Might Do Better:
Flexible Relativism and the Question Under Discussion

Bob Beddor & Andy Egan

Outline

Contextualism

> **Contextualist *Might***
>
> An utterance of $\ulcorner \Diamond p \urcorner$ in a context of utterance c is true iff p is compatible with some c-selected body of information.

$$\llbracket \Diamond p \rrbracket^c = \{ w \mid \exists w' : R_c(w, w') \ \& \ w' \in p \}$$

Contextualism

Contextualist *Might*

An utterance of $\ulcorner \Diamond p \urcorner$ in a context of utterance c is true iff p is compatible with some c-selected body of information.

(1) The butler might have done it.

= true iff the butler's guilt is compatible with the info available to the speaker (or some contextually determined group more generally)

Contextualism

Suppose a bare epistemic possibility modal (BEP) is uttered in some context *c*. Contextualists predict:

Simple Contextualist Prediction

People assessing this claim for truth or falsity will tend to judge this claim true iff the prejacent is compatible with the information available to the *c*-relevant folks.

(1)   *Holmes:* The butler might have done it.

(2)   *Moriarty:* That's $\left\{ \begin{array}{l} ^{?}\,\text{true} \\ ^{\checkmark}\text{false} \end{array} \right\}$.

Relativism

Relativist *Might*

An utterance of $\ulcorner \Diamond p \urcorner$ in a context of utterance c is true at a context of assessment c_a iff p is compatible with some c_a-selected body of information.

$$\llbracket \Diamond p \rrbracket^c = \{\langle w, a \rangle \mid \exists \langle w', a' \rangle : R_c(\langle w, a \rangle, \langle w', a' \rangle) \text{ \& } \langle w', a' \rangle \in p\}$$

Relativist *Might*

An utterance of $\ulcorner \Diamond p \urcorner$ in a context of utterance c is true at a context of assessment c_a iff p is compatible with some c_a-selected body of information.

(1) The butler might have done it.

= true for Holmes, false for Moriarty

Relativism

Suppose a BEP is uttered in some particular context c. Relativists predict:

Simple Relativist Prediction

People assessing this claim for truth or falsity will tend to judge this claim true iff the prejacent is compatible with *their* information.

Outline

Knobe and Yalcin (2014)

FAT TONY

Fat Tony is a mobster who has faked his own death in order to evade the police. He secretly plants highly compelling evidence of his murder at the docks. The evidence is discovered by the authorities, and word gets out about his apparent death. The next evening, from his safehouse, Fat Tony watches a panel of experts on the news discussing the question of whether he is dead.

Expert A has had a good look at the evidence found at the scene. "Fat Tony is dead", he says. Expert B has also had a good look at the evidence, but his assessment is more cautious. "Fat Tony might be dead", B says.
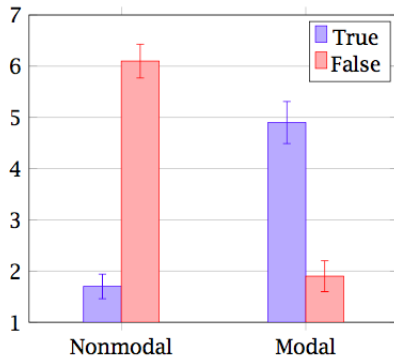
"What Expert A said is true" (NONMODAL-TRUE)

"What Expert A said is false" (NONMODAL-FALSE)

"What Expert B said is true" (MODAL-TRUE)

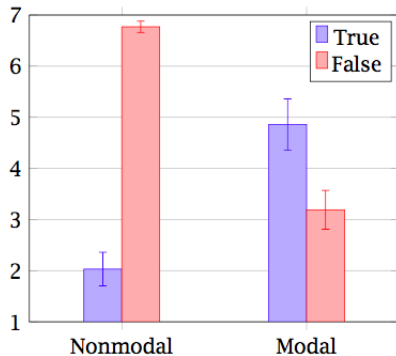"What Expert B said is false" (MODAL-FALSE)

Does including an explicit assessment of the epistemic modal make a difference?

Follow up experiment: participants received the same vignette, except that it included the following at the end:

Watching this discussion on television, Fat Tony says to his henchmen, (STATEMENT).

Further follow up compared judgments about falsity with judgments about the appropriateness of retraction.

Further follow up compared judgments about falsity with judgments about the appropriateness of retraction.

(3)   Joe might be in Boston.

- What Sally said is false.
- It would be appropriate for Sally to take back what she said.

Higher rate of agreement with the claim that it would be appropriate for Sally to retract her BEP ($M > 5$) than with the claim that what she said was false ($M \approx 3$).

Khoo (2015)
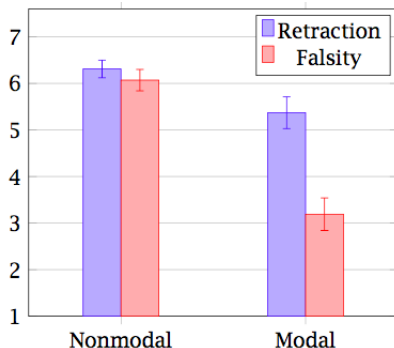
Found that people are more inclined to reject a BEP by saying something along the lines of, "No, Fat Tony is alive; he faked his death", than they are to judge it false.
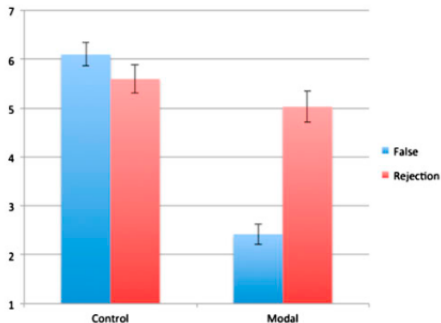
Outline

Desired Predictions

- Many people have pro-contextualist judgments about some scenarios.
- A substantial minority of speakers have pro-relativist judgments about some scenarios.
- Some people have unclear or conflicted intuitions about eavesdropper cases.
- Speakers tend to judge that it is appropriate to retract/reject an utterance of a BEP upon learning that its prejacent is false.

Flexible Relativism

-Retains Relativist semantics for *might*.

> ### Relativism
> An utterance of $\ulcorner \Diamond p \urcorner$ in a context of utterance c is true at a context of assessment c_a iff p is compatible with some c_a-selected body of information.

-Allows that assessors can sometimes evaluate the modal relative to other contexts of assessment.

Flexible Relativism

-Retains Relativist semantics for *might*.

Relativism

An utterance of $\ulcorner \Diamond p \urcorner$ in a context of utterance c is true at a context of assessment c_a iff p is compatible with some c_a-selected body of information.

-Allows that assessors can sometimes evaluate the modal relative to other contexts of assessment.

Flexible Relativism

Q: What determines which context of asssessment an assessor will use when evaluating a modal?

Flexible Relativism

Q: What determines which context of asssessment an assessor will use when evaluating a modal?

A: The Question Under Discussion (QUD) in the assessor's conversational context.

Flexible Relativism

QUD Constraint

When an assessor a in a conversational context c_a assesses an utterance of an epistemic modal for truth or falsity, they should use whichever context of assessment is most relevant to answering the QUD in c_a.

Explaining the Data to Date

- Differences in people's judgments concerning the truth-values of BEPs is attributable—at least in part—to differences in how people are resolving the QUD in the context of assessment.

- Murkiness and unclarity in intuitions is attributable—at least in part—to the fact that standard eavesdropper cases don't provide enough cues to identify a clear QUD in the context of assessment.

- Difference between truth-value judgments and retraction/rejection judgments is due to the fact that the former are flexible, whereas the latter invariably track truth at the assessor's context.

A Predictive Theory

Predictions:

- When the QUD in c_a is whether the prejacent is true, typically the most relevant context of assessment will be the **assessor's** context (c_a).
- When the QUD concerns the speaker's competence, typically the most relevant context of assessment will be the **speaker's** context of assessment.

Outline

Fat Tony's Return

Fat Tony is a mobster who has faked his own death in order to evade the police. He secretly plants highly compelling evidence of his murder at the docks. The evidence is discovered by the authorities, and the forensic expert, Ed, is summoned to the scene. After carefully reviewing the evidence he concludes, "Fat Tony might be dead."

2 conditions: QUD-PREJACENT and QUD-COMPETENCE

QUD-PREJACENT CONDITION

A week later, a detective is consulting her criminal informant about who was responsible for a mob-style murder. The informant knows that Tony is alive.

Detective: "We're trying to find the killer. We know that the victim was an enemy of Fat Tony. However, our forensic expert said, 'Fat Tony might be dead.' Is what he said true?"

QUD-COMPETENCE CONDITION

A week later, another forensic expert, Ted, is given new evidence that conclusively shows that Fat Tony is still alive. The police department is trying to determine whether the initial investigation was competent, and so sends a detective to interview Ted.

Detective: "We're trying to figure out whether Ed's initial investigation was competent. On the basis of the initial evidence, Ed said, 'Fat Tony might be dead.' Is what he said true?"
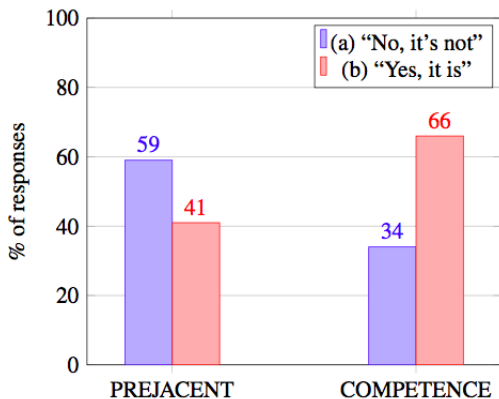
Which of the following responses would be correct?

(a) "No, it's not."

(b) "Yes, it is."

Results

The difference between the conditions was found to be highly significant, $\chi^2(1, N = 116) = 7.50, p = .006$.

Outline

Natural thought: Perhaps when participants in the QUD-PREJACENT CONDITION select (a) ("No, it's not") what they intend to pronounce on is the truth of the prejacent, rather than the truth of the modal claim.

Two Ways of Motivating the Prejacent-Evaluation Hypothesis

Sometimes when we respond to an assertion with a negation marker, what we intend to deny is not the assertion itself, but rather the assertion's prejacent:

(4) a. *Alex:* I heard that Sarah will come to the party.

 b. *Billy:* No!/Nuh uh!/That's not true!

The availability of the prejacent-targeting reading seems to depend on the QUD.

Two Ways of Motivating the Prejacent-Evaluation Hypothesis

Alternatively, contextualists may suggest that participants are simply confused and answering the wrong question—they are answering the QUD, rather than the question of whether the modal utterance is true.

1. Modify the answer choice—rather than asking participants to choose between "No, it's not" and "Yes, it is", force them to choose between options that explicitly make reference to the speaker's assertion.

2. Construct a case in which an assessor a is in a position to know that the modal claim is false (relative to c_a), but not in a position to know that the prejacent itself is false.

   - Can't construct such a case with *might*, but can if we switch to *probably*

John is worried he might have strep throat. He goes to his primary care physician and she runs an initial test that indicates that there is a 75% chance that John does not have strep. Based on the initial test results, John's doctor says: "You probably don't have strep throat. However, we should do a throat culture in order to be safe. If it turns out that you have strep throat, we should put you on antibiotics."

QUD-PREJACENT CONDITION

John comes back two days later to find out the results of the throat culture, and sees a different doctor. The throat culture comes up positive, which indicates there is a 90% chance that John has strep throat. John has not yet seen the results of these tests, but his new doctor has. John asks the new doctor: "I'm trying to figure out whether I need to take antibiotics. My primary care physician told me, 'You probably don't have strep.' Is what she said true?"

Testing the Prejacent-Evaluation Hypothesis

QUD-PREJACENT CONDITION

John comes back two days later to find out the results of the throat culture, and sees a different doctor. The throat culture comes up positive, which indicates there is a 90% chance that John has strep throat. John has not yet seen the results of these tests, but his new doctor has. John asks the new doctor: "I'm trying to figure out whether I need to take antibiotics. My primary care physician told me, 'You probably don't have strep.' Is what she said true?"

Which of the following responses would be correct?

(a) "No, what she said isn't true"

(b) "Yes, what she said is true"

Testing the Prejacent-Evaluation Hypothesis

QUD–PREJACENT CONDITION

John comes back two days later to find out the results of the throat culture, and sees a different doctor. The throat culture comes up positive, which indicates there is a 90% chance that John has strep throat. John has not yet seen the results of these tests, but his new doctor has. John asks the new doctor: "I'm trying to figure out whether I need to take antibiotics. My primary care physician told me, 'You probably don't have strep.' Is what she said true?"

Which of the following responses would be correct?

    (a) "No, what she said isn't true"

    (b) "Yes, what she said is true"

QUD-COMPETENCE CONDITION

John comes back two days later to find out the results of the throat culture, and sees a different doctor. The throat culture comes up positive, which indicates there is a 90% chance that John has strep throat. But now John wants to know whether his primary care physician made a mistake administering the initial test, so he asks: "I'm trying to figure out whether I can rely on my primary care physician. She told me, 'You probably don't have strep'. Is what she said true?"

# Testing the Prejacent-Evaluation Hypothesis

QUD–COMPETENCE CONDITION

John comes back two days later to find out the results of the throat culture, and sees a different doctor. The throat culture comes up positive, which indicates there is a 90% chance that John has strep throat. But now John wants to know whether his primary care physician made a mistake administering the initial test, so he asks: "I'm trying to figure out whether I can rely on my primary care physician. She told me, 'You probably don't have strep'. Is what she said true?"

The new doctor reviews the initial tests, and confirms that John's primary care physician had not made any mistakes interpreting the results. Given this, which of the following responses would be correct?

   (a) "No, what she said isn't true"
   (b) "Yes, what she said is true"
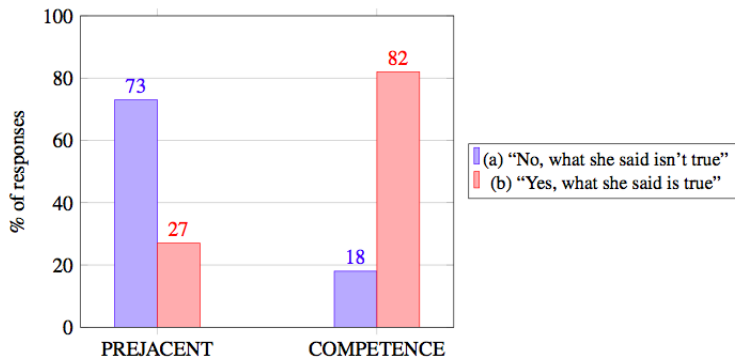
The difference between the two conditions was found to be extremely significant, $\chi^2(1, N = 225) = 68.49, p < .0001$.

Outline

The experimental data conflicts with both the Simple Contextualist Prediction and the Simple Relativist Prediction.

QUD effect

People's assessments of the truth-values of utterances containing epistemic modals vary systematically with QUD in the conversation in which the assessment takes place.

This effect is readily explained by a flexible relativist semantics, but not by a flexible contextualist semantics.

Thanks!

Cloudy Contextualism

According to cloudy contextualists, often the facts on the ground do not determine a unique context. In such cases, an utterance of a BEP will put in play each of the propositions that would be expressed by the utterance in each of the admissible contexts.

Cloudy *Might*

$$\llbracket \lozenge p \rrbracket^{c_1 \ldots c_n} = \left\{ \begin{array}{c} \{ w \mid \exists w' : R_{c_1}(w, w') \ \& \ w' \in p \} \\ \ldots \\ \{ w \mid \exists w' : R_{c_n}(w, w') \ \& \ w' \in p \} \end{array} \right\}$$

Cloudy Contextualism

QUD-Sensitive Appraisal Norm

Suppose someone utters a BEP, thereby putting in play propositions $p_1 \ldots p_n$. Then a hearer H who occupies a context (cloudy or otherwise) c should appraise the utterance as true (false) if the p_i that is most relevant to answering the QUD in c is such that H thinks it is true (false).

Update Semantics

According to Update Semantics, epistemic modals are tests on the context.

Update Semantics

$$c[\diamond p] = \begin{cases} c & \text{if } \exists w \in c : w \in p \\ \varnothing & \text{otherwise} \end{cases}$$

Could supplement this with the claim that assessors will judge a BEP true iff the most relevant context passes the test imposed by the modal (where relevance is determined by the QUD in the assessor's conversational context).