Inquisitive Semantics: Attentive *might*

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based on joint work with Ivano Ciardelli

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www.illc.uva.nl/inquisitive-semantics

What have we done so far? – Day 1

A new notion of meaning

- Propositions as proposals
- Sets of possibilities
- Each possibility embodies a possible update
- Captures both informative and inquisitive content

A concrete inquisitive semantics for a simple language

- Language of propositional logic
- Recursive definition of support relation
- $[\varphi] =$ set of maximal supporting states
- As a result, propositions are sets of alternative possibilities in this system. A possibility is never contained in another.

What have we done so far? – Day 2

Attentive content

- Besides informative and inquisitive content, the new notion of meaning can also be taken to capture attentive content
- In uttering φ, a speaker can be taken to draw attention to all the possibilities in $[\varphi]$

A more liberal notion of propositions

- If attentive content is taken into account, it does not make sense to restrict ourselves to sets of alternative possibilities
- Propositions as arbitrary non-empty sets of possibilities
- $[\varphi]$ no longer defined as set of maximal supporting states
- Instead, we gave a direct recursive definition of $[\varphi]$

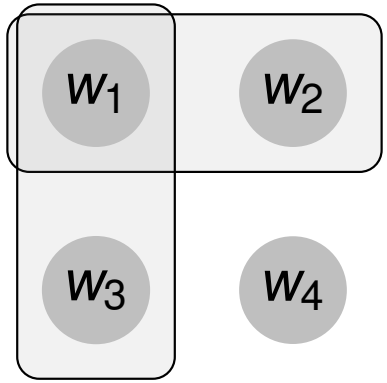
Today

Part I: Finish the story about attentive content and *might*

- Two puzzles for the standard modal account of *might*
- Attentive *might* in inquisitive semantics
- Attentive *might* in inquisitive pragmatics
- Comparison with modal and dynamic accounts

Part II: Algebraic foundations

Informative, inquisitive, and attentive content



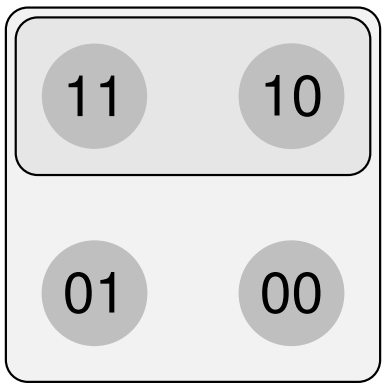
- A sentence φ draws attention to all the possibilities in $[\varphi]$
- Moreover, it provides the information that the actual world is contained in at least one of the possibilities in $[\varphi]$
- and it requests a response that provides enough information to establish at least one of these possibilities

$\Rightarrow$ a single semantic object embodies informative, inquisitive, and attentive content

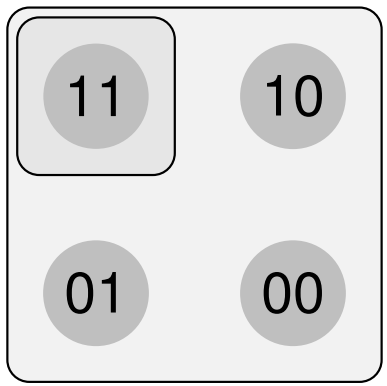
Might

- $[\Diamond\varphi] = [\varphi] \cup \{W\}$
- Intuition: $\Diamond\varphi$ proposes exactly the same updates as φ, but also offers the option to keep the common ground just as it is

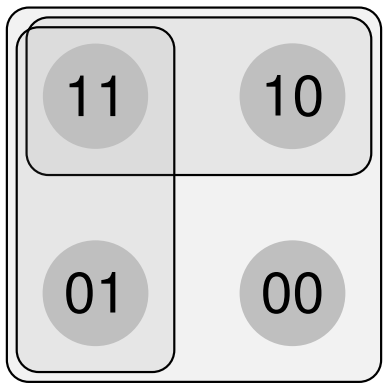
Examples



$\Diamond p$



$\Diamond(p \wedge q)$



$\Diamond(p \vee q)$

Might meets disjunction and conjunction

Zimmermann (2000)

The following are all equivalent:

(1) John might be in London or in Paris. $\Diamond(p \vee q)$

(2) John might be in London or he might be in Paris. $\Diamond p \vee \Diamond q$

(3) John might be in London and he might be in Paris. $\Diamond p \wedge \Diamond q$

Might meets disjunction and conjunction

Further observation

- For the equivalence to go through, it is crucial that John cannot be both in London and in Paris at the same time

Szabolcsi's scenario

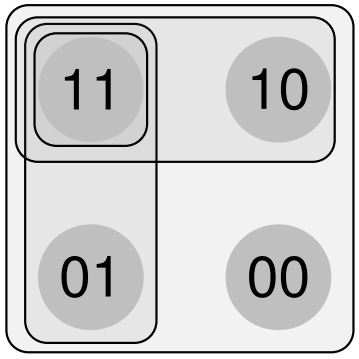
- We need an English-French translator, i.e., someone who speaks *both* languages. In that context, (8) is perceived as a useful recommendation, while (6) and (7) are not.

(6) John might speak English or French. $\Diamond(p \vee q)$

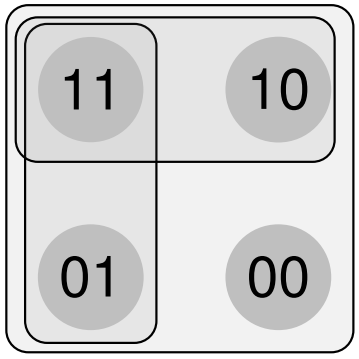
(7) John might speak English or he might speak French. $\Diamond p \vee \Diamond q$

(8) John might speak English and he might speak French. $\Diamond p \wedge \Diamond q$

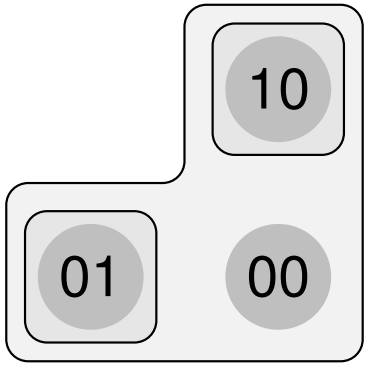
Might meets disjunction and conjunction



(a) $\Diamond p \wedge \Diamond q$



(b) $\Diamond p \vee \Diamond q$
$\equiv \Diamond(p \vee q)$



(c) $\Diamond p \wedge \Diamond q$
$\equiv \Diamond p \vee \Diamond q$
$\equiv \Diamond(p \vee q)$

- If the disjuncts are mutually exclusive, as in (c), all three sentences are equivalent
- If the disjuncts are not mutually exclusive, then $\Diamond p \wedge \Diamond q$ differs from the other two in that it draws attention to the possibility that p and q both hold
- This is what makes $\Diamond p \wedge \Diamond q$ a useful recommendation in Szabolcsi's scenario

Pragmatics

- Gricean pragmatics generally assumes a truth-conditional semantics, which captures only informative content
- Gricean pragmatics is a pragmatics of providing information
- Inquisitive semantics enriches the notion of semantic meaning
- This requires an enrichment of the pragmatics as well
- We need not just a pragmatics of providing information, but rather a pragmatics of exchanging information

Inquisitive pragmatics

Quality

- Be sincere (speaker oriented)
  - Only assert what you take yourself to know
  - Only ask what you don't know
  - Only draw attention to 'live' possibilities
- Be transparent: signal inconsistency (hearer oriented)
  Reject a proposed update if it is inconsistent with your information state

Quantity

- Among all the compliant and sincere responses to a given (possibly implicit) question under discussion, there is a general preference for more informative responses

Back to *might*: three basic observations

(11) John might be in London.

Possibility

- (11) signals that the speaker considers it possible that John is in London

  $\Rightarrow$ point of departure for a modal analysis of *might*

Back to *might*: three basic observations

(11) John might be in London.

Consistency test

- (11) imposes a consistency test on the hearer: if her information state is inconsistent with John being in London, she must report this

  $\Rightarrow$ point of departure for Veltman's update semantics of *might*

Back to *might*: three basic observations

(11) John might be in London.

Ignorance

- (11) typically signals that the speaker is ignorant as to whether John is in London or not

  $\Rightarrow$ typically analyzed as a Gricean implicature

The inquisitive account

(11) John might be in London.

Possibility

- (11) signals that the speaker considers it possible that John is in London
- Follows directly from sincerity
- Unlike the modal analysis, this account directly extends to:

(1) John might be in London or in Paris.

The inquisitive account

(11) John might be in London.

Consistency test

- (11) imposes a consistency test on the hearer: if her information state is inconsistent with John being in London, she must report this
- Follows directly from transparency
- Unlike update semantics, this account directly extends to:

(1) John might be in London or in Paris.

The inquisitive account

(11) John might be in London.

Ignorance

- (11) typically signals that the speaker is ignorant as to whether John is in London or not
- Follows from the quantitative preference for more informative compliant moves

Division of labor

Inquisitive semantics

- Specifies which proposals are expressed by which sentences

Inquisitive pragmatics

- Specifies what a context—in particular, the common ground and the speaker's information state—must be like in order for a certain proposal to be made
- . . . and how a hearer is supposed to react to a given proposal, depending on the common ground and her own information state.

Final remarks

- The idea that the core semantic contribution of *might-φ* lies in its potential to draw attention to certain possibilities has been entertained before
- For instance, Groenendijk, Stokhof, and Veltman (1996) write:

> *"in many cases, a sentence of the form might-φ will have the effect that one becomes aware of the possibility of φ."*

- Similar ideas can be found in more recent work: e.g. Swanson (2006), Franke and de Jager (2008), Brumwell (2009), Dekker (2009)
- Related ideas in the literature on evidentials (Murray, 2010; Faller, 2002)

Final remarks

- However, Groenendijk, Stokhof, and Veltman continue to point out that their framework

> *"is one in which possible worlds are total objects, and in which growth of information about the world is explicated in terms of elimination of worlds. Becoming aware of a possibility cannot be accounted for in a natural fashion in such an eliminative approach. It would amount to extending partial worlds, rather than eliminating total ones. To account for that aspect of the meaning of might a constructive approach seems to be called for."*

Final remarks

- We have taken a different route
- Possible worlds are still total objects
- Growth of information still amounts to eliminating worlds
- What has changed is the very notion of meaning
- No truth-conditions, no information change potential, but rather information *exchange* potential
- This shift in perspective immediately facilitates a perspicuous account of *might*, and of attentive content more generally