QUASI INDEXICALS

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Abstract

I argue that not all context dependent expressions are alike. Pure (or ordinary) indexicals behave more or less as Kaplan thought. But quasi indexicals behave in some ways like indexicals and in other ways not like indexicals. A quasi indexical sentence ϕ allows for cases in which one party utters ϕ and the other its negation, and neither party's claim has to be false. In this sense, quasi indexicals are like pure indexicals (think: "I am a doctor"/"I am not a doctor" as uttered by different individuals). In such cases involving a pure indexical sentence, it is not appropriate for the two parties to reject each other's claims by saying, "No." However, in such cases involving a quasi indexical sentence, it *is* appropriate for the parties to reject each other's claims. In this sense, quasi indexicals are *not* like pure indexicals. Drawing on experimental evidence, I argue that gradable adjectives like "rich" are quasi indexicals in this sense. The existence of quasi indexicals raises trouble for many existing theories of context dependence, including standard contextualist and relativist theories. I propose an alternative semantic and pragmatic theory of quasi indexicals, negotiated contextualism, that combines insights from Kaplan 1989 and Lewis 1979. On my theory, rejection is licensed with quasi indexicals (even when neither of the claims involved has to be false) because the two utterances involve conflicting proposals about how to update the conversational score. I also adduce evidence that conflicting truth value assessments of a single quasi indexical utterance exhibit the same behavior. I argue that negotiated contextualism can account for this puzzling property of quasi indexicals as well.

There is a trend in philosophy to think that all context dependence should be modeled in the same way, along the lines of Kaplan 1989's theory of indexicals. I think this is a mistake—not all context dependent expressions behave the same way. The contents of some context dependent expressions are settled directly by features of the objective context (perhaps via a combination of speaker intentions, salience, and so on). Kaplan was right about these expressions, so I'll follow him and call them *indexicals* (construed broadly to include demonstratives). However, there is another kind of context dependent expression, whose content is open to negotiation in a context. I call such expressions *quasi indexicals*.

Indexicals have different contents in different contexts, and for this reason an indexical sentence and its negation may express compatible claims if they are uttered in different contexts (an indexical sentence is one that contains an unembedded occurrence of an indexical expression). In other words, someone can make a claim using an indexical sentence ϕ and another person make a claim using its negation $\neg\phi$ and it need not be the case that either claim is false. To illustrate, suppose that Lucy is in Washington State talking to Wally in Arizona by phone:

(1)   a.   *Lucy*: It is raining here.
        b.   *Wally*: It is not raining here.

In this case, there is a strong intuition that it need not be the case that one of Lucy or Wally's claims is false. Say that a pair of claims is **truth incompatible** iff it must be the case that one of the claims is false. Then, the observation is that Lucy and Wally's claims are not truth incompatible (below, I will drop the word "truth" and simply talk about claims being incompatible or not in this technical sense).

Next, notice that if Wally were to try to reject Lucy's claim, doing so would be odd:

(2)   a.   *Lucy* (in Washington): It is raining here.
        b.   *Wally* (in Arizona): #No, it is not raining here.

Wally's rejection here is not sensible: it would lead one to think that either he did not correctly hear Lucy, or does not understand English.

What happens when we change the sentences uttered to involve only non-indexicals? Compare (2) with the following:

(3)   a.   *Gordon*: Thomas Jefferson was a doctor.
        b.   *Diane*: No, Thomas Jefferson was not a doctor.

Unlike with (2), in (3), it seems to us that Gordon and Diane's claims *are* incompatible—that is, at least one of Gordon or Diane's claims must be false. And furthermore, Diane's rejection of Gordon's claim here is perfectly sensible.

A natural generalization connects these two observations: the reason Diane's rejection is sensible but Wally's rejection is not is that Diane and Gordon's claims are incompatible, while Wally and Lucy's claims are not incompatible. Say that a **rejection discourse** is one in which someone makes a claim by uttering a sentence ϕ, and someone rejects that claim by uttering ⌜No, $\neg\phi$⌝. It is then tempting to infer that a sensible rejection discourse requires that the two claims are incompatible:[1]

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[1]Notice that the claim here is restricted to exclude many cases of implicature denial, such as (cf.

<u>Rejection-Incompatibility Link</u>
In any sensible rejection discourse, the two claims are incompatible.

As before, understand *incompatible* here in the technical sense of *truth-incompatible* as defined above: thus, the Rejection-Incompatibility Link states that in any sensible rejection discourse, it must be that at least one of the claims is false.[2] One may then draw on this principle to reason as follows. Given the Rejection-Incompatibility Link, evidence that a sentence ψ only seems to give rise to sensible rejection discourses is evidence that ψ does not allow for the possibility that an utterance of ψ in one context and an utterance of $\neg\psi$ in another context yield non-incompatible claims. But an indexical sentence ϕ should allow for the possibility that an utterance of ϕ in one context and an utterance of $\neg\phi$ in another context yield non-incompatible claims. Therefore, evidence that ψ only seems to give rise to sensible rejection discourses is evidence that ψ is not an indexical sentence. This kind of reasoning has been used

Horn 1985, 1989, Sundell 2011):

(i)   A: John ate some of the cookies.
      B: No, John ate *all* of the cookies.

In this dialogue, since B does not utter the negation of the sentence A utters, A and B's utterances do not comprise a rejection discourse in our technical sense; so cases like this fall outside of the scope of The Rejection-Incompatibility Link. However, one further problem remains, which stems from cases of echoic metalinguistic negation:

(ii) A: John called the POlice.
      B: No, John called the poLICE.

Here, A and B's discourse is arguably a rejection discourse in our technical sense, and B's rejection is sensible even though A and B's claims are arguably not incompatible—so this kind of case seems like a counterexample to the Rejection-Incompatibility Link. To avoid the threat to our generalization from echoic metalinguistic negation, I will stipulate that such echoic negations are to be excluded from rejection discourses. I think we can safely identify and set aside such cases as orthogonal to the issue at hand. Furthermore, note that my attempt to exclude these cases from consideration is *helping* the Rejection-Incompatibility Link, which I am going to argue is false even given such favorable exclusions. So, my excluding these kinds of cases is dialectically strengthening the position I intend to criticize, not helping my own position.

[2]What I have in mind by "sensibility" here is that we can make sense of why the person rejected the claim, in light of what we know about her beliefs and desires. Of course, there will be cases in which Gordon says, "Thomas Jefferson was a doctor," and Diane says, "No, Thomas Jefferson was not a doctor," in which we judge that it didn't make sense that Diane rejected Gordon's claim because (for instance) he bet his life savings he would never reject any claim of Gordon's about Thomas Jefferson. I think we can safely set aside those cases as irrelevant to the diagnostic we are putting the rejection test to use for.

extensively in philosophy of language to argue that various philosophically important expressions are not context-dependent.[3] However, recently, this reasoning has come under scrutiny. In particular, the experimental work of Khoo 2015, Khoo & Knobe 2016 reveals a new contour to the debate: epistemic modal operators ("might") and moral predicates ("wrong") in fact behave in ways directly opposed to the REJECTION-INCOMPATIBILITY LINK. These papers discuss evidence from ordinary English speaker intuitions suggesting that these expressions allow for sensible non-incompatible rejection discourses.[4]

The behavior of "might" and "wrong" suggests the possibility of a linguistic kind: an expression which is like an indexical in allowing for non-incompatible utterance pairs but like a non-indexical in always giving rise to sensible rejection discourses. I call such expressions *quasi indexicals*. The crucial identifying property of a quasi indexical is that it gives rise to sensible non-incompatible rejection discourses.

The rest of the paper is structured as follows. In §1, I argue that gradable adjectives like "rich" give rise to sensible non-incompatible rejection discourses. I then turn to discuss the upshot of this observation for various semantic/pragmatic theories, arguing that many existing semantic/pragmatic theories of gradable adjectives struggle to predict this property of "rich" (§2). The key question we are left with is this: in sensible non-incompatible rejection discourses, what are the two parties disagreeing about? In §3, I sketch a theory of quasi indexicals (focusing again on "rich") that I call **negotiated contextualism**, which answers this question. The theory is that quasi indexical non-incompatible disagreements involve conflicting proposals for how to resolve some contextual indeterminacy. Then, in §4, I turn to investigate truth value assessments of "rich"-utterances. In particular, I argue pairs of conflicting assessments ("What X said is true"/"What X said is false") of a single "rich"-utterance also give rise to sensible non-incompatible rejection discourses. Predicting this observation remains an open challenge for every theory of context dependence I am aware of. In §5, I extend negotiated contextualism to account for this new data. I conclude with

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[3]Instances of this reasoning can be found in: Moore 1922, Hare 1952, Horgan & Timmons 1990, 1992, Smith 1994, Wright 2001, Richard 2004, Egan *et al.* 2005, Egan 2012, Lasersohn 2005, MacFarlane 2005a, 2007, 2011, 2014, Stephenson 2007, Braun 2012, Willer 2013.

[4]Sensible non-incompatible rejection is different from the notion of "faultless disagreement" (cf. Kölbel 2002, 2004, Lasersohn 2005, Stojanovic 2007, Huvenes 2014, de Sa 2015). Kölbel defines a faultless disagreement as one in which "person A believes (judges) that p and B believes (judges) that not-p [and] neither A nor B has made a mistake (is at fault)" (Kölbel 2004: 54). So, whereas sensible non-incompatible rejection involves a sense of disagreement (licensed rejection) without incompatibility in what is said, faultless disagreement involves incompatibility in what is said (judged/believed) without fault.

some remarks about methodology and avenues of future research.

1   Quasi indexicals and rejection

Suppose A and B engage in a rejection discourse: A assertorically utters ϕ and B assertorically utters, $\ulcorner$No, $\neg\phi\urcorner$. We distinguish the following two questions:

- ▸ **Rejection**: It made sense that B said, "No, $\neg\phi$."

- ▸ **Incompatibility**: At least one of A or B's claims has to be false.

As we saw in the introduction, when ϕ is a non-indexical sentence, we tend to agree with both **Rejection** and **Incompatibility**; and when ϕ is an indexical sentence, we tend to *disagree* with both. However, judgments about **Rejection** and **Incompatibility** should diverge in certain cases involving quasi indexical sentences. In earlier work (Khoo 2015, Khoo & Knobe 2016), I found preliminary evidence that epistemic modals and moral expressions are quasi indexicals. In Khoo 2015, I report experimental evidence of cases in which native English speakers were inclined to reject an epistemic modal claim even though they did not think that the claim was false, and in my work with Josh Knobe (Khoo & Knobe 2016) we found experimental evidence of cases in which, when ϕ is a moral sentence, speakers were inclined to agree with **Rejection** and disagree with **Incompatibility**.[5] These experimental results provide evidence that both epistemic modals and moral expressions allow for sensible non-incompatible rejection discourses, and are, thus, quasi indexicals.

My aim in this section is to extend this methodology to gradable adjectives, focusing on "rich" in particular. To that end, consider the following kind of case:

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[5]In Khoo 2015, participants were told that Fat Tony faked his death and that an inspector found the planted evidence and concluded "Fat Tony might be dead." Participants were then asked either (a) whether they agreed that what the inspector said was false or (b) whether they would reject the inspector's claim by saying, "No, Fat Tony is alive—he faked his death." Khoo found that in this case participants agreed that they would reject A's claim, but disagreed with the thought that what A said was false. This is evidence that, in some cases, speakers are inclined to reject an epistemic modal claim even though they do not think that it is false.

Khoo & Knobe 2016 had participants read a scenario in which an American college student described a particular action as "wrong" and in which an alien with a radically different psychology rejected the student's claim, saying instead that the action was "not wrong." In that case, Khoo & Knobe 2016 found that participants agreed with (the relevant instance of) **Rejection**, but weakly disagreed with (the relevant instance of) **Incompatibility**.

A and B both believe that a mutual friend, C, has recently won $100,000 in the lottery. To A, $100,000 is a lot of money, but to B, $100,000 isn't that much money (to her, $5,000,000 is a lot of money). A says, "C is rich." B says, "No, C is not rich."

Consider the relevant instances of **Rejection** and **Incompatibility**. If you are like me, you may be inclined to agree more with **Rejection** than **Incompatibility** in this case. If so, that is evidence that "rich" allows for sensible non-incompatible rejection discourses, and thus that "rich" is a quasi indexical. However, you may not be like me in this regard. When thinking about **Rejection** and **Incompatibility** together, some people find it hard to access their intuitions without thinking through the matter theoretically. After all, it is hard to shed the intuitive pull of the REJECTION-INCOMPATIBILITY LINK, which exerts cognitive pressure to line up judgments about **Rejection** and **Incompatibility**. In order to avoid this complication, I think we should turn to experimental data—by asking people about **Rejection** and **Incompatibility** separately, we can explore their intuitions about each without cueing them to think about one in terms of the other. I now turn to my first experiment, which aims to explore native English speaker intuitions about these claims as they apply to an ordinary factual sentence ("Jim won $100,000 in the lottery"), gradable adjective sentence ("Jim is rich"), and demonstrative sentence ("He won $100,000 in the lottery").

1.1 Experiment 1: Utterances

240 participants were recruited through Amazon Mechanical Turk (49 percent male, mean age 36). Participants were randomly assigned to either the Factual, Gradable, or Demonstrative condition. Those in the Factual condition read the following vignette:

Factual. David and Naomi are at a bar, watching TV. A friend of theirs, Jim, and his roommate, Mark, are being interviewed about their favorite restaurants in the area. David thinks that Jim recently won a lottery prize of $100,000. David also thinks that $100,000 is a lot of money. Pointing to Jim, David says, "Jim won $100,000 in the lottery." Naomi agrees with David that one hundred thousand dollars is a lot of money, but she does not think that Jim has that much money (since she thinks he never won a $100,00 lottery prize). Naomi replies, "No, Jim never won $100,000 in the lottery."

Those in the Gradable condition read the following vignette:

Gradable. David and Naomi are at a bar, watching TV. A friend of theirs, Jim, and his roommate, Mark, are being interviewed about their favorite restaurants

in the area. David thinks that Jim recently won a lottery prize of $100,000. David also thinks that $100,000 is a lot of money. Pointing to Jim, David says, "Jim is rich." Naomi agrees that Jim won $100,000 in the lottery, but to her $100,000 is not a lot of money (for her, $5,000,000 is a lot of money). Naomi replies, "No, Jim is not rich."

Finally, those in the Demonstrative condition read the following vignette:

> **Demonstrative**. Didi and Naomi are at a bar, watching TV. A friend of theirs, Jim, and his roommate, Mark, are being interviewed about their favorite restaurants in the area. David thinks that Jim recently won a lottery prize of $100,000. David also thinks that $100,000 is a lot of money. Pointing to Jim, David says, "He won $100,000 in the lottery." Naomi agrees that Jim won $100,000 in the lottery, and that $100,000 is a lot of money. But Naomi thinks that they really should be talking about Mark, and Naomi thinks that Mark has never won any lottery prizes. Pointing to Mark, Naomi replies, "No, he never won $100,000 in the lottery."

Participants were then asked two comprehension questions to make sure they registered the relevant manipulations (those in the Factual and Gradable conditions answered Check 1 and 2; while those in the Demonstrative condition answered Check 1 and 3):

- ▸ Check 1: Did both David and Naomi think that Jim won a lottery prize of $100,000?

- ▸ Check 2: Did both David and Naomi think that $100,000 was a lot of money?

- ▸ Check 3: Did both David and Naomi point at the same person?

Next, participants were either assigned to the Rejection or Incompatibility condition, which varied the Main Question. Those in the Rejection condition were asked how much they agreed with (the relevant instance of) **Rejection**; those in the Incompatibility condition were asked how much they agreed with **Incompatibility**:

- ▸ **Rejection**: It made sense that Naomi said, "No, $\neg\phi$."

- ▸ **Incompatibility**: At least one of David or Naomi's claims has to be false.

Responses were rated on a seven point scale (from 1 = "Strongly disagree" to 4 = "In between" to 7 = "Strongly agree").

Results and discussion

Results were filtered by whether the participant answered both comprehension questions correctly, spent more than five seconds thinking about the Main Question, and self-reported as a native speaker of English. Of the remaining 194 participants, the results are summarized in the following chart:[6]
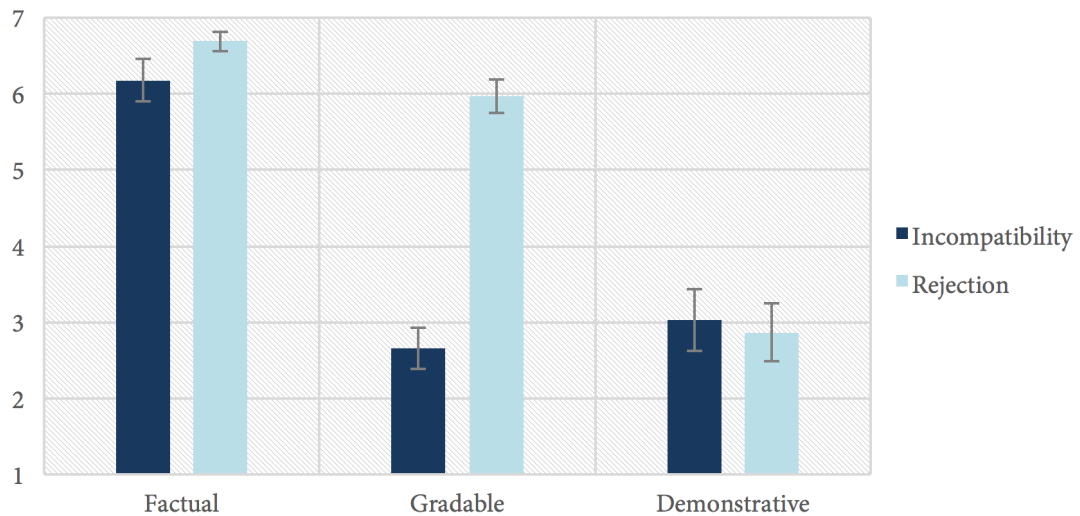

Figure 1: Comparing Rejection and Incompatibility in UTTERANCES

As seen in the chart, the results for the Factual, Gradable, and Demonstrative conditions are very different.[7] In the Factual condition, participants strongly agreed with both **Incompatibility** and **Rejection**.[8] In the Gradable condition, participants agreed with **Rejection** and disagreed with **Incompatibility**.[9] Finally, in the Demonstrative

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[6] Full data is available here: http://osf.io/fp7wq.

[7] Results were subjected to a 3 (vignette: Factual vs. Gradable vs. Demonstrative) x 2 (question: Incorrectness vs. Rejection) ANOVA. There was a main effect of vignette, $F(2, 188) = 72.7$, $p < .001$, a main effect of question, $F(1, 188) = 26.9$, $p < .001$, and a significant interaction, $F(2, 188) = 21$, $p < .001$.

[8] A planned comparison revealed that mean agreement with **Incompatibility** ($M = 6.18$, $SD = 1.6$) was not significantly different from mean agreement with **Rejection** ($M = 6.69$, $SD = 0.7$), $t(64) = 1.65$, $p = .11$.

[9] A planned comparison revealed that mean agreement with **Incompatibility** ($M = 2.66$, $SD = 1.6$) was significantly different from mean agreement with **Rejection** ($M = 5.97$, $SD = 1.3$), $t(67) = 9.42$, $p < .001$.

condition, participants disagreed with both **Incompatibility** and **Rejection**.[10]

I am about to conclude that this data provides evidence that "rich" gives rise to sensible non-incompatible rejection discourses. But before I do, I want to anticipate and reply to two challenges to drawing any such conclusion. The fist challenge is straightforward: maybe participants do not understand the word "true" in a way that is relevant to this conclusion. Instead, when asked about **Incompatibility**, participants really hear it as asking:

▸ **Unjustifiability**: At least one of A or B's claims has to be unjustified.

If this were right, then we should not infer that "rich" gives rise to sensible non-incompatible rejection discourses from the fact that participants tend to disagree with **Incompatibility** in the Gradable condition—perhaps participants' responses to this question are really driven by intuitions about justification, and their disagreement with **Incompatibility** really reflects their disagreement with the claim that at least one of David and Naomi's claims has to be unjustified.

In reply, I want to draw the reader's attention to the pattern of responses in the Factual condition. There, we find strong agreement with **Incompatibility**. Yet, if participants generally hear questions about truth as questions about justification, then it seems they should equally well think that it could be that both David and Naomi's claims in the Factual condition were justified (even if they cannot both be true). Yet, this is not the pattern we find. Instead, we find participants strongly agreeing with **Incompatibility** in that condition. This suggests that, contra the hypothesis under consideration, ordinary speakers *do* distinguish truth from justification, and understand "false" in **Incompatibility** as meaning falsity.

The second challenge points out that there are two possible interpretations of the scope of the modal in **Incompatibility**: high ("It must be that one of their claims is false") or low ("One of their claims is such that it must be false"). If participants were interpreting the modal in **Incompatibility** as involving low scope, their answers would not be evidence that they think David and Naomi's claims are non-incompatible. To rule out this possibility, I conducted a followup study, comparing agreement in the Gradable condition with **Incompatibility-Low** (= **Incompatibility**) and **Incompatibility-High**:

▸ **Incompatibility-Low**: At least one of David or Naomi's claims has to be false.

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[10] A planned comparison revealed that mean agreement with **Incompatibility** ($M = 3.03, SD = 2.2$) was not significantly different from mean agreement with **Rejection** ($M = 2.87, SD = 2.1$), $t(57) = -.30, p = .76$.

▸ **Incompatibility-High**: It has to be that at least one of David or Naomi's claims is false.

Surveying 59 people, I found that there was no significant difference in level of agreement with these two statements: participants strongly disagreed with both.[11] I conclude that participants are understanding **Incompatibility** as involving high scope, and hence that their judgments are evidence that they think David and Naomi's judgments in the Gradable condition are not incompatible in the relevant sense.

I conclude that the intuitions of ordinary native English speakers confirms that "rich" does give rise to sensible non-incompatible rejection discourses. But notice that "rich" is both unlike the non-indexical predicate "won \$100,000 in the lottery" and the demonstrative use of "he" in this regard.[12] Instead, the behavior of "rich" is similar to that exhibited by "might" and "wrong" (see Khoo 2015, Khoo & Knobe 2016). This is a good reason to mark these predicates as a distinct class (quasi indexicals), different from both non-indexicals and indexicals.

Given the behavior of quasi indexicals that distinguishes them both from non-indexical predicates and indexicals, any theory of quasi indexicals will need to account for two observations:

1. Why does "rich" (unlike non-indexicals) allow for non-incompatible utterance pairs?

2. Why does "rich" (unlike indexicals) allow for sensible non-incompatible rejection discourses?

In the next section, I argue that standard theories of the semantics and pragmatics of context dependent expressions are not well-suited to provide satisfying answers to these questions.

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[11]A planned comparison revealed that mean agreement with **Incompatibility-Low** (M = 2.87, SD = 1.9) was not significantly different from mean agreement with **Incompatibility-High** (M = 2.93, SD = 2.2), $t(57) = -.12$, p = .90.

[12]Of course, we have only looked at one particular case here, so this inference is still somewhat speculative. More work should be done to confirm that the kinds of cases in which "rich" generates sensible non-incompatible rejection discourses do not also arise for non-indexical predicates and pure indexicals/demonstratives. Nonetheless, at this stage, I think we are still justified in drawing this preliminary conclusion.

2 Challenges to orthodox views

In this section, I argue that the behavior of "rich" revealed in the last section is quite puzzling from the perspective of most semantic/pragmatic theories. In the next section, I discuss a variation on these views in which rejection signals a dispute over contextual parameters.

It will be helpful to distinguish the various views by characterizing them as post-semantic variants of a common semantic core, differing only in the assertoric content they assign to "rich"-sentences relative to a context.[13] Thus, we begin with the following baseline semantics for "rich," in which $\llbracket \ \rrbracket$ is our semantic value function (a function that maps expressions to their extensions relative to a context c and index, which I assume is a pair of a world w and wealth standard g):

> BASELINE SEMANTICS:
> $\llbracket$ "Jim is rich" $\rrbracket^{c,w,g} = 1$ iff Jim's personal wealth at w is greater than g.

2.1 Contextualism

Start first with a simple contextualist theory, according to which the context of utterance c initializes the relevant wealth standard g_c, and "Jim is rich" expresses the possible-worlds proposition that Jim's wealth exceeds g_c (cf. Glanzberg 2007, Kennedy 2007):

> CONTEXTUALISM:
> The assertoric content of ϕ at c is $\{w : \llbracket \phi \rrbracket^{c,w,g_c} = 1\}$.

In order to predict the non-incompatibility of David and Naomi's claims, their utterances must take place in different contexts (in the same way that two people speaking to one another occupy different contexts when each is speaking respectively). Then, the theory can predict that, say, David expresses the proposition that Jim has more than $80,000 in personal wealth, while Naomi expresses the proposition that Jim does not have more than $5,000,000 in personal wealth—hence, the theory can predict that David and Naomi assert non-incompatible propositions.

The problem now facing this kind of view is that it is unclear why Naomi's rejection of David's claim should be sensible. We can see this by comparing sentences equivalent to the proposed contents of their respective utterances—utterances of such sentences

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[13] For discussion of the utility of distinguishing the assertoric content and compositional semantic value of a sentence, see Lewis 1980, Stanley 1997, Ninan 2010, Rabern 2012, 2017, Yalcin 2014.

yield an odd discourse:

(4) a. *David*: Jim has more than $80,000 in personal wealth.
     b. *Naomi*: #No, Jim does not have more than $5,000,000 in personal wealth.

This is the result we want for "he," but not for "rich"—therefore, a simple contextualist theory that treats them analogously will not be able to explain why Naomi's rejection is sensible in the Gradable condition. We will come back to see whether more can be said for an alternative version of contextualism below, in §3.

2.2 Relativism

Turn next to relativism. Relativism differs from contextualism twice over. First, it holds that "Jim is rich" has the same assertoric content in every context of utterance: it expresses a proposition whose truth value varies across both worlds and standards of wealth. Second, it holds that propositional truth is relative to a context of utterance c_U and a context of assessment c_A (cf. MacFarlane 2014):

> RELATIVISM
> The assertoric content of ϕ at c is $\{\langle w, g \rangle : [\![\phi]\!]^{c,w,g} = 1\}$.
> Φ is true as used at c_U and assessed at c_A iff $\langle w_{c_U}, g_{c_A} \rangle \in \Phi$.

Note: here, ϕ is a sentence and Φ is the proposition it expresses (which, on the relativist theory is a set of $\langle w, g \rangle$ pairs). The double relativization of propositional truth allows the relativist to define a norm of assertion and rejection that can account for the pattern of agreement with **Rejection** in the Gradable vignette (see MacFarlane 2014: 103, 110):[14]

> ASSERTION RULE
> Assert Φ in c only if Φ is true as used at c and assessed at c.
>
> REJECTION RULE
> An agent in context c_2 is permitted to reject an assertion of Φ made at c_1 if Φ is not true as used at c_1 and assessed at c_2.

According to the ASSERTION RULE, David and Naomi's assertions are both reasonable, since David's proposition (that Jim is rich) is true as assessed in his context and

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[14]Different versions of the norm will differ as to whether it involves truth, knowledge, justification, and so on.

Naomi's proposition (that Jim is not rich) is true as assessed in her context. Further-more, given the REJECTION RULE, Naomi's rejection of David's claim is sensible be-cause his proposition is false as used in his context and assessed at her context.[15]

Thus, relativism is nicely positioned to account for the pattern of agreement with **Rejection** in the gradable case. Can it also account for the data about **Incompatibility**? Whether it can depends on what other commitments the relativist takes on board. Suppose first that the relativist adopts the view that expressions like "David's claim" and "What Naomi said" refer to the assertoric contents of David and Naomi's assertions (respectively). And furthermore, suppose the relativist also adopts DEFLA-TIONISM:[16]

> DEFLATIONISM
> $[\![\ulcorner P \text{ is true}\urcorner]\!]^{c,w,g} = 1$ iff $\langle w, g \rangle \in [\![P]\!]^{c,w,g}$.
> $[\![\ulcorner P \text{ is false}\urcorner]\!]^{c,w,g} = 1$ iff $\langle w, g \rangle \notin [\![P]\!]^{c,w,g}$.

(Note: here, P is some expression that refers to a proposition. DEFLATIONISM entails that the assertoric content of $\ulcorner P$ is true$\urcorner$ is equivalent to the proposition P refers to, and that the assertoric content of $\ulcorner P$ is false$\urcorner$ is equivalent to the negation of the proposition P refers to.)

Both of these additional commitments are widely shared by relativists (see for in-stance MacFarlane 2014: 93). And it isn't hard to see why they would find these com-mitments natural: the resulting theory is one in which "Jim is rich" and "Jim is not rich" express incompatible propositions, in the sense that, relative to any world and

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[15]We may distinguish relativism from non-indexical contextualism:

> NON-INDEXICAL CONTEXTUALISM
> The assertoric content of ϕ at c is $\{\langle w, g \rangle: [\![\phi]\!]^{c,w,g} = 1\}$.
> Φ is true as used at c iff $\langle w_c, g_c \rangle \in \Phi$.

The difference between relativism and non-indexical contextualism shows up in the fact that (given the REJECTION RULE) the latter predicts that Naomi is permitted to reject David's claim only if its content (that Jim is rich) is not true as used at his context—yet it seems that David's claim *is* true as used at his context. The non-indexical contextualist might respond that Naomi's rejection is sensible in another sense—because relative to any world, wealth standard pair $\langle w, g \rangle$, if her proposition is true at $\langle w, g \rangle$, David's proposition is false at $\langle w, g \rangle$. Even if the non-indexical contextualist adopts this strategy, they will still have to contend with the challenge to relativism about the **Incompatibility** judgments below.

[16]This is a relativist-friendly version of deflationism. Someone who thinks that the assertoric con-tents of sentences are possible-worlds propositions will have to endorse a version of the thesis that substitutes possible-worlds propositions in place of relativist propositions.

context of assessment, at least one of them must be false.[17]

However, given DEFLATIONISM, RELATIVISM now faces the inverse of the problem facing CONTEXTUALISM.[18] Relative to any context of assessment, one of Naomi or David's claims must be false. When we (or the participants in the our experiment) consider the statement **Incompatibility**, we do so from our context of assessment, and hence the theory predicts that we should agree with this statement—indeed, if ordinary English speakers are tacit relativists about "rich," we expect them to agree with **Incompatibility** to the same extent in the Factual and Gradable vignettes. But that's not how participants react; rather, they strongly agree with **Incompatibility** in the Factual case, but disagree with it in the Gradable case. So, it seems, relativism about "rich" does not predict its capacity to give rise to non-incompatible rejection discourses.

Is there a way to defend relativism against this challenge? One possibility would be to hold that expressions like ⌜X's claim⌝ do not refer to propositions but rather to assertions, which determine a pair of a proposition and a context $\langle \Phi, c \rangle$. This would then allow the relativist to deny DEFLATIONISM and instead endorse REFLEXIVE EVALUATION:

> REFLEXIVE EVALUATION
> $[\![⌜U \text{ is true} ⌝]\!]^{c,w,g} = 1$ iff $\langle w_{c_U}, g_{c_U} \rangle \in \Phi_U$
> $[\![⌜U \text{ is false} ⌝]\!]^{c,w,g} = 1$ iff $\langle w_{c_U}, g_{c_U} \rangle \notin \Phi_U$

Note: U is an expression that refers to an assertion, which determines a pair of a

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[17] Here are two quotes from relativists where they seem to favor this view. The first is from Mark Richard: "In our context, we can evaluate sentences such as 'Mary is rich', 'it is true that Mary is rich', or 'What Didi said is true' for truth. In doing this, we interpret 'rich' and 'true' using the standards of our context, to determine who is rich, what is true. No matter what those standards might be, they won't make Mary rich and not rich; nor will they make the claim, that Mary is rich, true and not true" (Richard 2004: 233).

The second is from John Macfarlane: "Relativism, by contrast, secures preclusion of joint accuracy, since from any given context of assessment, a single [attitude about wealth] is relevant to the accuracy of all beliefs about [who is rich]. As assessed from [Naomi's] context, her belief is accurate and [David's] is inaccurate, while as assessed from [David's] context, his belief is accurate and [Naomi's] is inaccurate . . . things tip in favor of relativism if the parties to such disagreements think of themselves not just as trying to change the other party's attitudes, but as trying to refute them—where the sign of successful refutation is not just that the other party now holds the content of her original claim to be false, but that she retracts her original assertion as inaccurate" (MacFarlane 2014: 132).

[18] The same problem confronts Macfarlane's recent expressivist theory of gradable adjectives (MacFarlane 2016). Macfarlane combines his semantics with a deflationary theory of truth, yielding the prediction that, rationally, one must think that one of Naomi or David's claims are false.

proposition Φ_U and a context c_U.[19] Then, given Reflexive Evaluation, we would expect participants to judge **Incompatibility** ("At least one of David or Naomi's claims is false") to be false, insofar as they think that the proposition David expresses (that Jim is rich) is true relative to his context, and the proposition Naomi expresses (that Jim is not rich) is true relative to her context.

One obstacle facing this kind of view is that it seems wrong to think that expressions like "David's claim" refer to assertions. As Macfarlane observes, sentences like:

(5)   ??David's act of assertion is false.

are quite odd (MacFarlane 2005b: 322-323). Furthermore, sentences like, "David's assertion is true" seem naturally paraphrased as "The proposition David asserted is true," which suggests that, in fact, "is true"/"is false" in ordinary English are not predicates of assertions, but only of propositions (cf. MacFarlane 2008: 93-94).[20] But, if we give up this assumption, and return to the view that "David's claim" refers to the proposition David asserted, then the strategy above will not work, since according to Reflexive Evaluation, "false" is not a predicate of propositions.

2.3   Minimalism

Finally, let's consider the combination of semantic minimalism with speech act pluralism (Cappelen & Lepore 2005). According to semantic minimalism, "rich" is not context sensitive at all—rather, it expresses the same objective property in every context. So, "Jim is rich" invariably expresses the minimal proposition that Jim is rich,

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[19]Technically, we need to relativize the assertion denoted by U to c, w, g, but I suppress that relativization for ease of readability here.

[20]We might drop the idea that ⌜X's claim⌝ refers to X's assertion and just hold that it refers to something that is representable as a proposition, context pair. This would allow the theory to work formally, at the expense of making it somewhat mysterious: it is not clear what kind of thing, other than a speech act, would be representable by a proposition, context pair. Even setting aside that concern, there is another potential worry with this strategy. To my ear, I do not detect a crucial difference between:

(i)   At least one of David or Naomi's claims must be false.

(ii)   At least one of the things said by David or Naomi must be false.

(iii)   Either what David said or what Naomi said must be false.

This would need to be verified experimentally, but if we get the same results for (i), (ii), and (iii), that would cast doubt on this strategy, as it seems clear that, "The proposition asserted by David" and "What David said" refer to propositions, not pairs of a proposition and context.

where this proposition is objectively true or false (not relative to any particular standard of wealth). Speech act pluralism is the view that utterances of "Jim is rich" will typically involve the assertion of propositions beyond its minimal content. Among the propositions David asserts may be that Jim has more than $80,000 in personal wealth; among the propositions Naomi asserts may be that Jim does not have more than $5,000,000 in personal wealth.

Here is how the minimalist pluralist could account for the behavior of "rich" in David and Naomi's conversation. First, the question whether David and Naomi's claims are incompatible does not admit of a clear answer, since, according to pluralism, both David and Naomi have asserted a multitude of propositions. However, since some of Naomi's asserted propositions are not incompatible with some of David's asserted propositions, the view can predict that this is is why participants are inclined to disagree with **Incompatibility**. Second, why is Naomi's rejection sensible? Well, according to minimalism, there *is* a common content that David has affirmed and Naomi has denied: the minimal proposition that Jim is rich. Thus, the view predicts her rejection makes sense.[21]

So, minimalist pluralism seems able to predict the pattern we find with respect to "rich." However, there is reason to be unsatisfied with the minimalist pluralist's account of sensible non-incompatible rejection discourses.[22] The problem is that the view threatens to predict too much disagreement with **Incompatibility**. For instance, Cappelen and Lepore think that "Jim is rich" is semantically and pragmatically like "Jim won $100,000 in the lottery" in the sense that both are contextually invariant but can be used to assert a wide range of propositions. The reason they adopt this view is to account for the variability of indirect speech reports. In some contexts it will be appropriate to report what David said when he uttered "Jim won $100,000 in the lottery" by uttering, "David said that Jim is lucky." Then, according to speech act pluralism, it must be the case that, in uttering this sentence, David also asserted that Jim is lucky. But if this is right, and if it is sufficient for the falsity of **Incompatibility** that one of the propositions asserted by A is not incompatible with one of the propositions asserted

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[21]This is how Cappelen and Lepore aim to predict cross-contextual disagreement: "Semantic Minimalism, and no other view, can account for how the same content can be expressed, claimed, asserted, questioned, investigated, etc. in radically different contexts. It is the semantic content that enables audiences who find themselves in radically different contexts to understand each other, to agree or disagree, to question and debate with each other. It can serve this function simply because it is the sort of content that is largely immune to contextual variations." (Cappelen & Lepore 2005: 152).

[22]There are also independent objections to minimalist pluralism: see Gross 2006, Hawthorne 2006, Korta & Perry 2006, Recanati 2006, Stainton 2006, Szabó 2006, Travis 2006. For replies, see Cappelen & Lepore 2006a,b.

by B, then the view should predict disagreement with **Incompatibility** even in the Factual vignette. Yet, this is not what we find: in that condition, ordinary speakers think that Naomi and David's claims are incompatible. Thus, there is a tension between the goal of speech act pluralism to account for indirect speech reports and to account for our data about incompatible claims.[23]

   We have thus seen how three leading views struggle to account for the behavior of "rich" discussed in the previous section. What we need is a way to make sense of how two "rich"-utterances may not be incompatible, and yet still license rejection. In the next section, I offer a new way to generate this prediction.

3   Negotiated contextualism

In this section, I sketch a theory that I call **negotiated contextualism**. The view builds on insights from Barker 2002, 2013, DeRose 2004, Plunkett & Sundell 2013, Silk 2016, Khoo & Knobe 2016, although I implement these insights in a new and, I think, improved way (a brief comparison of the views follows in §3.1). I show how this theory applies to gradable adjectives like "rich" and explains why they, but not demonstratives like "he," give rise to non-incompatible rejection discourses.

   I will build my theory atop the BASELINE SEMANTICS from the previous section. One key difference between negotiated contextualism and the prior views discussed is that, for quasi indexicals like "rich," the context is typically indeterminate with respect to the relevant parameter (in this case, the standard of wealth g). Here is how I propose we think about this kind of indeterminacy. Following Lewis 1979, I will make use of the notion of a *conversational score*, which I model as a set of indices of evaluation (given our assumption above, this will be a set of world, wealth standard pairs). The conversational score is distinct from the context c (call c a Kaplanian context, to help keep things straight), which determines a unique conversational score $\mathbb{S}_c$, which in turn determines a context set $C_{\mathbb{S}_c} = \{w : \exists i \in \mathbb{S}_c : w_i = w\}$ (cf. Stalnaker 1978, 2002). However, the conversational score is more general—for our purposes, it also determines a set of wealth standards $\{g_1, g_2, g_3, \dots\}$.[24]

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[23]To avoid this challenge, one might drop this independent commitment of speech act pluralism. The final comparison between such a view and negotiated contextualism must await another day.

[24]I want to remain mostly neutral for now about what features of the context determine the conversational score (compare the discussion in Lewis 1979: 346). One possibility is that the score is determined by features of the mental states of the conversational participants (similar to Stalnaker 2002). On this account, it is the participants' beliefs that determine the common ground, and their (perhaps non-cognitive) attitudes towards wealth that determine the wealth standards of the score. Another

The **content** of an expression is something that can be modeled as a function from worlds to its extension at that world. So, for instance, the content of a one-place predicate of individuals is a property (modeled as a function from worlds to a function from individuals to truth values), and the content of a sentence is a proposition (modeled as a function from worlds to truth values), and so on. Having distinguished the Kaplanian context from the conversational score, we distinguish directly context-sensitive expressions from score-sensitive expressions. Directly context sensitive expressions have different contents relative to different contexts, but not relative to different scores, while score sensitive expressions have different contents relative to different conversational scores. Pure indexicals differ from quasi indexicals in that the former are directly context sensitive and the latter score-sensitive. Very often, a score sensitive expression will be indeterminate in content because the conversational score contains indices with different values for the parameter relevant to determining the content of that expression.

To take a relevant example, suppose that the score $\mathbb{S}$ contains two indices i_1 and i_2, where $g_{i_1} \neq g_{i_2}$. Then, the content of "rich" relative to this score will be indeterminate between:

$\lambda w \lambda x$. x's personal wealth at w is greater than g_{i_1}.

$\lambda w \lambda x$. x's personal wealth at w is greater than g_{i_2}.

We will model indeterminate contents by letting $[\![e]\!]^c$ be the set of contents which e is indeterminate between; call the members of this set e's content candidates at c. Formally:

Content:
$[\![e]\!]^c = \{f : \exists i \in \mathbb{S}_c : f = \lambda w. [\![e]\!]^{c,w,g_i}\}$.

In a framework in which a sentence's content (in some context) is indeterminate across a range of propositions, what do we say about the *truth value* of such a sentence as uttered in that context? Here, I propose that we supervaluate across the sentence's content candidates, as follows:

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possibility is that the score is determined by what is on the public conversational record, which reflects what speech acts have been made in the conversation. A third possibility is that there is no interpersonal score, but rather each person has their own subjective score. This final possibility would require some bookkeeping to bring it in line with the rest of the theory sketched below, but I do think the two are fully compatible.

Truth at a context:

(i) ϕ is true at c, w if $\forall p \in [\![\phi]\!]^c$: $p(w) = 1$.

(ii) ϕ is false at c, w if $\forall p \in [\![\phi]\!]^c$: $p(w) = 0$.

(iii) ϕ is indeterminate (neither true nor false) otherwise.

Thus, whenever the indeterminacy in wealth standards in c results in the content of some "rich"-sentence being indeterminate between propositions p_1 and p_2, where p_1 is true at w but p_2 is false at w, then that "rich"-sentence will be indeterminate (neither true nor false) at c, w. An example of this is when $\mathbb{S}$ contains indices i_1 and i_2 and Jim's personal wealth at w is greater than g_{i_1}, but not greater than g_{i_2}.

So, what is it to assertively utter a sentence, on this kind of framework? We distinguish the content of a sentence ϕ from its **update value**. Let the update value of a sentence in a context c be $|\phi|^c$. We define the update value by abstracting on the entire index, rather than just the world parameter:[25]

Update value:
$|\phi|^c = \{\langle w, g \rangle: [\![\phi]\!]^{c,w,g} = 1\}$.

To assertively utter a sentence at c is to propose changing its conversational score as follows:

Assertion:
To assertively utter ϕ at c is to propose changing $\mathbb{S}_c$ to $\mathbb{S}_c \cap |\phi|^c$.

Thus understood, assertion aims to change the conversational score in two ways: one, by adding some factual information to the common ground, and two, by refining various contextual parameters—thus advocating for a particular way of thinking about, or describing, that factual information. Thus, an assertion of "Jim is rich" proposes to make it settled in the context that Jim has enough personal wealth to count as rich in that context. It does so by proposing to eliminate all those world, wealth standard pairs from the score on which Jim's wealth does not exceed the wealth standard.

We turn now to the predictions of the theory. Recall that it is common ground in David and Naomi's conversation that Jim has just won $100,000 when the following

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[25] Formally, update values as I have defined them are analogous to Gibbard 1990's fact-norm contents (sets of pairs of a world and norm), or Gibbard 2003's fact-plan contents (sets of pairs of a world and hyperplan). However, our views differ in an important respect: I do not identify this kind of object as the content of a sentence. Combining Gibbardian expressivism with a minimalist theory of truth will yield the unwanted prediction that David and Naomi's claims in the Gradable condition are incompatible (such that at least one must be false).

exchange takes place:

(6) a. *David*: Jim is rich.
     b. *Naomi*: No, Jim isn't rich.

Negotiated contextualism predicts, in this case, that:

(a) David and Naomi's claims are not incompatible, and

(b) Naomi's rejection of David's claim is sensible.

The theory predicts that David and Naomi's claims are not incompatible as follows. David and Naomi have diverging attitudes about how much wealth is needed to count as rich: as such, the conversational score of their context contains at least (let's suppose) $g_1 = \$80,000$ and $g_2 = \$5,000,000$. Thus, since Jim in fact has \$100,000, we predict that both David and Naomi's claims are neither true nor false in their context. And, therefore, we predict that their claims are not incompatible.[26]

The theory predicts that Naomi's rejection is sensible as follows. Accepting David's proposal would be to eliminate all the g_2-indices from the score, while accepting Naomi's proposal would be to eliminate all the g_1-indices from the score. Therefore, there is no non-trivial (that is, non-empty) conversational score that can accept both David and Naomi's update proposals. As such, the only way for Naomi's proposal to have a chance at being (non-trivially) accepted is for her to reject David's proposal, thus keeping the g_2-indices in the score. Thus, it makes sense why she would reject David's proposal—she is offering a counter-proposal about now to resolve the indeterminacy in their conversational score.[27]

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[26]With a slight modification, negotiated contextualism can also predict that David and Naomi's claims could both be true. The strategy is to individuate contexts more finely, so that David and Naomi occupy different contexts. Then, it could be that the proposition David expresses in his context and the proposition Naomi expresses in her context will both be true (and hence compatible). We then define the conversational score of some conversation as the union of the indices left open by the contexts of each of the conversational participants. David and Naomi's assertions can be understood as competing proposals to update the conversational score of their conversation, which amounts to proposals to change the other's mind about both how much wealth Jim has and how much wealth it should take to count as rich. Thus, with this small tweak, my theory can predict that David and Naomi's claims can both be true. Of course, it remains an open empirical question whether ordinary speakers would share this judgment in the Gradable case. I set this aside as a question to explore in future work.

[27]This account is schematic, and relies only on the technical machinery. As such, it is compatible with various accounts of the underlying disagreement. One possibility builds on the assumption that the conversational score is determined by the attitudes of the conversational participants. In that case, David's assertion amounts to a proposal to Naomi that they both adopt a certain attitude towards wealth and Naomi's rejection then involves communicating her refusal to adopt that attitude toward wealth.

But now what about pure indexicals like "he," as used by David and Naomi in the Demonstrative condition? Why do pure indexicals *not* give rise to non-incompatible rejection discourses? Negotiated contextualism predicts they do not—their contents are not subject to contextual negotiation since they are directly context sensitive. Assume for now the following simplistic semantics for "he":

$$[\![\text{``he''}]\!]^{c,w,g} = \text{the most salient male in } c.$$

Suppose David is the speaker of c_1, Naomi the speaker of c_2, and that the most salient male in c_1 is Jim, while the most salient male in c_2 is Mark; suppose also that Jim won the lottery at w, but Mark did not. Then negotiated contextualism predicts that "He won the lottery" is true at c_1, w and "He did not win the lottery" is true at c_2, w. Hence, both David and Naomi's claims may both be true at their respective contexts. But now notice that the update values of David and Naomi's sentences (in their respective contexts) are compatible, since there are conversational scores that can non-trivially accept both:

- ▸ $|\text{``He won the lottery''}|^{c_1} = \{\langle w, g \rangle : \text{Jim won the lottery at } w\}$.

- ▸ $|\text{``He did not win the lottery''}|^{c_2} = \{\langle w, g \rangle : \text{Mark did not win the lottery at } w\}$.

Thus, there is no reason for Naomi to reject David's claim in the Demonstrative condition, and so we predict that her rejection there is not sensible.

Negotiated contextualism is a version of contextualism—the content of "rich" depends crucially on a parameter of the context. However, unlike orthodox contextualist theories, it holds that assertive utterances are often the means by which we negotiate the values of these contextual parameters. In a slogan: we communicate both to exchange information but also to coordinate on how to describe and think about that information.

3.1   Comparisons with nearby views

As mentioned above, negotiated contextualism draws inspiration from Barker 2002, 2013, Plunkett & Sundell 2013, Silk 2016. Here, I argue that, despite their similarities, there is a reason to prefer negotiated contextualism to these other views. While these other views are in a position to predict sensible non-incompatible rejection discourses, only negotiated contextualism accounts for the fact that such discourses arise for quasi indexicals but not pure indexicals.

Negotiated contextualism is closely related to the theory proposed by Barker 2002 and later elaborated upon in Barker 2013. Both theories share a commitment to the idea that utterances of gradable adjective sentences can propose two kinds of changes to the context: a change to the shared factual information, and a change to the standards something needs to meet to count as satisfying the positive form of that adjective. However, negotiated contextualism predicts that sensible non-incompatible rejection discourses should not arise with pure indexicals, whereas the account given in Barker's theory does not predict this. Here is the relevant quote from Barker about "faultless disagreement":

> "My diagnosis of the kind of faultless disagreement that arises from disputes about vague predicates, including predicates of personal taste, then, is that it is a combination of two things: the irrelevance of facts concerning the part of the world under discussion (in this case, the heights of the individuals being discussed) for resolving the dispute; and symmetry between the discourse participants with respect to the judgments under consideration (that no one has superior authority when it comes to assessing communicative norms)." (Barker 2013: 249).

Since Barker does not explicitly discuss sensible non-incompatible rejection discourses, I will assume here that this account of "faultless disagreements" would also be Barker's preferred account of sensible non-incompatible rejection discourses. Given this account, there is nothing in principle that prevents it from extending to pure indexicals. For instance, in the Demonstrative condition above, the subject matter of the two claims does not resolve the dispute (both parties agree that Jim won the lottery and Mark did not), and the two speakers have the same authority with respect to setting the conversational parameters. So, Barker's account does not predict the distinction between quasi indexicals and pure indexicals.

Another view that is similar to negotiated contextualism is Silk 2016's discourse contextualism. Silk endorses a standard contextualist view of quasi indexicals (epistemic modals, gradable adjectives, predicates of taste), but holds that very often speakers make incompatible presuppositions about the value of the relevant contextual parameter. According to Silk's view, in the Gradable condition, David presupposes that the wealth standards parameter is low enough that someone with $100,000 counts as rich according to it, while Naomi presupposes that the wealth standards parameter is high enough that someone with $100,000 does not count as rich according to it. Silk predicts that Naomi's rejection of David's claim is sensible here because they have

these incompatible presuppositions about the context (see Silk 2016: 36-7). Nonetheless, David's presupposition ensures that his utterance is true, while Naomi's presupposition ensures that her utterance is true, so their claims are compatible.

Despite their similarities, our theories differ about the mechanism generating these sensible non-incompatible rejection discourses: for Silk, the crucial point is that the speakers have incompatible presuppositions about the relevant contextual parameter, while for me it is that the speakers have proposed incompatible updates to the context as part of their assertions (and so, for me the speakers may both agree about their presuppositions about how the context is—their disagreement is over how to change it). An important difference between these accounts is that Silk's explanation seems to extend to pure indexicals, thus incorrectly predicting that pure indexicals can also give rise to sensible non-incompatible rejection discourses. All that is needed to generate such a disagreement, according to Silk, is that the speakers assert compatible propositions but have incompatible presuppositions about the relevant contextual parameter. And that seems to be the case in the Demonstrative condition in our experiment— David presupposes that the most salient male is Jim, while Naomi presupposes that the most salient male is Mark. As such, it is not clear, according to Silk's theory, why Naomi's rejection is non-sensible in that case, but not in the Gradable case.[28,29]

Finally, I compare my theory with Plunkett & Sundell 2013's theory of metalinguistic negotiation, which can also predict sensible non-incompatible rejection dis-

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[28]One possible response here is to hold that what David presupposes is that the most salient male at t_1 is Jim, while Naomi presupposes that the most salient male at t_2 is Mark. If this were correct, then their presuppositions would not be in conflict and Silk's theory would not predict sensible rejection in that case. However, this kind of response merely pushes back the issue one step. Now, the question becomes: why doesn't the same thing hold for wealth standards? If it did—if David presupposes that the wealth standard is g_1 at t_1, while Naomi presupposes that it is g_2 at t_2—then there would likewise be no conflict in their presuppositions, and so Silk's view would not predict that rejection is sensible in this case. The challenge here is to explain what is different about the role of context in fixing the contents of indexicals versus its role in fixing the contents of quasi indexicals, and Silk's view is silent on this matter.

[29]There is a wrinkle in the dialectic I pause to iron out. If Naomi mistakenly thinks that David was referring to Mark, then we might think her rejection of his claim is sensible, on the grounds that, given what she thinks about the context, it makes sense for her to reject David's claim. But I take it that this is not how contextual negotiation is supposed to work on Silk's theory in general—sensible non-incompatible rejections discourses involving "rich" need not require that the speakers are confused about what each are saying. My point is thus that, in whatever way the speakers have incompatible presuppositions about the wealth standard parameter needed to generate a sensible rejection discourse on Silk's theory, it seems that the speakers may have incompatible presuppositions about the salient male in just the same way, thus generating a sensible rejection discourse involving "he" where there intuitively isn't one.

courses. According to Plunkett and Sundell's theory, such cases arise because the two parties commit themselves to incompatible metalinguistic propositions about what the words uttered ought to mean. Negotiated contextualism differs in two ways from the theory of metalinguistic negotiation. For one, it is less committal about the nature of the disagreement underlying sensible non-incompatible rejection discourses. Plunkett and Sundell think that such disagreement is metalinguistic—about the terms involved. That diagnosis is compatible with negotiated contextualism, I think, but negotiated contextualism does not require it. Secondly, Plunkett and Sundell's theory extends to predict sensible non-incompatible rejection discourses involving pure indexicals. This is because all that is needed to generate a sensible rejection discourse is that the speakers endorse incompatible metalinguistic propositions. So, for instance, David may endorse the proposition that "he" on this occasion ought to refer to Jim while Naomi may endorse the proposition that "he" on that same occasion ought to have referred to Mark. Yet, the empirical evidence from the Demonstrative condition above suggests that this is not sufficient to yield a sensible rejection discourse involving the sentence "He won $100,000 in the lottery."

I want to emphasize that I am not claiming that my challenges to these related views are decisive. For instance, I have not, for the sake of space, considered what kind of moves might be available as responses to my challenges. In particular, it seems open to me for many of these views to join forces with negotiated contextualism by embracing the distinctions between Kaplanian context and conversational score, and between the content and update value of sentences. In the next section, I turn now to discuss a related property of "rich" (and, I think quasi indexicals more broadly) involving conflicting truth value assessments. As we will see shortly, this data provides another challenge to both orthodox semantic/pragmatic theories, as well as these more nuanced theories. However, I will argue that negotiated contextualism has the ability to predict this puzzling data.

4   Quasi indexicals and assessment

In the introduction, I mentioned a second property of quasi indexicals that distinguishes them from pure indexicals, which is that two surface conflicting assessments ("What he said is true"/"What he said is false") targeting a single "rich"-utterance also give rise to sensible non-incompatible rejection discourses. This property is not shared by pure indexical sentences, as we can see in the following example:

(7)   a.   *Lucy* (in Washington): It is raining here.

b.   *Wally* (in Arizona): What Lucy said is true.
c.   *Dougie* (in Las Vegas): No, what Lucy said is false.

By uttering "It is raining here," Lucy asserts that it is raining in Washington. Wally, who is in Arizona, targets the content of Lucy's assertion and says that it is true using the "What Lucy said" locution; in doing so, he says that it is raining in Washington (where Lucy is). Dougie, who is in Las Vegas, also targets the content of Lucy's assertion and says that it is false; in doing so, he says that it is not raining in Washington (where Lucy is). Here we have a sensible rejection discourse, but one in which the claims made are clearly incompatible: notice that Wally has *not* said that it is raining where he is (Arizona) and likewise Dougie has *not* said that it is not raining where he is (in Las Vegas).

In contrast with pure indexicals, which behave like non-indexicals when it comes to conflicting assessments, I will argue that conflicting assessments of "rich"-sentences do admit of sensible non-incompatible rejection discourses. This suggests another property of quasi indexicals that distinguishes them from both pure indexicals and non-indexicals. As before, my evidence for this claim comes from experimental data about ordinary speaker intuitions.

4.1   Experiment 2: Assessments

251 participants were recruited through Amazon Mechanical Turk (52 percent male, mean age 35). Participants were randomly assigned to either the Factual, Gradable, or Demonstrative condition. Those in the Factual condition read the following vignette:

> **Factual**. Beth is giving a speech at a party about her friend Jim. At the end of her speech, Beth points to Jim and says, "Jim won $100,000 in the lottery." After the speech, three friends, Sue, David and Naomi, are talking. Sue asks, "Is what Beth just said true?" David thinks that Jim recently won a lottery prize of $100,000. He thinks that $100,000 is a lot of money. David says, "What Beth said is true." Naomi agrees with David that $100,000 is a lot of money, but she does not think that Jim has that much money (since she thinks that he has never won a $100,000 prize). Naomi replies, "No, what Beth said is false."

Those in the Gradable condition read the following vignette:

> **Gradable**. Beth is giving a speech at a party about her friend Jim. At the end of her speech, Beth points to Jim and says, "Jim is rich." After the speech, three friends, Sue, David and Naomi, are talking. Sue asks, "Is what Beth just said

true?" David thinks that Jim recently won a lottery prize of $100,000. He thinks that $100,000 is a lot of money. David says, "What Beth said is true." Naomi agrees that Jim won $100,000 in the lottery, but to her $100,000 is not a lot of money (for her, $5,000,000 is a lot of money). Naomi replies, "No, what Beth said is false."

Finally, those in the Demonstrative condition read the following vignette:

> **Demonstrative**. Beth is giving a speech at a party about her friend Jim. At the end of her speech, Beth points to Jim and says, "He won $100,000 in the lottery."After the speech, three friends, Sue, David and Naomi, are talking. Sue asks, "Is what Beth just said true?" David thinks that Jim recently won a lottery prize of $100,000. He thinks that $100,000 is a lot of money. David says, "What Beth said is true." Naomi agrees that Jim won $100,000 in the lottery, and that $100,000 is a lot of money. But Naomi thinks that they really should be talking about Jim's brother Mark, and Naomi thinks that Mark has never won any lottery prizes. Pointing to Mark, Naomi replies, "No, what Beth said is false."

Participants were then asked two comprehension questions to make sure they registered the relevant manipulations (those in the Factual and Gradable conditions answered Check 1 and 2; while those in the Demonstrative condition answered Check 1 and 3):

- ▸ Check 1: Did both David and Naomi think that Jim won a lottery prize of $100,000?

- ▸ Check 2: Did both David and Naomi think that $100,000 was a lot of money?

- ▸ Check 3: Did both David and Naomi point at the same person?

Next, participants were either assigned to the Rejection or Incompatibility condition, which varied the Main Question. Those in the Rejection condition were asked how much they agreed with **Rejection**; those in the Incompatibility condition were asked how much they agreed with **Incompatibility**:

- ▸ **Rejection**: It made sense that Naomi said, "No, what Beth said is false."

- ▸ **Incompatibility**: At least one of David or Naomi's claims has to be false.

As before, responses were rated on a seven point scale (from 1 = "Strongly disagree" to 4 = "In between" to 7 = "Strongly agree").

Results and discussion

Answers were filtered by whether the participant answered both comprehension questions correctly, spent more than five seconds thinking about the Main Question, and self-reported as a native speaker of English. Of the remaining 198 participants, the results are summarized in the following chart:[30]
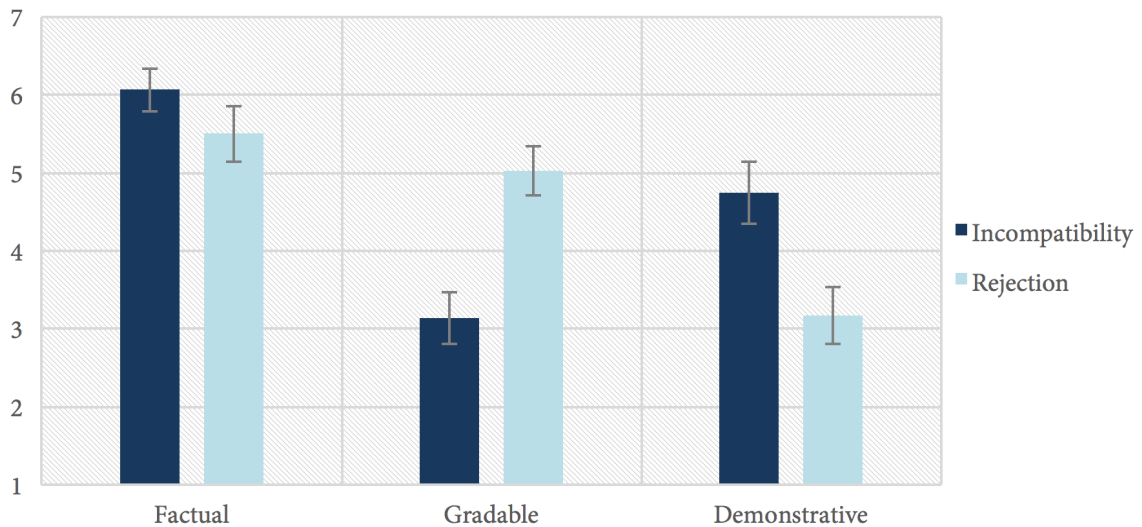

Figure 2: Comparing Rejection and Incompatibility in **Assessments**

As seen in the chart, the results are different across the three vignettes.[31] In the Factual condition, as with the **Utterance** experiment, participants strongly agreed with both **Incompatibility** and **Rejection**.[32] In the Gradable condition, as with the Utterances experiment, participants agreed with **Rejection** and disagreed with **Incompatibility**.[33]

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[30] Full data is available at http://osf.io/fp7wq.

[31] Results were subjected to a 3 (vignette: Factual vs. Gradable vs. Demonstrative) x 2 (question: Incorrectness vs. Rejection) ANOVA. There was a main effect of vignette, $F(2, 192) = 17.8, p < .001$, but no main effect of question, $F(1, 192) = 0.95, p = .76$, and there was a significant interaction effect, $F(2, 192) = 13.9, p < .001$.

[32] A planned comparison revealed that mean agreement with **Incompatibility** ($M = 6.06, SD = 1.6$) was not significantly different from mean agreement with **Rejection** ($M = 5.50, SD = 2.0$), $t(64) = -1.27, p = .21$.

[33] A planned comparison revealed that mean agreement with **Incompatibility** ($M = 3.14, SD = 2.0$) was significantly different from mean agreement with **Rejection** ($M = 5.03, SD = 1.87$), $t(68) = 4.07, p < .001$.

Finally, in the Demonstrative condition, unlike in the Utterances experiment, there was a significant difference between agreement with **Incompatibility** and **Rejection**, with participants more strongly agreeing with the former than the latter (the inverse of the Gradable condition).[34]

When assessing an ordinary factual claim, there is no difference in agreement with **Incompatibility** and **Rejection**. This is to be expected: the factual claim expresses an ordinary proposition, which is either true or false; this proposition is what is referred to by David and Naomi's utterances of "What Beth said is true"/"What Beth said is false," and this is why their claims are incompatible. Compare this with the Demonstrative condition. Here, we know that "he" is context sensitive, but nonetheless Beth's utterance of it determinately expresses a proposition referring to Jim. David and Naomi's utterances of "What Beth said is true"/"What Beth said is false" both refer to this proposition, which is again either true or false, and hence David and Naomi's claims are again incompatible.

Despite a similar pattern with respect to **Incompatibility**, we find responses in the Factual and Demonstrative conditions patterning differently with respect to **Rejection**: there is broad agreement with **Rejection** in the Factual case, but weak disagreement with it in the Demonstrative case. There seems to be a natural explanation for this pattern. When Beth points to Jim and says, "He won $100,000 in the lottery," the content of her claim is directly fixed by the context—it is that Jim won $100,000 in the lottery. When David and Naomi made their claims ("What Beth said is . . . "), they refer to this proposition and predicate either truth or falsity of it. Since this proposition is either true or false, at least one of their claims must be false. Yet, Naomi's rejection here does not make sense, given how she is described and her communicative intentions. She agrees with David about all the facts relevant to Beth's claim. But she thinks they should be talking about Mark. Yet, she cannot express this disagreement using the sentence she in fact utters. This accounts for why we find Naomi's rejection non-sensible.

In contrast with both the Factual and Demonstrative conditions, we find that in the Gradable condition, the two assessments of Beth's claim behave exactly like the two "rich"-utterances in the Utterances experiment. This is evidence that conflicting truth value assessments of a single "rich"-claim do sometimes give rise to sensible non-incompatible rejection discourses. But how does the theory of negotiated contextualism from §3 predict this result? I turn to this question in the final section.

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[34] A planned comparison revealed that mean agreement with **Incompatibility** ($M = 4.75, SD = 2.2$) was significantly different from mean agreement with **Rejection** ($M = 3.17, SD = 2.0$), $t(60) = -2.93, p = .005$.

5 Negotiated contextualism: assessments

It might help to quickly summarize the data we need to account for. In the Gradable conditions of both the Utterances experiment and the Assessments experiment, ordinary speakers tend to think (i) that David and Naomi's claims are not incompatible, and (ii) that, nonetheless, Naomi's rejection of David's claim was sensible. Furthermore, this pattern does not extend to either the Factual or Demonstrative conditions in either experiment.

(8)   Utterances

    a.   *David*: Jim is rich.
    b.   *Naomi*: No, Jim is not rich.

(9)   Assessments

    a.   *Beth*: Jim is rich.
    b.   *David*: What Beth said is true.
    c.   *Naomi*: No, what Beth said is false.

There is a tempting simple explanation for this pattern of data. Perhaps people are tacit dialetheists—in particular, they simply think that it can be true that Jim is rich and false that Jim is rich, end of story. However, this kind of explanation does not explain why rejection is sensible in both cases. One would expect that if dialetheism is true (and tacitly accepted), there should be no (felt) conflict between David and Naomi's claims. Dialetheism predicts that both claims are objectively correct—so what could they be arguing over?

    Notice as well that other theories that are capable of accounting for sensible non-incompatible rejection discourses involving two "rich"-claims also struggle to account for the same data concerning conflicting assessments. Each of the views discussed in §3.1 are either not fleshed out enough to make a prediction here (Barker 2002, 2013), or assign a straightforward possible-worlds content to sentences and thus cannot predict that two conflicting assessments of a single claim could ever be non-incompatible (Plunkett & Sundell 2013, Silk 2016).[35]

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[35]I pause to consider a possible way out for a contextualist who already has an account of the data from §1. The idea is that ⌜What X said⌝ has two interpretations: on one, it refers to the proposition X asserted, while on the other it refers (in context *c*) to the proposition that the sentence X uttered would have expressed had that sentence been uttered in *c*. If this were so, then David's utterance in the Gradable condition would have a reading that is equivalent to "Jim is rich" were he to have uttered it, and Naomi's utterance in that condition would have a reading equivalent to "Jim is not rich" where she to have uttered it. Then, the contextualist could just port over her explanation of sensible non-

But wait—it seems that negotiated contextualism should also make the exact same prediction. The theory predicts that the content of "Jim is rich" in some context c is either (a) determinately true, (b) determinately false, or (c) indeterminate. But then, no matter what, either an assessment of its content as "true" is false or an assessment of its content as "false" is false—there is no other possibility. So, it seems that negotiated contextualism should predict that at least one of David or Naomi's assessments of Beth's claim must be false, and hence that the theory is also unable to account for the Assessments data.

However, this only follows given that the locution "What Beth said" univocally refers to the content of Beth's assertion. But remember that negotiated contextualism predicts that there is a second semantic object nearby—the update value of Beth's sentence—which offers a way out for the theory. My proposal is to use this feature to generate a new account of truth value assessments. The proposal is that "says" and "claim"-locutions like "What Beth said" and "Beth's claim" are ambiguous and may refer to either the content of the asserted sentence, or its update value:

What is said

a. $[\![\ulcorner \text{What X said}_{content} \urcorner]\!]^{c,w,g}$ = the content of the sentence X uttered.

b. $[\![\ulcorner \text{What X said}_{update} \urcorner]\!]^{c,w,g}$ = the update value of the sentence X uttered.

In the case above, where Beth utters "Jim is rich" in context c_{Beth} we have:

▸ $[\![\text{"What Beth said}_{content}"]\!]^{c,w,g} = [\![\text{"Jim is rich"}]\!]^{c_{Beth}}$.

▸ $[\![\text{"What Beth said}_{update}"]\!]^{c,w,g} = |\text{"Jim is rich"}|^{c_{Beth}}$.

On its content interpretation, "What Beth said" refers to the content of Beth's claim at her context (which may be indeterminate—hence, it refers to the content candidates

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incompatible rejection discourses from the Utterances case to the Assessments case. One reason I do not favor this strategy comes from the data in the Demonstrative condition. If "What Beth said" (targeting Beth's utterance of "Jim is rich") in c could refer to the proposition "Jim is rich" would have expressed had it been uttered in c, then it should also be able to do so when it targets Beth's utterance of, "He won \$100,000 in the lottery." But if that is so, then we would expect the same pattern of agreement with **Incompatibility** in both the Gradable and Demonstrative conditions. This is because in the Demonstrative condition, David's utterance would have a reading that is equivalent to "He won \$100,000 in the lottery" were he to have uttered it (and hence would be claiming that Jim won the lottery), and Naomi's utterance in that condition would have a reading equivalent to "He did not win \$100,000 in the lottery" where she to have uttered it (and hence would be claiming that Mark did not win the lottery, since she is trying to talk about Mark). In that case, their claims should be compatible, contra the data in the Demonstratives condition.

of Beth's claim at her context). On the update interpretation, "What Beth said" refers to the update value of Beth's claim at her context.

Corresponding to these two meanings for ⌜What X said⌝ are two meanings (both deflationary) for "is true" (and likewise for "is false"):

Truth predicate

a. $[\![\text{"is true}_{content}\text{"}]\!]^{c,w,g} = \lambda P_{\langle s\langle s,t\rangle\rangle} \,.\, \forall p \in P : p(w) = 1.$

b. $[\![\text{"is true}_{update}\text{"}]\!]^{c,w,g} = \lambda u_{\langle i,t\rangle} \,.\, u(\langle w, g\rangle) = 1$

To clarify my terminology here: I assume that propositions are of type $\langle s, t\rangle$ (functions from worlds, of type s to truth values of type t), and that update values are of type $\langle i, t\rangle$ (functions from indices, of type i to truth values). Given this semantics, we compute the following:

▸ $[\![\text{"What Beth said}_{content} \text{ is true}_{content}\text{"}]\!]^{c,w,g} = 1$ iff

   $\forall p \in [\![\text{"Jim is rich"}]\!]^{c_{Beth}} : p(w) = 1$ iff

   "Jim is rich" is true at c_{Beth}, w.

▸ $[\![\text{"What Beth said}_{update} \text{ is true}_{update}\text{"}]\!]^{c,w,g} = 1$ iff

   $|\text{"Jim is rich"}|^{c_{Beth}}(g)(w) = 1$ iff

   Jim's personal wealth at w is greater than g iff

   $[\![\text{"Jim is rich"}]\!]^{c,w,g} = 1.$

With these assumptions in place, we make the following predictions.

First, we predict that David and Naomi's claims are not incompatible as follows. We propose that the sentence "What Beth said is true," as uttered by David, is interpreted as referring to the update value of Beth's utterance (more on the motivation for this assumption below). Then, we predict that the update value and content of David's utterance is the same as what it would have been had he simply uttered, "Jim is rich." The same goes for Naomi's utterance of "What Beth said is false"—it also refers to the update value of Beth's claim, and hence the update value and content of Naomi's utterance is the same as what it would have been had she simply uttered, "Jim is not rich." The contents of these two utterances are not incompatible; the explanation here is the same as above for the Gradable condition Utterances experiment. Both contents are indeterminate (since there are wealth standards relative to which each is true and wealth standards relative to which each is false), and hence neither true nor false.

Furthermore, Naomi's rejection of David's claim is sensible for the same reason as in the Gradable condition of the Utterances experiment. Since it is presupposed in their context that Jim has $100,000, David is proposing to update the score by eliminating all of the wealth standards greater than $100,000, while Naomi is proposing to update the score by eliminating all of the wealth standards less than or equal to $100,000. Since no non-trivial score can accept both updates, we predict that it makes sense for Naomi to reject David's proposal.

But now notice a wrinkle in our account, which is that **Incompatibility** also uses claim-targeting language:

> ▶ **Incompatibility**: At least one of David or Naomi's claims must be false.

Our explanation why people disagree with **Incompatibility** is that they think that the *contents* of David and Naomi's utterances are such that neither has to be false. But we have now proposed that claim-targeting language (like "X's claim" or "What X said") can also refer to the update value of an utterance. So, it seems that we threaten our initial explanation here. It seems that we have to assume that participants will naturally interpret "claim" in **Incompatibility** as referring to the *contents* of David/Naomi's utterances, and "What Beth said," as uttered by David/Naomi in the Assessments case as referring to the *update value* of Beth's utterance. Is there any independent motivation for these assumptions?

I think there is. A reason to expect that participants will naturally interpret "claim" in **Incompatibility** as referring to the contents of David/Naomi's utterances is that **Incompatibility** is trivially true if interpreted as about update values—interpreted in that way, it is equivalent to "Either Jim isn't rich, or Jim is rich." Since this statement is obviously true (so-interpreted), it would be reasonable to expect participants to look for a non-trivial interpretation (if there is one), which would lead them to interpret "claim" as referring to the contents of David/Naomi's utterances. So-interpreted, **Incompatibility** is false in the Gradable condition and true in the Factual/Demonstrative conditions, and thus its truth value is non-trivial.

So why interpret David/Naomi's truth value assessments as about the update value of Beth's utterance? One plausible answer is that this is the most natural interpretation of what David and Naomi are proposing, given the description of the case. In particular, David and Naomi are explicitly described as adopting conflicting standards of what counts as "rich," and thus it is natural to interpret (if possible) their utterances as giving voice to these views. Notice that this explanation leaves open room for the possibility that in a different context, it would be more natural to interpret David and Naomi's utterances as referring to the content of Beth's claim. Perhaps this would be

the case if David and Naomi were described as interested in assessing the status of attitudes towards wealth in Beth's context. More empirical work on this point is needed, but some initial findings suggest that just these kinds of changes in the context of assessment *do* affect judgments about truth value assessments of epistemic modal claims (see Beddor & Egan 2017), so there is reason to be optimistic about the strategy considered here.

One final issue remains, which is to account for the contrast between "rich" and "he" in the Assessments experiment. In the context of Beth's speech, the sentence she utters "He won \$100,000 in the lottery" has as its update value $\{\langle w, g \rangle$: Jim won \$100,000 in the lottery at $w\}$. When David says "What Beth said is true," targeting the update value of Beth's utterance, his claim true iff Jim won \$100,000 in the lottery; and when Naomi says "What Beth said is false," targeting the update value of Beth's utterance, her claim is true iff Jim didn't win \$100,000 in the lottery.[36] So, their claims are incompatible—one of them must be false. Thus, we predict the contrast observed between "rich" and "he" in the Assessments experiment.

I conclude that negotiated contextualism has a plausible account of the data both about "rich"-utterances and "rich"-assessments.

6   Concluding thoughts

We have focused exclusively on one particular gradable adjective, "rich." However, I think the lessons generalize beyond "rich," and promise both a new approach to thinking about context dependence and the nature of indexicals and quasi indexicals. For one, the empirical methods of §1 and §4 promise to generalize quite naturally, and can be used to explore a wide range of expressions (cf. Khoo 2015, Khoo & Knobe 2016). Combining that work with the results of this paper yields preliminary evidence that gradable adjectives, epistemic modals, and moral expressions are quasi indexicals. I conjecture that many other expressions are quasi indexicals—in particular, I suspect that many of the expressions that have engendered controversy as to their status as context sensitive or context invariant are in fact quasi indexicals. These include quantificational determiners, adverbial quantifiers, indicative conditionals, propositional attitude operators, and tenses (see the debate among semantic minimalists, moderate contextualists, and radical contextualists canvassed in Cappelen & Lepore 2005). More experimental work is needed to verify this conjecture. Furthermore, more theoretical

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[36] Exactly the same result is secured if we interpret David and Beth's utterances of "What Beth said" as referring to the content of Beth's utterance.

work is needed to show how one might extend the framework of negotiated contextualism to this wide range of expressions. I leave these matters aside to be explored in future work.[37]

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