

# Acquaintance Inferences, Subjective Attitudes, and Counterstance Contingency

## Toward a Pragmatic Theory of Subjective Meaning

**Christopher Kennedy and Malte Willer**  
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**Abstract** This paper focusses on two interpretive and distributional characteristics of subjective predicates that have resisted a comprehensive analysis: subjective predicates introduce acquaintance inferences, and they differ from objective predicates in their distribution under certain types of propositional attitude verbs. The goal of this paper is to argue that these features can be derived in a uniform way, without introducing special kinds of meanings or interpretive operations for subjective predicates, and within a broadly truth-conditional approach to semantic content, given a view of subjective language as an essentially pragmatic, context-sensitive phenomenon. Specifically, we propose that what renders an issue subjective in discourse is speakers' awareness of *counterstances*: alternative information states that reflect conflicting pragmatic stances on language use. We show how a characterization of subjective predicates as counterstance contingent expressions not only derives their distributional properties, but also explains why their use comes with distinct acquaintance inferences.

**Keywords** subjective meaning · linguistic underdetermination · attitude verbs · acquaintance inferences

### 1 The Plot

Predicates of personal taste such as *tasty* and *fun* come with an ACQUAINTANCE INFERENCE: speakers ascribing tastiness or fun typically suggest that they have first-hand knowledge of the item or event under consideration, in the sense that they have direct experience of it in an appropriate way (MacFarlane 2014; Ninan 2014; Pearson 2013; Franzén 2018; Anand and Korotkova 2018; Muñoz 2019). Following an utterance of (1) or (2) with (1a) or (2a), for instance, would likely cause raised eyebrows; if the speaker lacks the relevant first-hand knowledge of how sea urchin tastes or what participation in an event of downhill skiing is like, it would be much more appropriate for her to choose hedged variants such as (1b) or (2b).

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- (1) I have never tried sea urchin.  
 a. # It's (not) tasty.  
 b. ✓ I hear it's (not) tasty.
- (2) I have never gone downhill skiing.  
 a. # It's (not) fun.  
 b. ✓ It must (can't) be fun.

This is noteworthy since many other predicates lack a similar acquaintance component: to wit, a straight assertion that sea urchin is orange does not at all require that the speaker has any sort of direct experience with sea urchin; it may express an opinion formed on the basis of testimony. In fact, acquaintance inferences broadly construed are not peculiar to predicates of personal taste, but are also shared by aesthetic predicates such as *beautiful* (see, e.g., [Mothersill 1984](#) and [Wollheim 1980](#)); by sense verbs such as *seems* and *looks* (see, e.g., [Stephenson 2007](#) and [Rudolph 2019](#)); and by moral predicates such as *wrong* ([Stevenson 1937](#); [Gibbard 2003](#); [Authors to appear](#)). The goal of this paper is to make progress toward understanding why this is so.

Part of the explanandum here is the fact that acquaintance inferences show a complex pattern of projection. Negation does not cancel the implication that the speaker has first-hand experience with the item under consideration, as shown by (1a) and (2b), but hedging does, as shown by (1b) and (2b). Similarly, to state that Kim was recently in Tokyo and enjoyed a tasty dish at her favorite izakaya is not for the *speaker* to suggest that she actually tasted Kim's meal. Such "exocentric" uses of taste predicates are tied to tastes and sensibilities other than the speaker's and thus differ from "autocentric" uses in which the item under consideration is evaluated based on the speaker's own tastes and sensibilities (see [Lasersohn 2005](#)).

Existing approaches to the previous observations all leave something to be desired, and to get the issue into better view it is helpful to see why. It will not do — without additional maneuvers anyway — to follow [Pearson \(2013\)](#) in simply treating acquaintance inferences as a presuppositional affair, the reason being that the former has a different projection pattern from the latter, as [Ninan \(2014\)](#) and [Muñoz \(2019\)](#) detail. For instance, although epistemic modals are presupposition "holes" in [Karttunen's \(1973\)](#) sense, so that the presupposition triggered by *stop* in (3a) projects, they block the acquaintance inferences of predicates of personal taste from projecting, as shown by (3b).

- (3) a. # Lee has never smoked, but he might have stopped smoking.  
 b. ✓ I have never tried sea urchin, but it might be tasty.

So if an utterance of "Sea urchin is tasty" merely presupposed that that speaker has actually tasted the dish, so should an utterance of (3b), which is clearly not the case.<sup>1</sup>

[Ninan \(2014\)](#) considers a pragmatic explanation of acquaintance inferences. Start with the knowledge norm of assertion defended at length by, for instance, [Williamson \(1996, 2000\)](#): one must assert a sentence  $\phi$  in some context  $c$  only if

<sup>1</sup> [Anand and Korotkova \(2018\)](#) attempt to resurrect the presuppositional account by introducing a compositional mechanism for obviation by expressions like *might* and *must*, but [Authors \(to appear\)](#) argue that their solution fails to achieve the desired effects.

one knows that  $\phi$  is true as used in  $c$ . And add to this the following acquaintance principle: whenever a taste predicate is used autocentrically, knowing that  $x$  is tasty (or that it is not tasty) requires first-hand knowledge of  $x$ 's taste. It then follows immediately that an utterance of (1a) is problematic: to be in a position to assert that sea urchin is tasty, one must know that sea urchin is tasty, which in turn requires having sampled it — exactly what the second conjunct denies. Since the acquaintance principle does not impose any constraints on hedged autocentric uses of predicates of personal taste — or of their epistemically modalized uses, for that matter — it is also not surprising that utterances of (1b) or of (3b) get a pass.

While the story outlined in the previous paragraph improves on a presuppositional account in its explanation of the projection properties of acquaintance inferences, it leaves some crucial issues unresolved. First, the acquaintance principle is not obviously correct, since knowledge claims about (for instance) taste that are based on indirect evidence are in general felicitous (Muñoz 2019).

- (4) I know that the licorice is tasty...
- a. ✓ ...because Alfonse made it.
  - b. ✓ ...because it's Finnish.

(4a) and (4b) easily roll of the tongue, and this is unexpected if the acquaintance principle were in fact true.<sup>2</sup>

Second, even if correct, the acquaintance principle does not immediately generalize to cases where acquaintance inferences do arise in embedded contexts. Of particular interest here is a class of attitude ascriptions that we will refer to as SUBJECTIVE ATTITUDE ASCRIPTIONS, exemplified by the verb *find*, which also give rise to not-at issue acquaintance inferences:

- (5) I have never tried sea urchin.
- a. ✓ I (don't) believe it to be tasty.
  - b. # I (don't) find it tasty.
- (6) Kim has never tried sea urchin.
- a. ✓ She believes (doesn't believe) it to be tasty.
  - b. # She finds (doesn't find) it tasty.

There is nothing strange about believing that something is tasty (or not) in the absence of first-hand knowledge of its taste — observations of others' reactions or reports from reliable sources could justify such a judgment — but one evidently cannot find something tasty (or not) without actually having tasted it.

Ninan's pragmatic account cannot explain acquaintance inferences in subjective attitude ascriptions — nor, to be fair, is it intended to. It states that what it takes to know that  $x$  is tasty in autocentric contexts, but does not say what it takes to know that Kim (or oneself) finds  $x$  tasty. It is, of course, not unreasonable to claim that one cannot know that  $S$  finds  $x$  tasty without knowing that  $S$  has actually sampled  $x$ , and then to add that knowing that  $S$  believes  $x$  to be

<sup>2</sup> See Muñoz (2019, Section 4.1.1) for additional critical discussion of the acquaintance principle. Ninan (2014), we should add, acknowledges that his explanatory strategy leaves some critical questions unresolved, though his concerns are different from the ones voiced here.

tasty comes with no such requirement. But this fact calls as much for an explanation as the one articulated by the original acquaintance principle. And finally, a purely pragmatic account like Ninan’s will not be well-equipped to capture the fact that acquaintance inferences in subjective attitude ascriptions appear to have the projection behavior of proper presuppositions:

- (7) Kim has never tried sea urchin ...
- a. # ... so she must not find it tasty.
  - b. ... so she must not think it’s tasty.
  - c. # ... but I hear she finds it tasty.
  - d. ... but I hear she thinks it’s tasty.

Our goal in this paper is to argue that acquaintance inferences in both matrix assertions and under subjective attitude verbs reflect a particular kind of “appreciation of the relevant facts” that underwrites taste judgments specifically and “subjective” judgments more generally. Our strategy will be to let the second explanatory challenge we mentioned — the need for an explanation of why subjective attitude ascriptions come with acquaintance inferences — inform our explanation of acquaintance inferences in unembedded contexts. In brief, attitude ascriptions involving *find* (or its interesting cousin *consider*) require their complement to be subjective in a particular way — a notion we propose to analyze as a sensitivity to distinct discourse alternatives that arise pragmatically from language users’ sophisticated awareness of the underdetermination of linguistic practice by (what they take to be) matters of fact. We will show how the semantics of subjective attitude attributions thus understood derives their acquaintance inferences, and then move on to show how the same explanation can be extended to account for acquaintance inferences in subjective assertions.

The paper is structured as follows. Section 2 presents the key data involving subjective attitude verbs, and shows why existing accounts are inadequate. In Section 3 we explain and motivate our own analysis in informal terms and show how the framework predicts the complex selectional properties of subjective attitude verbs. Section 4 then provides the formal details and extends the account to handle more complicated types of examples, and section 5 shows how the framework derives acquaintance inferences for both subjective attitude verbs and unembedded uses of subjective predicates. Section 6 concludes with a discussion of the broader implications of our account for the distinction between subjective and objective meaning.

## 2 Subjective attitude ascriptions

Earlier we suggested that an explanation of acquaintance inferences will flow from an adequate story about the semantics of subjective attitude ascriptions, so let us begin by explaining what such a story should look like. What makes subjective attitude verbs notable is that they require their complements to be subjective in ways that differ systematically depending on the attitude verb (see, e.g., [Bouchard 2012](#); [Bylina 2017](#), [Fleisher 2013](#); [Kennedy 2013](#); [Hirvonen 2014](#); [Reis 2013](#); [Sæbø 2009](#); [Stephenson 2007](#); [Umbach 2016](#); and [Vardomsakaya 2018](#)). Thus (8a) with the experiential adjective *fascinating* is acceptable, but (8b) with *vegetarian* is not,

even though this is an expression for which there may be inter-speaker variation as to the criteria are relevant for determining whether the predicate applies.

- (8) a. ✓ Kim finds Lee fascinating.  
b. # Kim finds Lee vegetarian.

In this sense, *find* contrasts with the otherwise similar verb *consider*, which can be used with predicates like *vegetarian* (as well as *fascinating*):

- (9) a. ✓ Kim considers Lee fascinating.  
b. ✓ Kim considers Lee vegetarian.

At the same time, *consider* is like *find* in rejecting fully objective predicates (Fleisher 2013):

- (10) a. # Kim finds the sum of two and two greater than four.  
b. # Kim considers the sum of two and two greater than four.

Intuitively, all the sentences in (8)–(10) imply that it is somehow “up to Kim” whether the predicate in the complement can be truthfully applied to its argument, albeit in slightly different ways, as shown by the contrast between (8b) vs. (9b), which accords with our understanding of the meaning and use of *fascinating* and *vegetarian*, but not *greater than four*. It is in this sense that both *find* and *consider* express subjective attitudes, and it is in this sense that they differ from regular doxastic attitude verb like *believe* and *think* which accepts any kind of predicate in its complement:

- (11) a. ✓ Kim believes/thinks that Lee is fascinating.  
b. ✓ Kim believes/thinks that Lee is vegetarian.  
c. ✓ Kim believes/thinks that the sum of two and two is greater than four.

Our immediate goal is to develop a semantics for subjective attitude verbs that captures this intuitive characterization of their difference from plain doxastic attitude verbs, and also captures the finer-grained differences between *find*-type and *consider*-type subjective attitude verbs that make the former more restrictive than the latter. We present our account in Section 3; in the remainder of this section, we review two alternative approaches and argue that neither checks all of the analytical and empirical boxes.

The first approach, articulated in Sæbø 2009, provides a type-theoretic account of the contrast in (8a-b). In this analysis, *find*-type subjective attitude verbs assign semantic values relative to an index of evaluation (for current purposes, a possible world will do) and lets subjective predicates have an implicit judge argument that is saturated by the subject of *find*:

- (12) a.  $\llbracket \textit{find } \phi \rrbracket^{c,w} = \lambda x. \llbracket \phi \rrbracket^{c,w}(x)$   
b.  $\llbracket \textit{fascinating} \rrbracket^{c,w} = \lambda x \lambda y. x \text{ is fascinating to } y \text{ at } w$   
c.  $\llbracket \textit{vegetarian} \rrbracket^{c,w} = \lambda x. x \text{ is vegetarian at } w$

[[Lee (is) vegetarian]]<sup>c,w</sup> is of not of the right type to serve as an argument for *find*, while [[Lee (is) fascinating]]<sup>c,w</sup> is, so the unacceptability of (8b) is due to type mismatch. Sæbø does not address acquaintance inferences in subjective attitude verbs, but the interpretation of (8a) is equivalent to an exocentric interpretation of the bare form (with Kim as the judge), which as we have seen, has an acquaintance inference of its own, which opens the door to an account of the former in terms of the latter.

However, a considerable drawback of this kind of analysis is that it does not easily generalize to address more fine-grained distinctions between subjective attitude verbs. Consider, for example, adjectives like *dense*, *heavy* and *light*. These can have either a purely “quantitative” interpretation that characterizes the physical properties of a substance, as in (13a), or a more “qualitative” interpretation, that can be used to describe objects which have no physical properties, as in (13b); when an object can be assessed from either a quantitative or qualitative perspective, as in (13c), both interpretations are possible (Kennedy 2013).

- (13) a. This metal is dense/heavy/light.  
 b. This story is dense/heavy/light.  
 c. This cake is dense/heavy/light.

When we turn to subjective attitude verbs, we see that these adjectives embed under *find* only when they are interpreted qualitatively. Thus (14a) is unacceptable under *find*, (14b) is fine under *find*, and (14c) is unambiguously qualitative under *find*; all examples/interpretations are acceptable under *consider*.

- (14) a. # Kim finds this metal dense/heavy/light.  
 b. Kim finds this story dense/heavy/light.  
 c. Kim finds this cake dense/heavy/light.  
 (15) a. Kim considers this metal dense/heavy/light.  
 b. Kim considers this story dense/heavy/light.  
 c. Kim considers this cake dense/heavy/light.

While there is clearly some kind of meaning distinction between the quantitative and qualitative senses of adjectives like *dense*, *heavy* and *light* (and indeed this kind of polysemy appears to be quite productive), there is no obvious type-theoretic reflection of this difference: both senses are gradable, for example, and both have the same basic syntactic distribution, with the one exception of embeddability under *find*. So while *find* and *consider* are evidently sensitive to different ways that a predicate can be “subjective,” there is no independent evidence that this difference corresponds to a difference in semantic type.

A second type of approach effectively takes acquaintance inferences as the analytical starting point, and accounts for the selectional properties of *find* in terms of lexically encoded evidential constraints. Stephenson (2007) proposes that *find* is a doxastic attitude verb that differs from *believe* and *think* (and *consider*) in imposing an additional requirement that the prejacent denote a proposition that the attitude holder can have direct experience of. Responding to shortcomings of this account noted by Sæbø (2009), Muñoz (2019) adds that this direct evidence

is impossible for any agent other than the subject of the attitude verb to have.<sup>3</sup> So roughly, the evidence for Lee being fascinating, given some individual anchor  $x$ , is that Lee stimulates feelings of fascination *in*  $x$ , and only  $x$  can tell directly whether this is so — hence *fascinating* embeds under *find*. In contrast, the evidence for Lee being vegetarian, given some individual anchor  $x$ , is that Lee exhibits certain eating habits or preferences, which (evidently) anyone can in principle have directly — hence *vegetarian* does not embed under *find*. The upshot of this kind of approach is that “the infelicity of *find*-reports [...] tends to hold in virtue of the lexical semantics of predicates, tracking whether they contain some component specially sensitive to direct evidence, in such a way that there can in principle be direct evidence for the relevant hyperintension that only one agent can have” (Muñoz 2019, p. 274).

The problem with linking embeddability under subjective attitude verbs to some kind of direct evidence constraint is that it fails to predict the full variety of felicitous *find*-constructions in natural language. It is, for sure, not unreasonable to think that experiential predicates such as *fun* and *fascinating* encode a distinct sensitivity to evidence that is only directly accessible to one individual but not another — but not all predicates that embed under *find* are of this particular kind. The following naturally occurring examples demonstrate that, in addition to experiential predicates, *find* can embed: character trait predicates (*brave, irresponsible, naive, evil, heroic, stupid, arrogant, petty, mean-spirited*); aesthetic predicates (*kitsch, gaudy, over the top, dynamic, profound, flexible, elegant*); and moral predicates (*wrong, right, unacceptable, permissible, impermissible*) (cf. Vardomsakaya 2018).

- (16) a. How do you feel about Timothy Treadwell? Do you find him brave and interesting or irresponsible and naive?  
 b. I don't find him evil à la Moriarty but I don't find him heroic either.  
 c. Men find him cowardly and women find him disturbing  
 d. I find him stupid, arrogant, petty, and decidedly mean-spirited.
- (17) a. Some may find [the temple] kitsch, some may find it gaudy, some may find it over the top, but the level of devotion and respect shown by the multitude of Buddhist pilgrims on the day we visited suggests that they view it as religiously significant.  
 b. I always look at the drawing ... if I find it dynamic, profound and flexible, it touches a soft spot of mine.  
 c. This is also a valid solution, and a practical one in some languages, but few people will find it elegant.
- (18) a. I find cheating wrong, mostly because it says you can't be trusted.  
 b. I don't find it right that people who make little pay more taxes towards the community than big business.

<sup>3</sup> Muñoz's proposal appeals to hyperintensions and is, in fact, in some ways a hybrid of Stephenson's and Sæbø's analyses, since it shares with the latter the view that *find* introduces no doxastic content. In this respect Muñoz takes *find* to differ from *consider*, which is given an analysis that is similar to the one we provide in the next section. We will not delve into the complex topic of hyperintensions, but we will provide reasons to think that *find* and *consider* both have doxastic content at a later stage (see the discussion of “Neg-raising” in Section 5.1 and also footnote 9).

- c. Like many in the game I find it unacceptable that so little has been done to reform Fifa.
- d. In this case, Unger thinks that we will find it permissible to push the one person on roller skates in front of the trolley, even though if it were the only alternative to letting the trolley kill the six, we would find it impermissible. (Kamm 2007, p. 197)

It is unclear what aspect of the lexical semantics of *brave*, *arrogant*, *over the top*, *dynamic*, *wrong*, *impermissible* and so forth could be sensitive to direct evidence in some distinguished form. There is, to be sure, an evaluative component to the meanings of these predicates, and it makes sense to say that speakers assign extensions to them in ways that vary according to their own evaluations. But it does not obviously follow that direct evidence for such evaluations can only be had by the evaluator, any more than direct evidence for an assessment of who counts as vegetarian can only be had by the assessor.

Of relevance here is the fact that *find*-reports with non-experiential predicates also give rise to acquaintance inferences, as the following contrasts show:

- (19) I don't know anything about Timothy Treadwell, other than the fact that Werner Herzog made a documentary about him. And because of that ...
  - a. # ... I (don't) find him brave.
  - b. ... I (don't) believe that he's brave.
- (20) I don't know anything about Smith's solution, but I do know Smith, so ...
  - a. # ... I (don't) find the solution elegant.
  - b. ... I (don't) believe that the solution is elegant.
- (21) I don't know what Jones said to Smith the other night, but I do know what Jones is like when drunk, so ...
  - a. # ... I (don't) find it wrong.
  - b. ... I (don't) believe that it was wrong.

One can believe that someone or something is brave, elegant or wrong based on rather sparse information, but to *find* someone or something brave, elegant or wrong, one must know a particular set of facts: how a person responds to danger, how many stipulations a solution must make in order to work, the context of a specific action or kind of behavior, and so forth. Sometimes acquaintance with the relevant set of facts entails perceptual experience, e.g. for aesthetic predicates that characterize visual properties of an object, and, of course, for predicates with true experiential semantics:

- (22) I don't know anything about the taste of sea urchin, other than the fact that many Japanese people enjoy it. And because of that ...
  - a. # ... I (don't) find it tasty.
  - b. ... I (don't) believe that it's tasty.

But the full pattern suggests that acquaintance with experiential facts is just a special case of a more general requirement: for a *find*-attribution to be felicitous, the attitude at play must constitute a genuine assessment of — and thus involve

genuine acquaintance with — the facts that matter for whether or not the attitude is true. And which facts matter is a function the lexical semantics of the embedded predicate: when the predicate has experiential semantics, acquaintance with these facts requires experiencing things a certain way, and manifests itself as a distinct direct evidence requirement, à la Stephenson (2007) and Muñoz (2019), but when the predicate describes a character trait, or a moral property, acquaintance with the facts manifests itself in other ways. But this means that it is wrong to tie acceptability of a predicate under *find* to direct evidence. Instead, we propose to analyze the selectional criteria of subjective attitude verbs in terms of a feature that all of the predicates they embed share — subjectivity, of a sort that we will make precise in the next two sections — and to use that analysis to derive a corresponding inference of acquaintance with a relevant set of facts.

### 3 Counterstance contingency

Our analysis of subjective attitude verbs, first articulated in Authors (20xx) and further refined here, is closest in spirit to proposals developed by Coppock (2018) and Bouchard (2012). Coppock replaces possible worlds with “outlooks,” which are refinements of worlds that settle not only matters of fact but also matters of opinion, and then lets all predicates — including predicates of personal taste — have ordinary extensions relative to these refined points of evaluation. Since opinions differ, a world will allow for different refinements and thus correspond to multiple outlooks, and it makes good sense to call a predicate “discretionary” if its extension varies across the outlooks corresponding to a single world. (Objective predicates, in contrast, will at most vary in their extensions across worlds.) A proposition is discretionary just in case its truth-value varies across the outlooks corresponding to a single world. Coppock’s proposal for Swedish *tycka* — which patterns with English *find* in many ways — is that it presupposes that its complement is discretionary. A similar proposal for *find* is articulated by Bouchard (2012) when he suggests that it carries a “subjective contingency presupposition:” keeping all the non-subjective facts constant, it must be possible to judge the complement clause true, and it must be possible to judge it false.

Like Coppock and Bouchard, we suggest that what makes subjective attitudes special is that they carry a contingency presupposition. However, our proposal is specifically designed to account for the fine-grained differences between *find*- and *consider*-type subjective attitude verbs. There is, for instance, a distinct sense in which *vegetarian* is a discretionary predicate — indeed, it lives happily under the scope of *consider* — but as we have seen, it is not discretionary “enough” to embed felicitously under *find*. We will develop an account of the notion of contingency at play here that makes sense of exactly this observation.

Another distinguishing feature of our analysis is that it does not try to locate the distinction between subjective and objective predicates exclusively in the lexicon. Take, for instance, the difference between (23a) and (23b):

- (23) a. ✓ Kim considers Crimea part of Russia.  
 b. # Kim considers Siberia part of Russia.

The intuitive explanation of the contrast is that the sovereignty over Crimea is (at the time of writing this paper) disputed, hence the use of *consider* in (23a) seems

appropriate, while Siberia being part of Russia would count as an objective fact, hence the use of *consider* in (23b) is odd. But this is not a matter of semantics; it is simply a matter of what background information the discourse context provides or can be accommodated. We thus propose that the kind of contingency that licenses embeddability under subjective attitude verbs, and gives rise to “subjective meaning” more generally, is fundamentally pragmatic.

Specifically, our key proposal is that the contingency that licenses embeddability under subjective attitude verbs arises from language users’ sophisticated awareness that (what they take to be) matters of fact only partly determine what we say and think. To get the guiding intuition into view, observe that in the following two examples, replacing *believe* with *consider* signals that the formation of the attitude under consideration must have involved a “leap from the facts:”

- (24) a. Kim believes the gas tank to be full.  
 b. Kim considers the gas tank full.
- (25) a. Kim believes herself to be a Chicagoan.  
 b. Kim considers herself a Chicagoan.

For example, (24b) signals that Kim’s commitment to the gas tank being full is based on something other than knowledge of how much fuel it contains, such as how much she is willing to spend for gas. And (25b) would be appropriate in a context in which Kim in fact lives in one of the Chicago suburbs, but takes the fact that she works in the Loop and is a Cubs fan as sufficient to count as a true Chicagoan. Plain belief attributions, to be clear, do not exclude that adopting the commitment involves a leap from the facts; but the use of *consider* explicitly signals the attitude to be subjective in this specific way.

The more concrete proposal is that the attribution of a belief using *consider* presupposes the contingency of the belief across a set of contextually provided doxastic alternatives, all of which agree with the attributee on the salient facts of the matter, but disagree on matters of linguistic practice, such as the criteria that must be fulfilled for something to fall under the extension of *full* or *Chicagoan*. Each of these contextually provided doxastic alternatives constitutes a distinct “pragmatic stance” on the use of language, so we label them COUNTERSTANCES and the contingency across them COUNTERSTANCE CONTINGENCY. To say that an individual is committed to a counterstance contingent belief is to say that the commitment is sensitive to the belief holder’s contingent linguistic practices — that one may agree on all the salient facts of the matter and still disagree on the issue, simply in virtue of being immersed in different but equally legitimate conventions of language use. It is for this reason that uses of *consider* often imply that the belief involves a “leap from the facts.”

The key underlying fact here is that natural language is underdetermined at both the semantic and the pragmatic level and that speakers are perfectly aware of this being so: natural language meanings constrain but do not determine predicate extensions; speaker communities differ in their communicative norms, and these norms are subject to individual interpretation. It is the first kind of underdetermination that we resolve when we call someone who is five-foot-ten *tall*, or when we count a race horse like Secretariat as an *athlete* (cf. Ludlow 2014). Counterstances thus track, *inter alia*, contextually salient alternative resolutions of semantic un-

derdetermination, and a belief in some proposition is counterstance contingent in case the doxastic commitment fails to be preserved across those resolutions.<sup>4</sup>

What we have said so far has enough bite to explain the contrast between (23a) and (23b), repeated below:

- (23) a. ✓ Kim considers Crimea part of Russia.  
 b. # Kim considers Siberia part of Russia.

It does not take much imagination to see how the belief that Crimea is part of Russia (23a) could be counterstance contingent in 2019, five years after the annexation of the former by the latter. Is a referendum sufficient for some region to become part of another country, or does the referendum need to be recognized by other states? If so, how many, and does the referendum also have to be in accordance with the local constitution? Nothing about the meaning of *part of Russia* settles these questions, but how one answers them obviously decides whether Crimea counts as a part of Russia or not. In contrast, it is much less easy to see how one's stance on these or other controversial issues about statehood could matter for the political status one is inclined to assign to Siberia, at least not without additional stage setting or accommodation.<sup>5</sup>

One reason why what we say and believe is counterstance contingent, then, is that natural language meanings do not determine perfectly stable predicate extensions. Another is that what we say and believe is sensitive to what one may label a *WORLDVIEW* — a complex set of background principles that, inter alia, implicitly guide our opinion-forming practices through commonsense assumptions and a conception of what counts as exemplary inquiry.<sup>6</sup> Joseph Priestly believed that oxygen was dephlogisticated air; Ptolemy held that the heavenly bodies moved uniformly around the equant point; these beliefs have little to recommend for themselves

<sup>4</sup> In saying that meaning sometimes fails to fix sharp predicate extensions, one may remain agnostic about the exact source of this underdetermination. One straightforward thought would be that predicate extensions fail to be sharply defined: there sometimes simply is no fact of the matter as to whether or not a predicate applies. But one may also pursue a broadly epistemicist line (à la Williamson 1994) and treat the underdetermination of interest here as epistemic in nature: predicate extensions are sharply defined, but there sometimes is no way to tell what they are, even for a perfectly competent speaker. What matters for our story is the hypothesis that discourse represents alternative ways of fixing predicate extensions as “live” and that the presence or absence of such alternatives matters for the semantics of subjective attitude verbs and, we claim, for the subjective/objective distinction.

<sup>5</sup> Accommodation can help us understand why the negation of (23b) is fine:

- (i) Kim doesn't consider Siberia part of Russia.

For reasons that we will explain below, (i) is interpreted with negation in the embedded clause. The proposition that Siberia is not part of Russia is of course no more counterstance contingent than the proposition that it is, in typical contexts, but characterizing Kim as committed to a proposition that is obviously false invites us to accommodate a basis for generating counterstances that would make sense of her judgment, e.g. differing opinions about the political legitimacy of boundaries that were the result of Russian conquest of the Khanate of Sibir.

<sup>6</sup> Our notion of a worldview is of course reminiscent of what Kuhn (1962) labels “paradigms” but the general suggestion that our opinion-forming practices are inherently shaped by socially constructed frames of reference traces back at least to the writings of the American pragmatists: see in particular Lewis 1923 but also for instance James 1890, Chapter XXVII, James 1907, Lecture V, and Peirce 1905.

if contemplated from outside the paradigms of Phlogiston theory and Ptolemaic astronomy. But abandoning them demands more than a simple change of mind: the “error” is not akin to what happens when one misremembers where one put one’s keys. Conflicting evidence can be — and in fact often is — accommodated by adjusting the background theory. In this respect, then, here one may agree on all the facts of the matter and disagree on the issue, just as much as one can agree on an individual’s height and disagree on whether she is tall.

Differences in worldview, to be clear, are not simply differences in manners of speaking. But, we argue, they nonetheless supervene on differences in linguistic practice since they manifest in, reinforce, and are reinforced through a variety of discursive practices: what counts as open in inquiry as opposed to a bedrock truth, and thus as a legitimate subject of inquisitive discourse moves; what it takes to be justified in believing a proposition, and thus to be licensed to make assertions or treat some proposition as common ground in discourse; what counts as a good argument, and thus as good argumentation in discourse; and so on. We thus suggest that another way in which one’s belief may be sensitive to linguistic practice is by being immersed in a community whose discursive practices constitute a distinct worldview. It is this form of counterstance contingency that licenses the use of *consider* in (26), and explains the difference in meaning between these examples and the corresponding forms with *believe* in (27).

- (26) a. The ancient Greeks considered stars holes in the sky.  
 b. Mathematicians consider Goldbachs conjecture unprovable.
- (27) a. The ancient Greeks believed stars to be holes in the sky.  
 b. Mathematicians believe Goldbachs conjecture to be unprovable.

What is signaled in (26a) is not that the Greeks’ belief is dependent on decisions about what it takes to count as a hole in the sky, but rather on how they saw the world, including their views about astronomy and scientific inquiry more generally: *they* took the way the stars looked at night to be sufficient to conclude that they are holes in the sky; *we* can see the stars the same way and yet fail to draw this conclusion. Relatedly, (26b) suggests that the unprovability of Goldbachs conjecture is not a mathematical theorem but closer to an educated guess: stricter mathematical standards for what counts as as evidence would demand an agnostic stance on a perhaps plausible but ultimately unsubstantiated hypothesis such as the unprovability of Goldbachss conjecture.

Our basic proposal for explaining the contrast between subjective attitude verbs and plain doxastic attitude verbs, then, is that the former, but not the latter, presuppose the counterstance contingency of the opinion at play, and that speakers are inclined to treat an opinion as counterstance contingent to the extent that they can see it as sensitive to the contingencies of linguistic practice. It remains to explain the more fine-grained differences between *consider*-type and *find*-type subjective attitude verbs. Our key proposal is that the latter presuppose a distinguished kind of subjectivity that we label RADICAL COUNTERSTANCE CONTINGENCY, which flows from a distinguished kind of linguistic underdetermination that we now attempt to explain.

The guiding idea here is that that not all linguistic underdetermination is created equal. Sometimes it makes sense for speakers to propose to coordinate a stance on language use by stipulation. This is what we see, for example, in

(28a-c), where “*for present purposes*” should be heard as referring to some salient task, action or goal whose execution somehow requires categorization of objects according to whether they satisfy the predicate. For example, in (28a-c), this might be: choosing which actors will play Elves and which will play Dwarves in a stage production of *The Lord of the Rings*, deciding what kinds of meals to serve the guests at a party, formulating tax policy, and deciding which bottles to include in a review of “inexpensive wines.”

- (28) For present purposes,
- a. ✓ let’s count any actor over 2 meters as tall and any actor under 1.75 meters as short.
  - b. ✓ let’s count anyone who eats shellfish but no other animals as vegetarian.
  - c. ✓ let’s count any family with annual income greater than \$250K/year as rich.
  - d. ✓ let’s count any bottle of wine that costs under \$20 as inexpensive.

Of course, an interlocutor is free to reject any of these stipulations; the point is that it can be a natural discourse move to propose them, in the right context, in order to explicitly fix a basis for linguistic categorization in the service of some practical purpose.

This kind of move is not felicitous with all predicates, however. (29a-b), for example, sound decidedly odd.

- (29) For present purposes,
- a. # let’s count any linguistic puzzle that resists explanation as fascinating.
  - b. # let’s count anyone willing to camp in grizzly bear territory as brave.
  - c. # let’s count any painting that uses more than five colors as dynamic.
  - d. # let’s count any action that harms no one as permissible.

Note that it is not the case that we simply cannot talk about what counts as fascinating, brave, dynamic or permissible — we may suppose with Plato and Aristotle that it is part of the sense of *brave* that an act only counts as such if it is right, and we certainly may ask which acts count as permissible and which do not. What we cannot do, in a natural way, is stipulate a specific criterion as the basis for categorizing objects according to these predicates. We may, of course, always try to make others see things just the way we do, but unlike what we saw with the predicates in (28), it does not make sense for the predicates in (29) to simply stipulate some arbitrary criterion as the basis for establishing a conversational convention on how to use them.<sup>7</sup>

<sup>7</sup> Not surprisingly, given the observations in Section 2, a single predicate may show different behavior depending on how it is used. For example, the adjective *heavy* patterns with the predicates in (28) when it is used quantitatively, and with those in (29) when it is used qualitatively:

- (i) For present purposes,
- a. ✓ let’s count any suitcase that weighs more than 50kg as heavy.
  - b. # let’s count any dessert that contains more than 4tbs of butter as heavy.

Given some set of counterstances  $K$ , then, we may ask which ones agree on just those aspects of linguistic underdetermination that allow for COORDINATION BY STIPULATION of the sort that we see in (28). Partitioning  $K$  along these lines delivers a set of equivalence classes of counterstances, such that each cell agrees on elements of linguistic underdetermination that support coordination by stipulation, but not on those that do not. We say that an opinion is RADICALLY COUNTERSTANCE CONTINGENT just in case it is counterstance contingent with respect to each of these equivalence classes. Our proposal for *find*-type subjective attitude verbs is that they require the opinion at play to be radically counterstance contingent.

Any proposition that is radically counterstance contingent is also (merely) counterstance contingent, but not other way around. Our analysis thus captures the fact that *find* is more selective than *consider*. And clearly, radical counterstance contingency runs deeper than mere counterstance contingency, because it persists even if there is agreement *both* on the facts *and* on those underdetermined aspects of meaning that can be stipulated away. Thus our analysis also explains why it is that predicates that embed under *find* are felt to be “more subjective” than those that embed only under *consider*. But in virtue of what is a particular expression’s meaning underdetermined in a way that allows, or does not allow for coordination by stipulation? What is it about the predicates in (28) that leads to the possibility of coordination by stipulation, and what is it about the predicates in (29) that rules it out? It is tempting to say that those aspects of meaning that cannot be stipulated are precisely those that relate to individual experience (cf. Muñoz 2019, p. 274, fn. 44), but we have seen that not all expressions that embed under *find* are experiential — at least not in a way that does not strip that notion of any theoretical value beyond its utility for accounting for subjective attitude verbs.<sup>8</sup>

Our answer to these questions takes inspiration from Lasersohn (2005, p. 669), who suggests that discourse contexts leave the truth-conditions of certain natural language constructions underdetermined in a distinct way. Adopting the standard view from Kaplan (1989), Lasersohn takes predicate extensions — and so truth — to be sensitive to various parameters, complete valuations of which correspond to different contexts qua formal objects. While concrete utterance situations typically determine a unique value for many of these parameters (e.g., the speaker), they do not do so for all of them. In particular, Lasersohn claims that concrete situations of utterance fail to single out anyone in particular for being the judge, a parameter that is relevant for fixing the extensions of (among other expressions) predicates of personal taste like *tasty*. In fact *any* individual, regardless of whether or not they are participating in the conversation, counts a potential candidate for filling that role, from which it follows that no utterance situation uniquely determines the extension of a judge-dependent predicate: there are as many possible ways of answering whether something counts as *tasty* in a concrete utterance situation as there are possible judges. Lasersohn famously gives this idea a relativist gloss, but the point is perfectly general: some aspects of (formal) context that matter for truth or falsity are *essentially* underdetermined, in the sense that their underdetermination persists *no matter* the particulars of the utterance situation.

<sup>8</sup> One reason to avoid this outcome is that, as Bylinina (2017) shows, there are good reasons to think that “having experiential semantics” defines a natural class of expressions, relative to various grammatical phenomena, which includes predicates of personal taste but excludes other predicates that embed under *find*.

Other aspects of context, in contrast, carry their underdetermination only *incidentally*. For example, assuming the standard view that whether an individual counts as *tall* depends on whether their height exceeds a contextual threshold, we may conclude from the vast literature on vagueness that the relevant facts about particular situations of utterance — the salient comparison class, the interests or expectations of the discourse participants, etc. — indeed fail to identify a unique height for the threshold. But such facts, together with general principles of informativity, nevertheless constrain the threshold in systematic and predictable ways (see e.g. [Lassiter and Goodman 2014](#); [Qing and Franke 2014](#)). So it may be that a particular situation of utterance fails to settle whether someone with a height of 1.75 meters is tall or not, but those same facts may very well settle whether someone with a height of 2 meters is tall and whether someone with a height of 1.5 meters is not tall. At the same time, we can easily think of alternate contexts, involving, say, different comparison classes, in which it is settled whether an individual with a height of 1.75 meters is tall or not.

If all of this is correct, then it is easy to see why some instances of underdetermination would resist a proposal to coordinate by stipulation. A discourse move of this kind is essentially an invitation to transition to a context in which a single determinate stance definitively resolves the issue under consideration in one way or another; but if the underdetermination at play is an essential one, alternative stances are salient no matter the context, and thus the discourse move is bound to fail. In contrast, transitioning to a context with a single determinate stance on the matter is at least a possibility if the the underdetermination at play is an incidental affair. In brief, the proposal is that propositions can, in context, be *radically* counterstance contingent with respect to some agent's state of information insofar as their truth or falsity is sensitive to a criterion that is not merely incidentally but *essentially* underdetermined, and whenever this is so we expect that underdetermination to resist coordination by stipulation.

One may still want to know why natural languages should manifest the suggested distinction between incidental and essential underdetermination. Here we start from the observation that the resolution of a particular instance of linguistic underdetermination in one way rather than another, in context, involves privileging a particular stance over alternatives. But not all stances may be afforded such privilege. In particular, we would like to suggest that those criteria which are essentially underdetermined are precisely those which language users are unwilling or unable to privilege in this way. The intuition is that it is fairly “cheap” to privilege a stance in which someone with a height of 1.75 meters or greater is tall or one in which someone who eats mollusks but no other animal is vegetarian. But it is rather more costly to privilege a stance in which a certain type of linguistic puzzle stimulates an experience of fascination, or one in which a particular set of features supports a positive aesthetic judgment about a painting, because doing so may very well mean ascribing a quality to an object that is incompatible with one's own attitudes, dispositions or experiences. One could imagine cashing out the relevant notion of cost here in either cognitive or social terms (or both) — something we do not have the space for here — but the core idea is that essential underdetermination can be viewed as a sort of “leveling of the linguistic playing field,” which ensures that, for certain kinds of meaning-determining criteria, no perspective can take priority over others. (See [Barker \(2013\)](#), [Lasersohn \(2017\)](#), ch. 11, and [Grinsell \(2017\)](#) for similar ideas.)

Summarizing, we have proposed that subjective attitude verbs presuppose that their complements are subjective in a specific way: the truth of their complements is guaranteed to vary across a set of alternatives that differ only in decisions about the resolution of linguistic underdetermination. One appealing feature of this analysis is that it situates the explanation of the selectional properties of subjective attitude squarely within a broader set of analyses of the selectional properties of modals and other attitude verbs, which are based on the idea that such expressions introduce different kinds of contingency or “non-settledness” conditions on their complements. Such analyses include von Fintel and Gillies’ (2010) evidential analysis of epistemic *must*, Condoravdi’s (2002) analysis of the distribution of future-oriented interpretations of possibility modals, Giannakidou and Mari’s (2017) analysis of the future as an epistemic modality, and Giannakidou and Mari’s (2015) analysis of the distribution of indicative vs. subjunctive mood in the complements of emotive attitude predicates.

Stepping back, on the story told here, subjective attitude verbs have their place in language because ordinary speakers know that the conventions of linguistic practice often fail to conclusively settle predicate extensions: even if the facts are settled, opinions may differ because language users may resolve linguistic underdetermination in incompatible ways. Whether this possibility is real may depend on what the facts in question are: we take Kim’s belief that Crimea is part of Russia to be counterstance contingent, for instance, precisely because we know that the situation on the ground is complicated. Subjectivity, as we have characterized it here, is a fundamentally pragmatic phenomenon, since language users generate counterstances and thus counterstance contingency in context using world knowledge. And finally, since the presence or absence of counterstances is a pragmatically determined feature of the discourse context, so too is the distinction between “objective” and “subjective” predicates, at least insofar as this distinction answers to the embeddability under subjective attitude verbs.

#### 4 Formal details

This section provides a formal characterization of the counterstance space, counterstance contingency, and the semantics of subjective attitude verbs. We begin with the core cases in section 4.1, and then refine the account to handle compositionally more complex cases in section 4.2. (The proposals in the latter section do not play a role in the account of acquaintance inferences that we provide in Section 5, so this section may be skipped by readers who are not interested in these issues.) Section 4.3 concludes with a comparison of the counterstance framework to the outlook-based framework of Coppock (2018).

##### 4.1 Core definitions

We start with the familiar assumption that semantic values are assigned relative to a context of utterance  $c$  and an index of evaluation  $s$  that supplies a possible world  $w_s$  plus any other parameters that matter for fixing extensions. We shall say that an *information state*  $i \in I$  is a set of such indices and that  $w_s$  maps, among other things, each constant of our target language to its world-invariant denotation  $d \in D$

(here and throughout we will not mark the difference between a constant and its denotation to simplify the notation). As usual  $W$  is the set of all possible worlds. We assume that our semantic models provide some doxastic accessibility relation. Fix some subset  $D_a \subseteq D$  as the set of *doxastic agents*. Then  $\text{Dox}: (D_a \times W) \mapsto I$  assigns to each doxastic agent  $a$  and possible world  $w$  the set of possible indices compatible with what  $a$  believes at  $w$ . We define the standard truth-conditions for belief attributions on that basis (here and throughout we assume that  $\alpha$  denotes a doxastic agent):

$$(30) \quad \llbracket \alpha \text{ believes } \phi \rrbracket^{c,s} = 1 \text{ iff } \text{Dox}(\alpha, w_s) \subseteq \llbracket \phi \rrbracket^c$$

So far, so familiar. The key additional component is a contextually determined counterstance selection function that maps each information state to a partitioned set of doxastic alternatives:

(31) **Definition: Counterstance Selection Function**

A counterstance selection function  $\kappa: I \mapsto 2^I \times 2^{I \times I}$  maps each  $i \in I$  to a pair  $\langle C, R \rangle$  such that:

- i.  $i \in C$
- ii.  $R$  is a reflexive, symmetric, and transitive relation over  $C$ .

Given some  $\kappa(i) = \langle C, R \rangle$ , we say that:

- iii. a state  $i'$  is in  $\kappa(i)$  iff  $i'$  is an element of  $C$ ;
- iv.  $\pi$  is a *cell in*  $\kappa(i)$  iff  $\pi$  is an equivalence class on  $C$  (according to  $R$ ).

A counterstance to  $i$  agrees with  $i$  on what counts as salient matters of fact in context but may otherwise disagree with  $i$ .  $R$  partitions the set of counterstances into a set of equivalence classes, and counterstances within a single class (or cell) agree on all those resolutions of underdetermined meaning that allow for coordination by stipulation.

The two notions of counterstance contingency that we have alluded to can then be stated more precisely as follows.

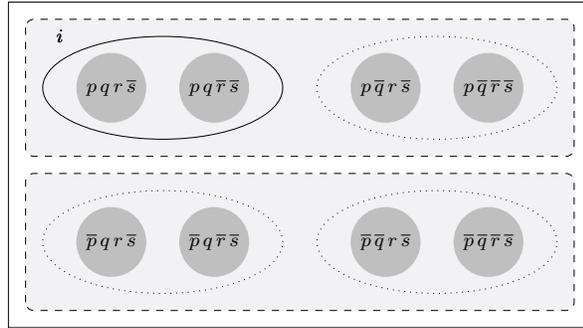
(32) **Definition: (Radical) Counterstance Contingency**

Take any proposition  $p$ , let  $\kappa$  be the counterstance selection function provided by  $c$ :

- i.  $p$  is *counterstance contingent* with respect to  $i$  in context  $c$  iff  $i' \subseteq p$  and  $i'' \not\subseteq p$  for some  $i'$  and  $i''$  in  $\kappa(i)$ .
- ii.  $p$  is *radically counterstance contingent* with respect to  $i$  in context  $c$  iff for all  $\pi$  in  $\kappa(i)$ :  $i' \subseteq p$  and  $i'' \not\subseteq p$  for some  $i', i'' \in \pi$

It follows immediately from these definitions that whenever a proposition is radically counterstance contingent, it is also counterstance contingent, but not vice versa.

Let us illustrate the proposal using a very simple model consisting of four counterstances (ovals) containing two indices apiece (circles), grouped together in two equivalence classes (round-cornered rectangles). The actual information state  $i$  is located in the solid-edged oval in the top left corner and we use “ $p$ ” and “ $\bar{p}$ ” to mark that some proposition  $p$  is true or false at some index, respectively.



**Fig. 1** A counterstance space

The proposition  $r$  as well as its negation fail to be counterstance contingent with respect to  $i$  since no counterstance is committed to them:  $i$  is agnostic about  $r$ , and so are all of its counterstances. The proposition  $\bar{s}$  fails to be counterstance contingent as well, but for a different reason:  $i$ 's commitment to  $\bar{s}$  is preserved across counterstances — the subject's belief in the falsity of  $s$  counts as objective in context. The commitment to  $\bar{s}$  of  $i$  thus differs from its commitment to  $p$ , which fails to be preserved across counterstances; at the same time, there is no variation in commitment to  $p$  across counterstances within a single cell: in the top cell all counterstances accept  $p$ , and in the bottom cell all reject  $p$ . So  $p$  is counterstance contingent, but not radically so. Finally,  $q$  is radically counterstance contingent since in every cell — and thus despite agreement on matters of underdetermined meaning that allow for coordination by stipulation — there are counterstances that vary in their commitment to  $q$ .

The basic proposal then is that *consider* and *find* are in their core at issue content just like *believe* — they express doxastic attitudes — but differ in their presuppositions.<sup>9</sup> The former presupposes that its complement is counterstance

<sup>9</sup> As noted in section 2, Muñoz (2019) argues that only *consider* has doxastic at-issue content, not *find*. This claim is based on the putative contrast in (i).

- (i) Alphonse doesn't find/#consider licorice tasty, but he thinks that it is.

According to Muñoz, the *find* variant is acceptable in a context in which Alphonse is an autocentric evaluator who has forgotten what licorice tastes like, and so holds a false belief, but the *consider* variant is not. We agree that the *find* sentence can have this interpretation, but we don't see a strong difference between *find* and *consider* here, especially if we spell out the details of the context a bit more:

- (ii) a. Alphonse doesn't find/consider licorice tasty. But he's forgotten what it tastes like, and now he mistakenly thinks/believes that it *is* tasty.  
 b. Alphonse thinks/believes that licorice is tasty. But that's because he's forgotten what it tastes like. In fact, he doesn't find/consider it tasty.

On our account, these facts do not indicate that *find* and *consider* fail to entail belief in the prejacent but rather that one may come to believe a proposition based on hearsay but fail to believe that proposition — or even come to believe its negation — based on direct acquaintance with the item under consideration. Braun (1998) argues that there is nothing irrational about this in his defense of the Russellian analysis of propositional attitude reports.

contingent, while the latter presupposes radical counterstance contingency. The following clauses articulate these claims more precisely, assuming here that  $\phi$  is atomic:

- (33) a.  $\llbracket \alpha$  considers  $\phi \rrbracket^{c,s}$  is defined only if  $\llbracket \phi \rrbracket^c$  is counterstance contingent with respect to  $\text{Dox}(\alpha, w_s)$  in context  $c$ .  
 b. If defined, then  $\llbracket \alpha$  considers  $\phi \rrbracket^{c,s} = 1$  iff  $\text{Dox}(\alpha, w_s) \subseteq \llbracket \phi \rrbracket^c$
- (34) a.  $\llbracket \alpha$  finds  $\phi \rrbracket^{c,s}$  is defined only if  $\llbracket \phi \rrbracket^c$  is radically counterstance contingent with respect to  $\text{Dox}(\alpha, w_s)$  in context  $c$ .  
 b. If defined, then  $\llbracket \alpha$  finds  $\phi \rrbracket^{c,s} = 1$  iff  $\text{Dox}(\alpha, w_s) \subseteq \llbracket \phi \rrbracket^c$

Given some context  $c$ , we can then say that an agent  $\alpha$ 's belief in some proposition  $p$  is a (radically) counterstance contingent commitment just in case  $p$  is (radically) counterstance contingent with respect to  $\alpha$ 's doxastic state in  $c$ .

In ordinary contexts  $c$ , an agent's commitment to  $\llbracket \text{Lee is vegetarian} \rrbracket^c$  is counterstance contingent but not radically counterstance contingent, while a commitment to  $\llbracket \text{Lee is fascinating} \rrbracket^c$  would be radically counterstance contingent. This is why simple predications of *vegetarian* are acceptable under *consider* but not under *find*, and why simple predications involving *fascinating* are acceptable under both types of subjective attitude verbs. Relatedly, in ordinary contexts  $c$ , an agent's commitment to  $\llbracket \text{Siberia is part of Russia} \rrbracket^c$  fails to be counterstance contingent, whereas in contrast a commitment to  $\llbracket \text{Crimea is part of Russia} \rrbracket^c$  would be counterstance contingent (but not radically so), which explains why the latter, but not the former, is acceptable under the scope of *consider* (but not *find*). Since every radically counterstance contingent commitment is counterstance contingent (but not vice versa) we predict that whenever a *find*-statement is felicitous, so is its corresponding *consider*-statement (but not vice versa), a prediction that is in accord with the facts.

## 4.2 Counterstance and composition

In this subsection, we highlight some limitations of the basic proposal and describe a refined analysis that overcomes these difficulties. So far we have focussed on cases in which the complement of a subjective attitude verb is atomic. This allowed us to get the basic ideas into proper view, but of course we also have to say what is going on when subjective attitude verbs have complex complements. And here the basic story runs into some difficulties that call for additional refinements. We begin with some observations that are inspired by Sæbø (2009). There is a striking contrast between (35a) and (35b) as well as between (36a) and (36b):

- (35) a. ✓ Kim finds Lee handsome and pleasant to be with.  
 b. # Kim finds Lee handsome and under 45.

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That said, our analysis is compatible with the at-issue content of *find* and *consider* being stated in terms of something other than vanilla doxastic attitudes, and our account of the selectional properties of subjective attitude verbs does not rely on any assumptions about their at-issue content at all. However, it is crucial to our analysis of their acquaintance inferences that their at-issue meanings at least include a doxastic component, so for simplicity, we will continue to characterize this part of their meaning as identical to that of *believe*.)

- (36) a. ✓ Kim finds everyone who is not vegetarian unpleasant.  
 b. # Kim finds everyone who is pleasant vegetarian.

These contrasts cannot be explained by simply generalizing the basic proposal to complex complements, that is, by saying that *find* just presupposes the radical counterstance contingency of its complement. On this proposal (35a) and (35b) should both be fine, for a conjunctive proposition is (radically) counterstance contingent just in case at least one of its conjuncts is. Relatedly, since one's views about who is pleasant or unpleasant are radically counterstance contingent, the commitments ascribed to Kim in (36a) and (36b) are radically counterstance contingent, and so a flat-footed generalization of the basic proposal would incorrectly predict that both constructions are fine.

Sæbø (2009) once again appeals to a type difference between subjective and objective predicates to explain the contrasts. Due to their type difference, *handsome* and *under 45* cannot be coordinated unless a covert pronoun fills the judge position of the former. But then the coordinated structure *handsome and under 45* fails to be judge-dependent and thus does not embed felicitously under *find*, predicting that (35b) is marked (since no judge position needs to be filled to coordinate *handsome* and *pleasant to be with*, we expect (35a) to be fine). For (36a), Sæbø assumes that the subject DP quantifier raises, leaving *unpleasant* with an open judge argument when it composes with *find*, as required. In (36b), quantifier raising will leave nothing judge dependent to combine with *find*, and even if there is no raising, the judge argument of *pleasant* would need to be filled to allow for composition with the determiner phrase.

For current purposes, we set aside specific concerns about Sæbø's analysis and focus on our key worry, which again pertains to the challenge of arriving at a suitably general explanation of what distinguishes subjective attitude verbs from their plain doxastic cousins. The key observation here is that *consider*-type subjective attitude verbs exhibit a pattern similar to their *find*-type cousins:<sup>10</sup>

- (37) a. ✓ Kim considers Lee vegetarian and intelligent.  
 b. # Kim considers Lee vegetarian and in the cast of *Hamilton*.
- (38) a. ✓ Kim considers someone who is in the cast of *Hamilton* vegetarian.  
 b. # Kim considers someone who is vegetarian in the cast of *Hamilton*.

A type theoretic explanation of these contrasts à la Sæbø would need to assign to *vegetarian* a type so that this expression — unlike *in the cast of Hamilton* — embeds felicitously under *consider* but — unlike *fascinating* — fails to embed felicitously under *find*. For reasons stated earlier, it is hard to see what could motivate such a maneuver.

The fact remains that if we simply look at the (radical) counterstance contingency of the proposition expressed by the complement, we will not be able to explain the observed contrasts in acceptability. The intuitive response to the problem is that the proposition at play must not only exhibit the right kind of contingency, but also do so for the right reasons. For a conjunction to embed felicitously under a subjective attitude verb, for instance, the (radical) counterstance

<sup>10</sup> (37b) and (38b) are of course fine if we can accommodate counterstance contingency, e.g. if we are in a context in which the relevant theatrical practices do not settle whether understudies are cast members or not.

contingency of the conjunction must flow from the (radical) counterstance contingency of both conjuncts: this is why (35a) and (37a) are fine while (35b) and (37b) are marked. For a quantified construction to embed under *find* and *consider*, in turn, the relevant contingency must flow from the contingency of the scope, not the restrictor. To say that Kim finds everyone who is not vegetarian unpleasant is to say that Kim’s attitude speaks to the question of who is unpleasant—a question that allows for a radically counterstance contingent resolution. To say that Kim finds everyone who is pleasant vegetarian is to say that Kim’s attitude speaks to the question of which pleasant people are vegetarian — a question that fails to allow for a radically counterstance contingent resolution. Hence the difference in acceptability between (36a) and (36b) and between (38a) and (38b).

The basic observation then is that subjective attitude verbs not only require that their complements exhibit a distinct kind of contingency: complex complements, in addition, tend to impose distinct constraints on the set of doxastic alternatives that may witness the contingency at play. The good news is that one can come up with a simple and intuitive compositional semantics that predicts these constraints in just the right way. As a preparation, and since our analysis now includes quantifiers, let us assume explicitly that our language provides a set of variables  $x, y, z, \dots$  and that context fixes a variable assignment  $g_c$ . We say that  $\text{Alt}(c)$  is the set of contexts just like  $c$  except for their variable assignments. If  $\alpha$  is a singular expression, then  $d_c(\alpha)$  — the *denotation* of  $\alpha$  in  $c$  — is  $w(\alpha)$  in case  $\alpha$  is some constant, and is  $g_c(\alpha)$  in case  $\alpha$  is a variable.  $c[x/a]$  is just like  $c$  except that  $d_{c[x/a]}(x) = a$ . Indices effectively map predicates to extensions: as usual, we say that  $\llbracket F\alpha_1 \dots \alpha_n \rrbracket^{c,s} = 1$  just in case  $\langle d_c(\alpha_1), \dots, d_c(\alpha_n) \rangle \in s(F)$ , where  $s(F)$  is the extension of  $F$  at  $s$ .

To get things going, we generalize the notion of a (radically) counterstance contingent proposition to the notion of a (radically) counterstance contingent *issue*. We associate with each sentence an issue by defining a question operator “?” as follows (cf. Groenendijk and Stokhof 1984):

$$(39) \quad \llbracket \phi? \rrbracket^{c,s} = \{s' : \llbracket \phi \rrbracket^{c',s} = \llbracket \phi \rrbracket^{c',s'} \text{ for all } c' \in \text{Alt}(c)\}$$

The semantic value of “ $F\alpha_1 \dots \alpha_n?$ ” at some index  $s$  is the set of indices at which the same  $n$ -tuples of individuals satisfy  $F$  as in  $s$ . If  $\alpha_1, \dots, \alpha_n$  are all constants, then  $\llbracket F\alpha_1 \dots \alpha_n? \rrbracket^c$  effectively partitions logical space into two sets of indices: those at which the sentence “ $F\alpha_1 \dots \alpha_n$ ” is true and those at which it is false. The open sentence “ $Fx?$ ” denotes the set of true and complete answers to the question of who is  $F$ , and so on. If we think of  $\llbracket \phi? \rrbracket^c$  as the issue raised by  $\phi$  in context, then it makes sense to expand the notion of (radical) counterstance contingency as follows:

(40) **Definition: (Radical) Counterstance Contingency (Issues)**

Take any partition  $P$  of the set of indices, let  $\kappa$  be the counterstance selection function provided by  $c$ :

- i.  $P$  is *counterstance contingent* with respect to  $i$  in context  $c$  iff for some  $p \in P$ ,  $p$  is counterstance contingent with respect to  $i$  in context  $c$
- ii.  $P$  is *radically counterstance contingent* with respect to  $i$  in context  $c$  iff for some  $p \in P$ ,  $p$  is radically counterstance contingent with respect to  $i$  in context  $c$

The simple intuition here is that an issue is (radically) counterstance contingent just in case one of its resolutions is (radically) counterstance contingent. We will now say that an agent  $\alpha$ 's commitment to  $p$  is counterstance contingent in context  $c$  just in case  $p$  is a resolution of an issue that is (radically) counterstance contingent with respect to  $\alpha$ 's doxastic state in  $c$ .

To make our refined analysis more precise, we will take some inspiration from the dynamic literature and state what it takes for an information state to be updated with some bit of information. Counterstance contingency is now a constraint on updating, and the claim is that we can rely on a simple system of update rules to make good predictions about how and when complex complements embed under subjective attitude verbs.<sup>11</sup> The key move here is to distinguish between ordinary, counterstance contingent, and radically counterstance contingent updates, and we do so on the basis of what it takes for a context to admit an update of each respective type.

(41) **Definition: Admission**

Consider arbitrary information carrier  $i$ , context  $c$ , and formula  $\phi$ :

- i. the ordinary update of  $i$  with  $\phi$  in  $c$ ,  $i[\phi]_o^c$ , is always admitted
- ii. the counterstance contingent update of  $i$  with  $\phi$  in  $c$ ,  $i[\phi]_{cc}^c$ , is admitted iff  $\llbracket \phi? \rrbracket^c$  is counterstance contingent with respect to  $i$  in  $c$
- iii. the radically counterstance contingent update of  $i$  with  $\phi$  in  $c$ ,  $i[\phi]_{rcc}^c$ , is admitted iff  $\llbracket \phi? \rrbracket^c$  is radically counterstance contingent with respect to  $i$  in  $c$

In brief, a certain type of update with some formula is admitted just in case the issue raised by that formula carries the right kind of contingency in context.

If counterstance contingency is a presupposition and if presuppositions are definedness conditions on updating, then it makes good sense to say that admission failures result in an update being undefined. And if an update is admitted, we proceed in a fashion that is very familiar from the existing dynamic literature. Here is the proposal:

(42) **Definition: Updates**

Consider arbitrary information carrier  $i$ , context  $c$ , formula  $\gamma$ , and update type  $\mathbf{f}$ . If  $i[\gamma]_{\mathbf{f}}^c$  is admitted, then updating with  $\gamma$  proceeds according to the following rules (here  $Q$  is any quantifier):

- (A)  $i[F\alpha_1 \dots \alpha_n]_{\mathbf{f}}^c = \{s \in i: \langle d_c(\alpha_1), \dots, d_c(\alpha_n) \rangle \in s(F)\}$
- ( $\neg$ )  $i[\neg\phi]_{\mathbf{f}}^c = i \setminus i[\phi]_{\mathbf{f}}^c$
- ( $\wedge$ )  $i[\phi \wedge \psi]_{\mathbf{f}}^c = (i[\phi]_{\mathbf{f}}^c)[\psi]_{\mathbf{f}}^c$

<sup>11</sup> Some popular dynamic semantics: Discourse Representation Theory (Kamp 1981; Kamp and Reyle 1993; Kamp, van Genabith, and Reyle 2011), Dynamic Predicate Logic (Groenendijk and Stokhof 1991), File Change Semantics (Heim 1982), Update Semantics (Veltman 1985, 1996). There is a distinct sense in which our proposal will not be essentially dynamic, since updating will always amount to adding a proposition to the input state. What interests us here is how a system of update rules can capture the counterstance contingency of complex formulas. Crespo and Veltman (2019) also propose to use the tools and techniques provided by dynamic semantics to shed light on a number of issues surrounding predicates of personal taste, though their project is different from ours.

$$(Q) \quad i[Q_x(\phi)(\psi)]_{\mathbf{f}}^c = \{s \in i: \{a \in D: \{s \in i[\phi]_{\mathbf{o}}^{c[x/a]}\} R_Q \\ \{a \in D: \{s \in i[\phi]_{\mathbf{o}}^{c[x/a]}[\psi]_{\mathbf{f}}^{c[x/a]}\}\}\}$$

Else,  $i[\gamma]_{\mathbf{f}}^c$  is undefined and we write  $i[\gamma]_{\mathbf{f}}^c = \perp$ , where  $\perp \notin I$  is the *undefined state* such that  $\perp[\phi]_{\mathbf{f}}^c = \perp$  for all  $c, \phi$  and  $\mathbf{f}$ .

An update with a closed atomic sentence simply adds the proposition expressed to the input state by eliminating all indices at which the proposition is false — assuming that the issue put into play by the sentence has the right kind of contingency for the update to be admitted in the first place. If not, the update is undefined.

Negation and conjunction work as expected in a dynamic system: an update with a negation just takes the complement of the result of updating with what is negated, and an update with a conjunction proceeds by updating with the first and then with the second conjunct. Note here that we immediately predict that a (radically) counterstance contingent update with a conjunction is defined only if both conjuncts are (radically) counterstance contingent.<sup>12</sup>

The generalized semantics for quantifiers in (Q) builds on the proposal from Chierchia (1992, 1995), where  $R_Q$  is the second-order relation appropriate to the determiner  $Q$ : the subset relation for *every*, the non-empty intersection for *some*, and so on. What is important here is that the update with the restrictor is ordinary and so effectively free of any counterstance contingency presupposition. As such the counterstance contingency of a quantified construction is fully determined by the counterstance contingency of (the issue raised by) its scope.

We can then wrap things up by refining our semantics of subjective attitude verbs as follows (as before, let  $\kappa$  be the contextually determined counterstance selection function):

- (43) a.  $\llbracket \alpha \text{ considers } \phi \rrbracket^{c,s}$  is defined only if  $\text{Dox}(\alpha, w_s)[\phi]_{\text{cc}}^c$  is defined  
 b. If defined,  $\llbracket \alpha \text{ considers } \phi \rrbracket^{c,s} = 1$  iff  $\text{Dox}(\alpha, w_s) \subseteq \llbracket \phi \rrbracket^c$
- (44) a.  $\llbracket \alpha \text{ finds } \phi \rrbracket^{c,s}$  is defined only if  $\text{Dox}(\alpha, w_s)[\phi]_{\text{rcc}}^c$  is defined  
 b. If defined,  $\llbracket \alpha \text{ finds } \phi \rrbracket^{c,s} = 1$  iff  $\text{Dox}(\alpha, w_s) \subseteq \llbracket \phi \rrbracket^c$

The proposal continues to make good sense of subjective attitude verbs whose complements are atomic:  $\llbracket \text{Mary finds Lee fascinating} \rrbracket^c$ , for instance, is defined only if Mary's commitment to Lee's being fascinating is radically counterstance contingent. In addition, we now also make the right predictions when a subjective attitude verb has a complex complement. To see this, go back to the earlier observed contrasts involving *find*, repeated below:

- (35) a.  $\checkmark$  Kim finds Lee handsome and pleasant to be with.  
 b.  $\#$  Kim finds Lee handsome and under 45.
- (36) a.  $\checkmark$  Kim finds everyone who is not vegetarian unpleasant.

<sup>12</sup> To see this, suppose that  $\llbracket \phi? \rrbracket^c$  fails to be, say, radically counterstance contingent with respect to  $i$  in  $c$ . Then  $i[\phi]_{\text{rcc}}^c$  is not admitted and so  $i[\phi]_{\text{rcc}}^c$  is undefined. Hence  $i[\phi]_{\text{rcc}}^c = \perp$  and so  $(i[\phi]_{\mathbf{f}}^c)[\psi]_{\text{rcc}}^c = \perp$ , and so  $i[\phi \wedge \psi]_{\text{rcc}}^c$  is undefined. For parallel reasons, any radically counterstance contingent update of  $i$  with  $\ulcorner \psi \wedge \phi \urcorner$  is undefined in  $c$ . The fact that these results hold even if the entire conjunction  $\llbracket \phi \wedge \psi \rrbracket^c$  is radically counterstance contingent is one respect in which the current framework improves upon the more basic proposal.

- b. # Kim finds everyone who is pleasant vegetarian.

In ordinary contexts, a commitment to Lee being under 45 fails to be radically counterstance contingent, and so a radically counterstance contingent update with “Lee is under 45” will be undefined with respect to Kim’s doxastic state — it follows immediately that a radically counterstance contingent update with “Lee is handsome and under 45” will be undefined with respect to Kim’s doxastic state, and so (35b) is undefined, as required. (35a), in contrast, is fine due to the radical counterstance contingency of both conjuncts. The proposal under consideration also makes sense of the data involving quantified constructions. The issue of who is vegetarian does not allow for a radically counterstance contingent resolution, explaining why (36b) is unacceptable, while the radical counterstance contingency of the issue of who is unpleasant licenses (36a).

The explanatory strategy pursued here easily generalizes so that we can also explain the corresponding data involving *consider* in (37) and (38). The proposal, moreover, allows us to draw some fine-grained but nonetheless intuitive distinctions. For instance, given the standard definition of disjunction in terms of negation and conjunction, the proposition that Crimea is part of Russia or Ukraine fails to be counterstance contingent in ordinary contexts, since every doxastic alternative agrees on that proposition. If some student is clearly tall while others are borderline, then the proposition that some student is tall fails to be counterstance contingent, whereas the proposition that every student is tall is counterstance contingent and the relevant doxastic alternatives disagree on the issue of who is tall, and so on.

We thus conclude that it is possible to refine the basic analysis so that it makes sense of a number of trickier examples. And the resulting proposal can be further elaborated in a number of ways. Let us mention one important direction before we move on. Sæbo (2009) argues (based on observations about Swedish *tycka*) that material which fails to be properly subjective may nonetheless embed felicitously under *find* as long as it can be interpreted as presupposed (cf. Bouchard 2012 on French *trouver*). We can accommodate this claim by adding the following update rule for presupposed material to the system:

$$(45) \quad (\partial) \quad i[\partial\phi]_{\mathfrak{f}}^c = \begin{cases} i & \text{if } i[\phi]_{\mathfrak{o}}^c = i \\ \perp & \text{otherwise} \end{cases}$$

In words, presupposed material imposes a definedness condition on updating (see Beaver 2001 and Heim 1982, among others) but the presupposition operator neutralizes all existing counterstance contingency constraints.

#### 4.3 Counterstances vs. Outlooks

Nothing we have done so far shows that the key ideas of our proposal for subjective attitude verbs cannot be elaborated in other ways. But it is not trivial to get the details right, especially if we care for a framework that gets not only the facts about *find* but also those about *consider* straight, and does so in a principled way. Coppock (2018), for instance, suggests that the distinction between counterstance contingency and radical counterstance contingency can be captured in an outlook based framework as follows. Recall that a proposition is objective if its truth-value

does not vary across outlooks, and that it is discretionary just in case it fails to be objective. We may then say that a proposition is counterstance contingent if it is discretionary, and we can say that it is radically counterstance contingent just in case it is strongly discretionary in the following sense: for every possible world, there is an outlook at which the proposition is true and an outlook at which it is false (Coppock 2018, pp. 133-4).

Coppock's distinction may track something important but it does not capture counterstance contingency the way it is used here to explain the full set of embedding facts about *consider*. First, consider examples like (46a-b), discussed in Section 3.

- (46) a. The ancient Greeks considered the stars to be holes in the sky.  
 b. Mathematicians consider Goldbach's conjecture unprovable.

Since possible worlds are complete statements of what is a matter of fact, and since it is arguably a fact whether or not the stars are holes in the sky, and whether or not Goldbach's conjecture is provable, we do not expect the truth-value of the complements of *consider* in (46a-b) to vary across outlooks corresponding to a single possible world. So these propositions turn out to be non-discretionary, leaving it unexplained why they embed under *consider*. Here the appeal to a proposition being counterstance contingent with respect to some information state proves advantageous: what makes a proposition thus contingent is that a commitment to it is sensitive to salient decisions about linguistic practice — which may include decisions about the discursive practices that underwrite what we have called world-views. Even statements of what is a matter of fact may thus count as subjective in a proper contextual setting.

Second, recall the contrast between (23a) and (23b), repeated below.

- (23) a. ✓ Kim considers Crimea part of Russia.  
 b. # Kim considers Siberia part of Russia.

The outlook based approach can model this data by stipulating that the proposition that Siberia is part of Russia varies only across worlds, while the proposition that Crimea is part of Russia varies within worlds, across outlooks. But as Coppock herself acknowledges (2018, p. 134), the formal framework has nothing to say about why this is so — for this or any other case. The counterstance approach, in contrast, provides the answer: the truth of the proposition that Crimea is part of Russia varies with different outcomes of unresolved socio-political decisions about sovereignty; the truth of the proposition that Siberia is part of Russia does not.

Finally, as we will argue in the next section, the counterstance approach provides a basis for answering the question we began with: how to explain the acquaintance inferences associated with certain uses of subjective predicates. We begin with our account of the acquaintance inferences of subjective attitude verbs, and then turn to the case of unembedded subjective predicates.

## 5 Acquaintance inferences

We began this paper with the observation that predicates of personal taste such as *tasty* and *fun* come with an acquaintance inference: speakers ascribing such

properties typically suggest that they have first-hand knowledge of the item under consideration. We also pointed to corresponding observations about attitude reports involving *find*: such reports are marked if the attitude holder fails to be properly acquainted with the relevant facts on the ground. We add here that *consider* generates distinct acquaintance inferences as well:

- (47) Lee has never seen Kim...
- a. # ... but he considers her tall.
  - b. ✓ ... but he believes her to be tall.
- (48) I can't read the gas gauge...
- a. # ... but I consider the gas tank full.
  - b. ✓ ... but I believe the gas tank to be full.

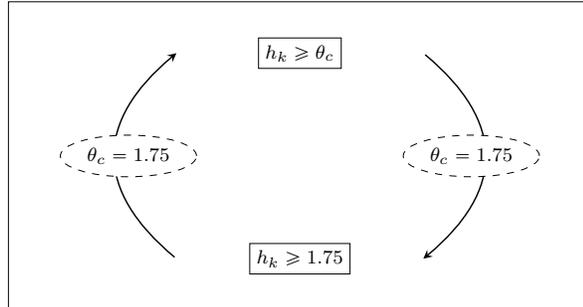
We conclude that it is a shared feature of both *consider*- and *find*-type subjective attitude verbs that their epistemic basis is stronger than the one for vanilla doxastic attitude verbs like *believe*. And we claim that our analysis of these attitudes as presupposing the (radical) counterstance contingency of their complements goes a long way toward explaining not only why this is so, but why bare assertions of predicates of personal taste and other subjective predicates have the acquaintance implications that they do. We begin in Section 5.1 with our account of the acquaintance implications of subjective attitude ascriptions, and then show in Section 5.2 how it leads to an explanation of the acquaintance implications of plain assertions involving subjective predicates.

### 5.1 Subjective Attitude Verbs

What makes a doxastic commitment counterstance contingent, recall, is that it fails to be preserved across alternative resolutions of underdetermined linguistic practice: one may agree on all the relevant facts and still disagree on the issue, simply in virtue of being immersed in different but equally legitimate conventions of language use. What remains true across all doxastic alternatives, including counterstances, is that one's stance on the issue under consideration and one's view about the relevant facts are mutually dependent. For example, given certain conventions of language use, a belief that Kim is tall rationally commits one to certain views about Kim's height, specifically, to the belief that Kim's height meets or exceeds the relevant standard for tallness. Conversely, what one takes Kim's height to be obviously matters for one's stance on the issue of whether Kim is tall: how one answers this question depends on whether one believes that Kim's height meets or exceeds whatever standard for tallness one takes to be in play, in a systematic way: the greater the height Kim is believed to have, the greater the credence in the proposition that Kim is tall.

To illustrate this point, let us fix ideas and say that to believe that Kim is tall is to believe that Kim's height ( $h_k$ ) meets or exceeds the contextually provided threshold ( $\theta_c$ ) for tallness. The contextually mediated interplay between the truth of the proposition that Kim is tall ( $h_k \geq \theta_c$ ) and facts about her height — say, that it is at least 1.75 meters ( $h_k \geq 1.75$ ) — would then look as in Figure 2, where the dashed ovals indicate a particular resolution of underdetermined meaning — in

this case, a resolution of  $\theta_c$  to 1.75 meters — which mediates between the factual belief on the top and the counterstance contingent belief on the bottom.



**Fig. 2** Height, tallness, and conventions

The key point here is that an agent’s counterstance contingent beliefs may come with distinct commitments to the facts on the ground, given particular ways of resolving meaning underdetermination, and whenever this is so we will say that the latter *fully depends* on the former if it is also the case that the agent has no *independent* evidence about the relevant facts. So for instance, if Lee believes that Kim is tall because a reliable source uttered “Kim is tall” with assertive force, then in a context in which  $\theta_c = 1.75$ , he is also committed to Kim’s height being at least 1.75 meters.<sup>13</sup> But he is thus committed only because of his testimonial belief that Kim is tall. In contrast, if Lee has seen (or even just been told by a reliable source) that Kim has a height of 1.75 meters, he has independent evidence about Kim’s height, and his commitment to Kim being tall, in a context in which  $\theta_c = 1.75$ , is based on an appreciation of *this* fact.

We now claim that, given minimal assumptions, a rational commitment can be counterstance contingent only if the attributee has independent evidence about the relevant facts on the ground. The needed hypothesis is the following:

- (49) Suppose that  $a$ ’s commitment to  $q$  fully depends on a commitment to  $p$  at  $w$  and let  $\kappa$  be the contextually provided counterstance selection function: then for all  $i$  in  $\kappa(\text{Dox}(a, w))$ , if  $i \subseteq q$ , then  $i \subseteq p$ .

The idea is that discourse participants do not only ascribe beliefs to others but also have some conception of which among an agent’s doxastic commitments are dependent on other commitments. And we will say that if a commitment is fully dependent on another commitment, then if the former is preserved, so must be the latter. In other words: once we remove a commitment in the process of entertaining alternative pragmatic stances on language use, we also remove all other commitments that fully depend on it.

<sup>13</sup> More accurately, since a realistic model would assign a probability distribution to  $\theta_c$ , his belief that Kim is tall commits him to a probability distribution over the facts of Kim’s height. See e.g. [Lassiter and Goodman 2014](#) and [Qing and Franke 2014](#) for Bayesian accounts of communication with gradable adjectives that rely on exactly the relation between heights, thresholds, and threshold-dependent propositions depicted in Figure 2.

This is already enough to show that a commitment to some proposition  $p$  is counterstance contingent only if the the attributee has independent evidence about the facts on the ground. For suppose otherwise: then the attributee’s beliefs about the relevant facts fully depend on his or her commitment to  $p$ , and since factual commitments are preserved across counterstances, so must be — given the principle (49) — the commitments to  $p$ , which is just to say that  $p$  cannot be counterstance contingent either. Returning to the example in Figure 2: the proposition that Kim’s height is at least 1.75 meters is not counterstance contingent, so if Lee’s belief in this proposition fully depends on his belief that Kim is tall — if Lee has no basis for his belief about Kim’s height other than his belief that she is tall — then the proposition that Kim is tall cannot be counterstance contingent either. So whenever the definedness conditions on *consider* are satisfied — whenever the preajacent is guaranteed to be counterstance contingent — it must be the case that the attitude holder has independent evidence about Kim’s height. The belief that Kim is tall must be based on — or at least be consistent with — an appreciation of the actual facts about Kim’s height. In a nutshell: *it is only if the commitment constitutes a genuine assessment of the facts that can one agree on the facts and still disagree on the issue, simply in virtue of being immersed in different linguistic practices.*<sup>14</sup>

What does it take for a commitment to be a “genuine assessment of the facts”? The answer hinges on the semantics of the predicate at play as well as on world knowledge. Whether or not Kim is tall or the gas tank is full depends, of course, on Kim’s height or the fullness of the tank. So we predict that these facts must be known by the attributee for a *consider*-attribution to be appropriate, as highlighted by (47) and (48). But knowledge of these facts can be acquired in a variety of ways, including by means of testimony. Similar remarks apply to *find*-attributions that embed character trait predicates, (certain) aesthetic predicates, and moral predicates (recall our earlier discussion of (16) – (18)). In contrast, whether something falls in the extension of *tasty* depends on how it tastes, and one cannot know how something tastes without having tasted it; whether something falls in the extension of *beautiful* depends on how it looks or sounds, and one cannot know how something looks or sounds in the absence of suitable audio-visual experiences; and so on. A direct experience requirement is thus a special instance of the more general requirement, common to all subjective attitude ascriptions, that the attitude ascribed constitutes a genuine assessment of the relevant facts and thus involves acquaintance with those facts in a way that is suitable to the subject matter.

Before moving to our account of acquaintance inferences in matrix assertions of taste and other subjective predicates, let us briefly discuss embeddings of subjective attitude verbs. So far we have focussed on positive belief attributions involving subjective attitude verbs, but as the following examples show, the negations of such attributions have acquaintance inferences as well:

- (50) Kim has never tried sea urchin because...  
 a. # ... she doesn’t find it tasty.

<sup>14</sup> Counterstances are thus idealized in two respects. First, whenever a commitment is removed, all other commitments that depend on it are removed as well. And second, if one has independent evidence about the relevant facts on the ground, one does not hold a counterstance contingent belief without taking those facts into consideration.

- b. ✓ ... she doesn't think it's tasty.
- (51) Lee has never seen Kim, but he won't put her on the team because...
- a. # ... he doesn't consider her tall.
- b. ✓ ... he doesn't think she's tall.

The first thing to observe about these examples is that their acquaintance inferences arise on so-called “Neg-raising” interpretations, whereby negation of the attitude verb is understood not as a denial that the attitude holder has the relevant attitude, but as an assertion that the attitude holder has the relevant attitude about the negation of the complement (see e.g. [Fillmore 1963](#); [Bartsch 1973](#); [Horn 1989](#); [Gajewski 2007](#); [Collins and Postal 2014](#)). Thus — when felicitous — (50a) communicates Kim's judgment that sea urchin is not tasty, and (51b) communicates Lee's judgment that Kim is not tall. This fits in well with our analysis, in which the at-issue content of *find* and *consider* is the same as *think* and *believe*, which — like doxastic attitude verbs in general — are also Neg-raising predicates: (50b) is most naturally heard to communicate Kim's belief that sea urchin is not tasty, and (51b) to communicate Lee's belief that Kim is not tall.

The acquaintance inferences of (50a) and (51a) therefore arise for the same reasons as the other examples we have been discussing, since these sentences characterize the attitude holders as being committed to belief in the counterstance-contingent propositions that sea urchin is not tasty and that Kim is not tall, respectively. If we construct a context that promotes a non-Neg-raised interpretation — i.e., an interpretation in which what is denied is that the attitude holder has the relevant attitude towards the proposition expressed by the complement — then the acquaintance inferences disappear:<sup>15</sup>

- (52) Kim has never tried sea urchin, so of course...
- a. ✓ ... it's not the case that she finds it tasty.
- b. ✓ ... it's not the case that she thinks it's tasty.
- (53) Lee has never seen Kim, so of course...
- a. ✓ ... it's not the case that he considers her tall.
- b. ✓ ... it's not the case that he thinks she's tall.

The complements in (52a) and (53a) are still required to be (radically) counterstance contingent (e.g., replacing *tasty* with *orange* in the former leads to unacceptability), but since these examples involve denials that the attitude holders are committed to the truth of the (radically) counterstance contingent propositions that the complements express, they do not give rise to the corresponding acquaintance inferences about the attitude holders' having appropriate “assessments of the facts.”

More generally, what these examples show is that the acquaintance inferences of subjective attitude verbs are not presuppositions after all, as examples like (50)

<sup>15</sup> Note that the existence of such interpretations provides a further argument against analyses of subjective attitude verbs in which they simply fix a parameter of evaluation of the embedded proposition to the denotation of the surface subject, as in [Sæbø \(2009\)](#). Such analyses incorrectly derive only the Neg-raising interpretation, since the subjective attitude verb has no semantic content.

and (51) initially suggest, but are rather entailments of their doxastic commitments. The reason they appear to have the same projection pattern as presuppositions is the same reason that Neg-raising readings arise in the first place (on some accounts, at least; see [Bartsch 1973](#); [Gajewski 2007](#)): because of a default background assumption (or perhaps verb-specific presupposition) that the attitude holder is *opinionated*, i.e. that she either believes that the prejacent is true or she believes that its negation is true. In either case, it follows from what we have said here that she must also be acquainted with the facts on which the counterstance commitment judgment that *p* or that *not p* depend.

## 5.2 Assertion

We can now return to the initial observation that plain assertions involving predicates of personal taste come with acquaintance implications:

- (1) I have never tried sea urchin.
  - a. # It's (not) tasty.
  - b. ✓ I hear it's (not) tasty.
- (2) I have never gone downhill skiing.
  - a. # It's (not) fun.
  - b. ✓ It must (can't) be fun.

Our simple proposal is that such assertions are expressions of subjective attitudes, that is to say, expressions of (radically) counterstance contingent doxastic commitments.<sup>16</sup> Since, as we have seen, a rational commitment may be counterstance contingent only if it flows from a genuine assessment of the facts, it follows immediately that ordinary uses of predicates of personal taste imply that the speaker has first-hand knowledge of the item under consideration.

That such assertions *can* express subjective attitudes follows from what we have said so far, together with the widely held view that a felicitous act of assertion counts as an expression of a doxastic commitment to the truth of the proposition asserted (see, among others, [Bach and Harnish 1979](#)). The fact that *tasty* and *fun* embed under *find* tells us that the meanings of these expressions are underdetermined in a way that resists coordination by stipulation, and so are underdetermined no matter the particulars of context. It is therefore always possible, in any context, for assertions of “*Sea urchin is (not) tasty.*” and “*Downhill skiing is (not) fun.*” to be assertions of propositions that are counterstance contingent relative to the speaker’s doxastic alternatives, and so to the extent that assertions are expressions of doxastic commitments, it is always possible for assertions of these propositions to be expressions of subjective attitudes.

<sup>16</sup> [Franzén \(2018\)](#) and [Authors \(to appear\)](#) also propose to derive acquaintance inferences from the expressive component of speech acts involving sentences like these, but in ways that more directly link the expressions of particular mental states to the meanings of particular predicates. In particular, [Authors \(to appear\)](#) argue that whether assertion of a particular proposition expresses a subjective attitude or not is a matter of lexical semantics. Here we pursue a pragmatic account, but the lexical approach could be viewed as a conventionalization of the principles we appeal to below.

It does not, however, follow from what we have said so far that such assertions *must* express subjective attitudes, rather than plain doxastic attitudes. A proposition is counterstance contingent (or not) relative to an information state, and nothing rules out the possibility that the proposition that sea urchin is tasty could fail to be counterstance contingent relative to some individual's doxastic state; this is the case, for example, when an individual believes this proposition on the basis of hearsay. And indeed, we already have seen that not all assertions involving predicates of personal taste require the speaker to have acquaintance with the relevant facts — exocentric uses are a case in point — so a theory in which such inferences were automatically generated would in fact be empirically problematic.

Our task, then, is to ensure that assertions like (1) and (2) are expressions of subjective attitudes *by default*. The pragmatic principle in (54) does what we want.

(54) **Maximize Commitment**

An assertion in context is an expression of a (radically) counterstance contingent commitment whenever such an interpretation is known to be available in that context.

The driving idea behind this principle is that a subjective commitment is stronger than a plain doxastic commitment, since the former is just like the latter, except that it holds only when the commitment is counterstance contingent relative to the attitude holder's doxastic alternatives. In making an assertion, a speaker expresses her commitment to the proposition asserted; (54) dictates that this commitment be as strong as the context allows. This principle targets the expressive force of an assertion rather than its at-issue content or presuppositions, but it is clearly inspired by the Gricean Maxim of Quantity (Grice 1975), which dictates use of a stronger expression over weaker alternatives, and the Maximize Presupposition principle (Heim 1991; Sauerland 2008), which (informally) requires a speaker to opt for an expression with stronger presuppositions if these presuppositions are known to be satisfied in context. There is an ongoing debate about whether these latter two principles are distinct types of constraints, or variants of a more general principle (see Lauer 2016 for discussion), and the status of Maximize Commitment should be part of this investigation. For the moment, we will treat it as an independent pragmatic constraint.

If Maximize Commitment (or something like it) is correct, then we reduce the acquaintance implications of plain assertions to those of subjective attitude ascriptions: speech acts give rise to acquaintance inferences *insofar* as they are interpreted as expressing counterstance contingent commitments. The fact that predicates of personal taste like *tasty* and *fun* are embeddable under *find guarantees* that such an interpretation is available in context, and thus the assertions in (1) and (2) are expressions of subjective attitudes by default.

In other cases, the subjectivity of an assertion depends on the particulars of context. Consider, for example, the two cases in (55).

- (55) a. Kim is Russian.  
b. Senator Jones won the debate.

An assertion of (55a) may be a simple statement of fact, but it carries a distinct subjective flavor if Kim is, say, from Crimea. (55b), in turn, may either articulate

a subjective impression of how Senator Jones performed in the debate or it may state a plain fact about the post debate poll results (Pedersen 2012; Vardomsakaya 2018). Doing the latter requires that one knows the polls, but not that one actually watched the debate; voicing the subjective opinion without knowing how the debate went, in contrast, would be distinctly odd. And so on. What matters in all of these cases is whether the belief expressed counts as counterstance contingent or not — whether one thinks it possible to agree on all the facts with the speaker and yet disagree about the issue.

Our account of the acquaintance inference for matrix assertions is compatible with it being canceled in exocentric uses or under the scope of the epistemic necessity operator. Neither (56a) nor (56b) suggest that the speaker has tasted the item under consideration.

- (56) a. My cat is happy because her new food is tasty.  
 b. I have never tried sea urchin. But it must be tasty.

(56a) does not articulate the speaker’s tastes and sensibilities but “anchors” the application criteria of *tasty* to the cat’s taste. This intuition can be elaborated in a variety of ways, but one promising idea is that language sometimes allows us to articulate a perspective other than one’s own and that in such cases context shifts so that certain parameters are anchored to the attitudes of the individual whose perspective we are articulating. Epistemic *might*-claims, for instance, are by default evaluated against what is known by the speaker (DeRose 1991); but we can sometimes use *might* to articulate what is epistemically possible given someone else’s state of mind (Egan, Hawthorne, and Weatherson 2005), and in those cases it is the attributee’s knowledge that is contextually relevant, rather than the speaker’s. Likewise, we suggest that exocentric uses of predicates of personal taste shift the context so that it is someone else’s state of mind — in (56a), the cat’s — that is articulated. Since the speaker is thus not expressing a commitment to the proposition that the food is tasty, our Maximize Commitment principle has no purchase.<sup>17</sup>

A related point can be made about (56b). While the exact analysis of epistemic *must* ( $\Box_e$ ) is the subject of an ongoing debate, at least one prominent proposal would be that this operator is a universal quantifier over a set of indices compatible with with some salient body of information (see Kratzer 2012 and references therein for a recent discussion). A simple implementation is the following, where we will let the informational parameter be provided by context:

$$(57) \quad \llbracket \Box_e \phi \rrbracket^{c,s} = 1 \text{ iff for all } s' \in \mathbf{info}_c: \llbracket \phi \rrbracket^{c,s'} = 1$$

<sup>17</sup> An assertion of (56a) seems to express a commitment to the food being tasty *to the cat*, but clearly in order to know that one does not need to sample the food. Exocentric uses, we should add, carry their own distinct acquaintance inference in that they suggest that the individual whose tastes and sensibilities matter has direct evidence of the item under consideration. So for instance, while an utterance of (56a) does not suggest that the speaker has sampled the food, it does suggest that the cat has. We cannot address the issue in detail here, but the basic suggestion is that due to the shiftiness of exocentric uses, the proposition expressed using a predicate of personal taste must be radically counterstance contingent with respect to the anchor’s state of mind, thus explaining why the anchor must be in a suitable evidential position. See [Authors \(to appear\)](#) for a more detailed discussion of exocentric uses.

Uses of epistemic *must* are sensitive to the choice of an informational parameter. As such we do not expect the corresponding belief to be radically counterstance contingent, and insofar as it counterstance contingent, the issue is what counts as good indirect evidence for something being tasty.

A comprehensive story of the acquaintance inference, to be clear, would require a detailed semantic analysis of the predicates and logical operators at play together with a meta-semantic account of how concrete discourse situations (under)determine those contextual parameters that matter for the truth or falsity of the predication at issue. We have not provided here a semantics for predicates of personal taste that *predicts* their sensitivity to an aspect of context that resists coordination for stipulation; nor have we, for that matter, argued that the informational parameter that matters for the truth-conditions for epistemic *must* does allow for coordination by stipulation. This is deliberate, partly because we think that these claims are independently plausible, partly because we think it is a strength of our account that it does not presuppose a specific semantics for taste predicates and related lexical items. We could happily accept, for instance, the proposal that the semantics for *tasty* is sensitive to an experiential anchor provided by an index of evaluation (as proposed by Muñoz (2019)) — what we would add here, with Lasersohn (2005), is that context fails to fix such anchors in a distinguished way. And we insist that radical counterstance contingency must go beyond experiential anchoring, as it is also exhibited by, for instance, moral and character trait predicates.

## 6 Conclusion

In this paper, we have proposed to model speakers' awareness of the arbitrariness of decisions about how to resolve underdetermination of linguistic practice in terms of counterstances: sets of worlds which differ from an information carrier only in their pragmatic stance on language use. We have shown that (radical) counterstance contingency provides the basis not only for an account of how subjective predicates differ from objective ones in their distribution under certain types of propositional attitude verbs, but can also explain why subjective attitude ascriptions give rise to distinct acquaintance inferences. Finally we demonstrated that it is possible to reduce the acquaintance inferences of plain assertions to those of subjective attitude ascriptions: an assertion gives rise to an acquaintance inference just in case it is interpreted as expressing a subjective attitude, and such an interpretation is preferred if available. The resulting picture leaves — correctly we think — a lot of work to the context, but we also saw that in some cases — when a predicate is embeddable under *find* (i.e. radical counterstance contingency) — a subjective interpretation is available no matter the particulars of the concrete discourse situation.

If our proposal is on the right track, it leads to a reassessment of contemporary views on the nature of subjective language. Subjectivity does not correlate with semantic type or a formal feature of semantic interpretation, such as a designated perspectival argument, parameter, or mode of assessment. Instead, subjectivity is a fundamentally pragmatic phenomenon that emerges from the use of a descriptive but incomplete semantics by agents who are aware of the arbitrariness of

the decisions they make to resolve uncertainty about meaning for the purpose of communication.

One topic that we have omitted from our discussion in this paper, which has played a prominent role in the literature on subjective meaning, is the phenomenon of so-called “faultless disagreement.” This refers to the intuition that if Kim says that sea urchin is tasty and Lee responds that it is not tasty, they disagree and, moreover, neither of them need be “at fault” (see, for instance, Kölbl 2004; Lasnik 2005, 2017; Glanzberg 2007; Stephenson 2007, 2008; Stojanovic 2007; Moltmann 2010; Sundell 2011; Barker 2013; Pearson 2013; Zakkou 2019). We have set this aside partly because it is a non-trivial question how exactly this kind of disagreement is to be characterized in theoretical terms (see, for instance, Plunkett and Sundell 2013 and MacFarlane 2014 for discussion), and partly because it is unclear whether the possibility of faultless disagreement has any distinct semantic implications once we allow for a sufficiently rich conception of the dynamics of conversation (see, for instance, Barker’s (2013) model for negotiating contextual parameters and Khoo and Knobe’s (2018) account of moral disagreements for such a conception). Here we just point out that our concept of counterstance contingency is clearly relevant for the broader understanding of faultless disagreement: treating an issue as counterstance contingent is just to say that the objective facts (whatever those are, according to the conversational context) do not select for a unique resolution of that issue, and intuitively it is exactly the absence of a single correct view on an issue that underwrites intuitions of faultless disputes. One important implication of this approach is that since counterstance contingency is a matter of what alternatives a discourse context provides, we predict faultless disagreement to be an essentially context sensitive phenomenon — just like the acceptability of certain predicates in the scope of subjective attitude verbs. This prediction is supported by observations in Vardomsakaya 2018 and experimental results reported by Khoo and Knobe (2018) which show that whether a disagreement counts as faultless is crucially dependent on context and not tied to lexical items.

A comprehensive articulation of the implications of our proposals for faultless disagreement does not only require a precise account of what this phenomenon is supposed to be. Prior to that, we need a comprehensive story of the way that counterstances — and discourse alternatives more generally — interact with the norms that govern how we assert, reject, and evaluate utterances in everyday discourse. We must leave such a story for another day, but conclude that it is a story worth telling: if the proposal developed here is on the right track, the notion of a counterstance is bound to play an important role in our best theory of linguistic meaning.<sup>18</sup>

## References

- Anand, Pranav, and Natasha Korotkova. 2018. “Acquaintance Inference and Obviation.” In *Proceedings of Sinn und Bedeutung 22*, ed. Uli Sauerland and Stephanie Solt, vol. 1 of *ZASPiL 60*, 55–72. Berlin: Leibniz-Centre General Linguistics.

<sup>18</sup> [Acknowledgments omitted for blind review.]

- Authors. 20xx. "Title." In *Conference Proceedings*, ed. Editors, Pages. Address: Publisher. <http://dx.doi.org/doi>.
- . to appear. "Title." *Journal*.
- Bach, Kent, and Robert M. Harnish. 1979. *Linguistic Communication and Speech Acts*. Cambridge, MA: MIT Press.
- Barker, Chris. 2013. "Negotiating Taste." *Inquiry* 56(2-3): 240–257. <http://dx.doi.org/10.1080/0020174X.2013.784482>.
- Bartsch, Renate. 1973. "„Negative Transportation“ Gibt Es Nicht." *Linguistische Berichte* 27: 1–7.
- Beaver, David I. 2001. *Presupposition and Assertion in Dynamic Semantics*. Stanford: CSLI Publications.
- Bouchard, David-Étienne. 2012. *Long-Distance Degree Quantification and the Grammar of Subjectivity*. Ph.D. thesis, McGill University, Montreal.
- Braun, David. 1998. "Understanding Belief Reports." *Philosophical Review* 107(4): 555–595. <http://dx.doi.org/10.2307/2998375>.
- Bylinina, Lisa. 2017. "Judge-dependence in Degree Constructions." *Journal of Semantics* 34(2): 291–331. <http://dx.doi.org/10.1093/jos/ffw011>.
- Chierchia, Gennaro. 1992. "Anaphora and Dynamic Binding." *Linguistics and Philosophy* 15(2): 111–183. <http://dx.doi.org/10.1007/BF00635805>.
- . 1995. *Dynamics of Meaning*. Chicago: University of Chicago Press.
- Collins, Chris, and Paul Postal. 2014. *Classical NEG-Raising: A Study in the Syntax of Negation*. Cambridge, MA: MIT Press.
- Condoravdi, Cleo. 2002. "Temporal Interpretation of Modals: Modals for the Present and for the Past." In *The Construction of Meaning*, ed. David I. Beaver, Stefan Kaufmann, Brady Clark, and Luis Casillas, 59–88. Stanford, CA: CSLI Publishers.
- Coppock, Elizabeth. 2018. "Outlook-based Semantics." *Linguistics and Philosophy* 41(2): 125–164. <http://dx.doi.org/10.1007/s10988-017-9222-y>.
- Crespo, Inés, and Frank Veltman. 2019. "Tasting and Testing." *Linguistics and Philosophy* 6(42): 617–653. <http://dx.doi.org/10.1007/s10988-019-09260-z>.
- DeRose, Keith. 1991. "Epistemic Possibilities." *Philosophical Review* 100(4): 581–605. <http://dx.doi.org/10.2307/2185175>.
- Egan, Andy, John Hawthorne, and Brian Weatherson. 2005. "Epistemic Modals in Context." In *Contextualism in Philosophy*, ed. Gerhard Preyer and Georg Peter, 131–169. New York: Oxford University Press.
- Fillmore, Charles. 1963. "The Position of Embedding Transformations in Grammar." *Word* 19: 208–231.
- von Fintel, Kai, and Anthony S. Gillies. 2010. "Must ...Stay ...Strong." *Natural Language Semantics* 18(4): 351–383. <http://dx.doi.org/10.1007/s11050-010-9058-2>.
- Fleisher, Nicholas. 2013. "The Dynamics of Subjectivity." In *Semantics and Linguistic Theory (SALT)*, 276–294. 23, Ithaca, NY: CLC.
- Franzén, Nils. 2018. "Aesthetic Evaluation and First-Hand Experience." *Australasian Journal of Philosophy* 96(4): 669–682. <http://dx.doi.org/10.1080/00048402.2018.1425729>.
- Gajewski, Jon. 2007. "Neg-Raising and Polarity." *Linguistics and Philosophy* 30(3): 289–328. <http://dx.doi.org/10.1007/s10988-007-9020-z>.

- Giannakidou, Anastasia, and Alda Mari. 2015. "Mixed Non-Veridicality and Mood Choice with Emotives." In *Proceedings of CLS 51*, 181–195. Chicago, IL: Chicago Linguistic Society. Manuscript, University of Chicago and Institut Jean Nicod.
- . 2017. "A Unified Analysis of the Future as Epistemic Modality." *Natural Language Semantics* 36(1): 85–129. <http://dx.doi.org/10.1007/s11049-017-9366-z>.
- Gibbard, Allan. 2003. *Thinking How To Live*. Cambridge, MA: Harvard University Press.
- Glanzberg, Michael. 2007. "Context, Content, and Relativism." *Philosophical Studies* 136(1): 1–29. <http://dx.doi.org/10.1007/s11098-007-9145-5>.
- Grice, H. Paul. 1975. "Logic and Conversation." In *Syntax and Semantics, Vol. 3, Speech Acts*, ed. Peter Cole and Jerry L. Morgan, 41–58. New York: Academic Press.
- Grinsell, Timothy. 2017. *Semantic Indecision*. Ph.D. thesis, University of Chicago.
- Groenendijk, Jeroen, and Martin Stokhof. 1984. *Studies on the Semantics of Questions and the Pragmatics of Answers*. Ph.D. thesis, University of Amsterdam, Amsterdam.
- . 1991. "Dynamic Predicate Logic." *Linguistics and Philosophy* 14(1): 39–100. <http://dx.doi.org/10.1007/BF00628304>.
- Heim, Irene. 1982. *The Semantics of Definite and Indefinite Noun Phrases*. Ph.D. thesis, University of Massachusetts, Amherst.
- . 1991. "Articles and Definiteness." In *Semantics. An International Handbook of Contemporary Research*, ed. Armin von Stechow and Dieter Wunderlich, 487–535. Berlin: Walter de Gruyter & Co.
- Hirvonen, Sanna. 2014. *Predicates of Personal Taste and Perspective Dependence*. Ph.D. thesis, University College London, London.
- Horn, Laurence. 1989. *A Natural History of Negation*. Chicago, IL: University of Chicago Press.
- James, William. 1890. *The Principles of Psychology*, vol. 2. New York: Henry Holt and Company.
- . 1907. *Pragmatism: A New Name for Some Old Ways of Thinking*. New York: Longmans, Green, and Co.
- Kamm, Frances Myrna. 2007. *Intricate Ethics: Rights, Responsibilities and Permissible Harm*. Oxford University Press.
- Kamp, Hans. 1981. "A Theory of Truth and Representation." In *Formal Methods in the Study of Language, Part I*, ed. Jeroen Groenendijk, Theo Janssen, and Martin Stokhof, 277–320. Amsterdam: Mathematisch Centrum.
- Kamp, Hans, Josef van Genabith, and Uwe Reyle. 2011. "Discourse Representation Theory." In *Handbook of Philosophical Logic*, 2<sup>nd</sup> ed., vol. 15, ed. Dov M. Gabbay and Franz Guenther, 125–394. Dordrecht: Springer. [http://dx.doi.org/10.1007/978-94-007-0485-5\\_3](http://dx.doi.org/10.1007/978-94-007-0485-5_3).
- Kamp, Hans, and Uwe Reyle. 1993. *From Discourse to the Logic: Introduction to Modeltheoretic Semantics of Natural Language, Formal Logic and Discourse Representation Theory*. Dordrecht: Kluwer Academic Press. <http://dx.doi.org/10.1007/978-94-017-1616-1>.
- Kaplan, David. 1989. "Demonstratives." In *Themes from Kaplan*, ed. Joseph Almog, John Perry, and Howard Wettstein, 481–563. New York: Oxford University Press.

- Karttunen, Lauri. 1973. "Presuppositions of Compound Sentences." *Linguistic Inquiry* 4(2): 169–193.
- Kennedy, Christopher. 2013. "Two Sources of Subjectivity: Qualitative Assessment and Dimensional Uncertainty." *Inquiry* 56(2-3): 258–277. <http://dx.doi.org/10.1080/0020174X.2013.784483>.
- Khoo, Justin, and Joshua Knobe. 2018. "Moral Disagreement and Moral Semantics." *Nous* 52(1): 109–143. <http://dx.doi.org/10.1111/nous.12151>.
- Kölbel, Max. 2004. "Faultless Disagreement." *Proceedings of the Aristotelian Society* 104(1): 53–73. <http://dx.doi.org/10.1111/j.0066-7373.2004.00081.x>.
- Kratzer, Angelika. 2012. *Modals and Conditionals*. New York: Oxford University Press. <http://dx.doi.org/10.1093/acprof:oso/9780199234684.001.0001>.
- Kuhn, Thomas Samuel. 1962. *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press.
- Lasersohn, Peter. 2005. "Context Dependence, Disagreement, and Predicates of Personal Taste." *Linguistics and Philosophy* 28(6): 643–686. <http://dx.doi.org/10.1007/s10988-005-0596-x>.
- . 2017. *Subjectivity and Perspective in Truth-Theoretic Semantics*. Oxford, UK: Oxford University Press.
- Lassiter, Daniel, and Noah Goodman. 2014. "Context, scale structure, and statistics in the interpretation of positive-form adjectives." In *Proceedings of Semantics and Linguistic Theory*, vol. 24, 587–610.
- Lauer, Sven. 2016. "On the Status of 'Maximize Presupposition'." In *Proceedings of SALT 26*, ed. Mary Moroney, Carol-Rose Little, Jacob Collard, and Dan Burgdorf, 980–1001. Linguistic Society of America.
- Lewis, Clarence Irving. 1923. "A Pragmatic Conception of the *A Priori*." *Journal of Philosophy* 20(7): 166–177. <http://dx.doi.org/110.2307/2939833>.
- Ludlow, Peter. 2014. *Living Words: Meaning Underdetermination and the Dynamic Lexicon*. New York: Oxford University Press. <http://dx.doi.org/10.1093/acprof:oso/9780198712053.001.0001>.
- MacFarlane, John. 2014. *Assessment Sensitivity: Relative Truth and Its Applications*. New York: Oxford University Press. <http://dx.doi.org/10.1093/acprof:oso/9780199682751.001.0001>.
- Moltmann, Friederike. 2010. "Relative Truth and the First Person." *Philosophical Studies* 150(2): 187–220. <http://dx.doi.org/10.1007/s11098-009-9383-9>.
- Mothersill, Mary. 1984. *Beauty Restored*. Oxford: Oxford University Press.
- Muñoz, Patrick. 2019. *On Tongues: The Grammar of Experiential Evaluation*. Ph.D. thesis, University of Chicago.
- Ninan, Dilip. 2014. "Taste Predicates and the Acquaintance Inference." In *Proceedings of SALT XXIV*, ed. Todd Snider, Sarah D'Antonio, and Mia Weigand, 290–304.
- Pearson, Hazel. 2013. "A Judge-Free Semantics for Predicates of Personal Taste." *Journal of Semantics* 30(1): 103–154. <http://dx.doi.org/10.1093/jos/ffs001>.
- Pedersen, Walter. 2012. "Faultless Disagreement and Semantic Relativity." Unpublished ms., McGill University.
- Peirce, Charles Sanders. 1905. "Issues of Pragmaticism." *The Monist* 15(4): 481–499. <http://dx.doi.org/10.5840/monist19051544>.
- Plunkett, David, and Timothy Sundell. 2013. "Disagreement and the Semantics of Normative and Evaluative Terms." *Philosophers' Imprint* 13(23): 1–37. <http://dx.doi.org/10.1093/imprint/13.23.1>.

- [//dx.doi.org/2027/spo.3521354.0013.023](https://dx.doi.org/2027/spo.3521354.0013.023).
- Qing, Ciyang, and Michael Franke. 2014. "Gradable adjectives, vagueness, and optimal language use: A speaker-oriented model." In *Proceedings of Semantics and Linguistic Theory 24*, ed. Lucas Champollion and Anna Szabolcsi, 23–41.
- Reis, Marga. 2013. "Dt. finden und „subjektive Bedeutung“." *Linguistische Berichte* 2013(236): 389–426.
- Rudolph, Rachel Etta. 2019. "The Acquaintance Inference with *Seem*-reports." In *Proceedings of the Fifty-Fourth Annual Meeting of the Chicago Linguistic Society*, ed. Eszter Ronai, Laura Stigliano, and Yenan Sun, 451–460. Chicago: Chicago Linguistic Society.
- Sæbø, Kjell Johan. 2009. "Judgment Ascriptions." *Linguistics and Philosophy* 32(4): 327–352. [http://dx.doi.org/10.1007/s10988-009-9063-4](https://dx.doi.org/10.1007/s10988-009-9063-4).
- Sauerland, Uli. 2008. "Implicated Presuppositions." In *Sentences and Context: Language, Context and Cognition*. De Gruyter.
- Stephenson, Tamina. 2007. *Towards a Theory of Subjective Meaning*. Ph.D. thesis, MIT, Cambridge, MA.
- . 2008. "Judge Dependence, Epistemic Modals, and Predicates of Personal Taste." *Linguistics and Philosophy* 30(4): 487–525. [http://dx.doi.org/10.1007/s10988-008-9023-4](https://dx.doi.org/10.1007/s10988-008-9023-4).
- Stevenson, Charles Leslie. 1937. "The Emotive Meaning of Ethical Terms." *Mind* 46(181): 14–31. [http://dx.doi.org/10.1093/mind/XLVI.181.14](https://dx.doi.org/10.1093/mind/XLVI.181.14).
- Stojanovic, Isidora. 2007. "Talking about Taste: Disagreement, Implicit Arguments, and Relative Truth." *Linguistics and Philosophy* 30(6): 691–706. [http://dx.doi.org/10.1007/s10988-008-9030-5](https://dx.doi.org/10.1007/s10988-008-9030-5).
- Sundell, Timothy. 2011. "Disagreements about Taste." *Philosophical Studies* 155(2): 276–288. [http://dx.doi.org/10.1007/s11098-010-9572-6](https://dx.doi.org/10.1007/s11098-010-9572-6).
- Umbach, Carla. 2016. "Evaluative Propositions and Subjective Judgments." In *Subjective Meaning: Alternatives to Relativism*, ed. Cécile Meier and Janneke van Wijnbergen-Huitink, 127–168. Berlin: De Gruyter. [http://dx.doi.org/10.1515/9783110402001-008](https://dx.doi.org/10.1515/9783110402001-008).
- Vardomsakaya, Tamara. 2018. *Sources of Subjectivity*. Ph.D. thesis, University of Chicago.
- Veltman, Frank. 1985. *Logics for Conditionals*. Ph.D. thesis, University of Amsterdam.
- . 1996. "Defaults in Update Semantics." *Journal of Philosophical Logic* 25(3): 221–261. [http://dx.doi.org/10.1007/BF00248150](https://dx.doi.org/10.1007/BF00248150).
- Williamson, Timothy. 1994. *Vagueness*. London: Routledge. [http://dx.doi.org/10.2307/2953810](https://dx.doi.org/10.2307/2953810).
- . 1996. "Knowing and Asserting." *Philosophical Review* 105(4): 489–523. [http://dx.doi.org/10.2307/2998423](https://dx.doi.org/10.2307/2998423).
- . 2000. *Knowledge and Its Limits*. Oxford: Oxford University Press. [http://dx.doi.org/10.1093/019925656X.001.0001](https://dx.doi.org/10.1093/019925656X.001.0001).
- Wollheim, Richard. 1980. *Art and Its Objects*. 2nd ed. Cambridge: Cambridge University Press.
- Zakkou, Julia. 2019. "Denial and Retraction: A Challenge for Theories of Taste Predicates." *Synthese* 196(4): 1555–1573. [http://dx.doi.org/10.1007/s11229-017-1520-y](https://dx.doi.org/10.1007/s11229-017-1520-y).