apply scope recipe; move to region outside it

**Dynamic Informational Semantics**

**Support, Consequence and Consistency**

**Support, Consequence (Veltman)**
- \( s \models \phi \iff s[\phi] = s \)
- \( \phi_1, \ldots, \phi_n \models \psi \iff \forall s : s[\phi_1] \ldots [\phi_n] \models \psi \)

**Dynamic Consistency**

\( \phi_1, \ldots, \phi_n \) are consistent \( \iff \exists s : s[\phi_1] \ldots [\phi_n] \neq \emptyset \)

- No immediate appeal to reference

**Dynamic Informational Semantics (Veltman)**

1. \( s[A] = \{ w \in s \mid w(A) = 1 \} \)
2. \( s[\neg \phi] = s - s[\phi] \)
3. \( s[\phi \land \psi] = (s[\phi])[\psi] \)
4. \( s[\phi \lor \psi] = s[\phi] \cup s[\psi] \)

**Classical Logic as Logic of Omniscience**

**Classical Concepts are a Special Case of Dynamic Ones**

**d’Alembert (1751) on Truth**

“The universe... would only be one fact and one great truth for whoever knew how to embrace it from a single point of view.” (d’Alembert 1995: 29)

**Truth, Propositions (Starr)**

\( w \models \phi \iff \{ w \}[\phi] = \{ w \} \quad [\phi] = \{ w \mid w \models \phi \} \)

**Classical Consequence (Starr)**

\( \phi_1, \ldots, \phi_n \models \psi \iff \forall w : \{ w \}[\phi_1] \ldots [\phi_n] \models \psi \)
- Classical logic is the logic of perfect information
**Classical Dynamic Semantics as a Corollary**

Dynamic Semantics Entails Classical Semantics

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**Consequence of Dynamic Definitions**

1. \([A] = \{w \mid w(A) = 1\}\)
2. \([-\phi] = W - \[[\phi]\]\)
3. \([\phi \land \psi] = \[[\phi]\] \cap \[[\psi]\]\)
4. \([\phi \lor \psi] = \[[\phi]\] \cup \[[\psi]\]\)

- Leaves open whether or not these equalities capture meaning of sentences

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**Update is Classical Communication**

**Fact:** \(s[\phi] = s \cap \[[\phi]\]\)

- Updating amounts to classical communication
- Eliminating points by referring to them and describing properties of them

- So: we do not yet have a language which embodies negative expressivist thesis about communication

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**Next Up**

Enriching states and breaking this equivalence!

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**States**

An Enriched View

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**States: information and desires**

A state \(s_\succ \prec (s, \succ)\).

1. \(s\) is a set of worlds, namely those compatible with what the agents are mutually supposing for the purposes of their exchange. (As before.)
2. \(w \succ w'\) if and only if it is mutually supposed that \(w\) is strictly more desirable than \(w'\). (The domain and range of \(\succ\) needn’t be limited to \(s\).)
3. Notation: any set theoretic notation applied to \(s_\succ\) is understood as being applied to \(s\), e.g. \(s_\succ \subseteq W\) means that \(s \subseteq W\).

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**Good Possibilities**

\(\text{Good}(s_\succ) := \{w \in s \mid \exists w' \in s: w' \succ w\}\)

- Good possibilities in \(s\) are those not strictly less desirable than some possibility in \(s\).
Dynamic Expressivist Semantics

For May and Must

Expressivist May and Must

(1) \( s_\succ [May(\phi)] = \begin{cases} s_\succ & \text{if } s_\succ [\phi] \cap Good(s_\succ) \neq \emptyset \\ \emptyset & \text{otherwise} \end{cases} \)

(2) \( s_\succ [Must(\phi)] = \begin{cases} s_\succ & \text{if } Good(s_\succ) \subseteq s_\succ [\phi] \& Good(s_\succ) \neq \emptyset \\ \emptyset & \text{otherwise} \end{cases} \)

- Doesn’t eliminate worlds by referring to something in a world and saying whether or not it has a property

Dynamic Expression

Is Not Providing Descriptive Information

Fact: Non-classical update

\( s_\succ [MayA] \neq s_\succ \cap [MayA]_\succ \)

Dynamic Expressivism about Deontic Modality

Clarifying its Expressivist Nature

Expressivist May and Must (Equivalent Formulation)

\( s_\succ [May(\phi)] = \{ w \in s | s_\succ [\phi] \cap Good(s_\succ) \neq \emptyset \}_\succ \)

\( s_\succ [Must(\phi)] = \{ w \in s | Good(s_\succ) \subseteq s_\succ [\phi] \& Good(s_\succ) \neq \emptyset \}_\succ \)

- \( w \) occurs in restriction of set members, but not in condition that members must meet
- All worlds are not eliminated on basis of their particular, internal goings-on
- Instead: all treated on a par, and eliminated on basis of a global feature of a state

Embracing the Omniscient Perspective

Evaporates Deontic Distinctions

What We’ve Seen

\( s_\succ [MayA] \neq s_\succ \cap [MayA]_\succ \) because \([MayA]_\succ = [A]_\succ\) and \( s_\succ [MayA] \neq s_\succ [A].\)

d’Alembert (1751) on Truth

“The universe... would only be one fact and one great truth for whoever knew how to embrace it from a single point of view.” (d’Alembert 1995: 29)

Truth, Propositions (Starr)

\( w \models \phi \iff \{ w \}_\succ [\phi] = \{ w \} \quad \{ \phi \}_\succ = \{ w | w \models \phi \} \)
Non-monotonicity: \( \phi_1, \ldots, \phi_n \models \psi \) does not imply that \( \chi, \phi_1, \ldots, \phi_n \models \psi \)

Perspectival nature and non-montonicity of indicative conditionals (Starr 2014a)

Consider simplified Gentle Murder scenario:

1. You must not hit me
2. You are going to hit me
3. You must hit me softly

Plausibly: (1)\( \models \) (1) but (1), (2), (3) \( \not\models \) (1) (See Willer 2014 for a much more sophisticated development of this idea.)

Composition of conditionals (Starr 2014b, forthcoming)

Compositional imperative semantics (Starr 2013)

Data: declarative (\( \triangleright \)) and imperative (\( ! \)) moods scope under conjunction/disjunction, and mix; e.g. \( \triangleright A \land !B \)

Assume imperatives have non-propositional semantics
And communicate non-propositionally
Problem: composing these hybrids using classical accounts of conjunction/disjunction and capturing hybrid communicative functions of mixed sentences

Basic idea: \( !A \) changes \( \triangleright \) by adding preference for \( A \)-worlds over \( \neg A \)-worlds; dynamic semantics for \( \land, \lor \)

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Dynamic Expressivism about Deontic Modality
Eidyn Conference on Normativity and Modality

“Relative to a context, [a] possibility claim determines a condition, or property,... on states of mind. It is the satisfaction of this property that the speaker aims to coordinate his listeners on. The speaker thereby expresses a feature of his state of mind, and does so without describing himself, or the world.” (Yalcin 2011: 329)

Basic idea:

Possibility claim expresses condition on states:
\( \{ s_\triangleright \mid [May \phi]_{w,s_\triangleright} = 1 \} \)

Conversational state changes by becoming one of these

But choosing any one seems arbitrary

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Dynamic Expressivism about Deontic Modality
Eidyn Conference on Normativity and Modality
Pragmatic Expressivism: Implementation 1

1. Conversation navigates a space of states
   \[ S = \{s_0, \ldots, s_n\} \]
2. Factual discourse eliminates worlds point-wise from \( s \)'s
3. Deontic modal expresses property \( \{s \mid [\text{May } \phi]_{w,s} = 1\} \)
   which is intersected \( w/S \).

- Question: communicative impact of \( A \land \text{May } B \)?
  - Not just property of states, not just proposition
  - Same question for disjunction, etc.

References I


Thank you!

(Slides available at http://williamstarr.net/research)