When faultless disagreement is not so faultless: What widely-held opinions can tell us about subjective adjectives

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Abstract. When two people disagree about matters of taste, neither of them is in the wrong: There is nothing contradictory in an exchange where one person says 'The rollercoaster was fun!' and the other responds 'No, it was not fun.' This is in sharp contrast to disagreements about objective facts. This phenomenon is known as faultless disagreement, and is at the heart of theorizing about subjective adjectives. Despite this fundamental role, little scrutiny has been given to the empirical profile of faultless disagreement. Our experiment addresses two questions: (i) Is faultless disagreement a property of predicates, or of pairs of a predicate and an argument? (ii) Is faultless disagreement (i) are modulated by the choice of argument, reflecting the prevalence of opinions in the relevant population, and (ii) fall into at least three distinct tiers, suggesting that faultless disagreement is a gradient phenomenon.

Keywords. subjective predicates; predicates of personal taste; faultless disagreement; experimental linguistics

1. Introduction. Consider the following simple disagreements over objective facts:

- Arnold: The shirt is cotton.
 Barbara: No, it's not cotton.
- (2) Amy: That knife is plastic.Bob: No, it's not plastic.

In both of the above cases, **A** asserts some proposition p, and **B** asserts its negation, $\neg p$. And it clearly must be the case that one of the two people is factually wrong. In other words, disagreement over objective facts licenses the intuition that someone must be wrong, or 'at fault.' Consider now the following simple disagreements over matters of subjective opinion:

- (3) Arnold: That rollercoaster was fun. Barbara: No, it was not fun.
- (4) Amy: That sandwich was tasty.Bob: No, it was not tasty.

Here, again, it seems that **A** has asserted p, and **B** has asserted $\neg p$, but this time it's intuitive to say that neither one is factually wrong, or at fault. People can differ over matters of opinion without either having made a factual mistake. This has been a truism since antiquity—see, for instance, the Latin maxim *De gustibus non est disputandum*, translated fairly literally as 'In matters of taste, there can be no disputes,' but more colloquially as 'There's no accounting for taste.' The technical term for this truism in philosophy and semantics is FAULTLESS DIS-

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AGREEMENT: the intuition that people can disagree over matters of taste without either party being wrong or 'at fault.'

Despite being a truism since antiquity, faultless disagreement is surprising and problematic for standard semantic assumptions, on which for any proposition p, either p or $\neg p$ must be false. So how can it be that predicates of personal taste (PPTs) and other subjective adjectives license the intuition that both can be true (Kölbel 2004)? Faultless disagreement has been used to motivate re-examining the fundamental nature of semantic denotata and the contextsensitivity of semantic computation (e.g. Lasersohn 2005, MacFarlane 2014); it has also been put forward as an empirical diagnostic for subjectivity, which is argued to carry explanatory weight with respect to things like adjective-ordering preferences (e.g. Scontras et al. 2017). Given the importance being placed on faultless disagreement as an empirical desideratum for various proposals, we need to understand what it's actually telling us, and how it actually works.

1.1. FAULTLESS DISAGREEMENT AS A DIAGNOSTIC FOR THE SUBJECTIVITY OF ADJECTIVES. A common assumption is that if a predicate allows faultless disagreement, it is subjective.

(5) A: This cake is tasty.B: No, it is not tasty!

In this case, both people can be in some sense 'right,' so we can conclude that *tasty* is subjective.

(6) A: This cake is gluten-free.B: No, it is not gluten-free!

In the above case, one person has to be wrong, so we can conclude that *gluten-free* is not subjective.

For each of these simple cases, the reasoning is categorical: either a predicate is subjective or it isn't. This reasoning can be deployed in a gradient manner as well: we could talk about *how faultless* a disagreement is, and therefore *how subjective* the predicate is. The point is that in either case, faultless disagreement is taken to represent some property of the predicate simpliciter. We are skeptical of this reasoning, because it doesn't take into account the identity of the object of predication.

The identity of the object of predication can have strong effects on the **degree of consensus of** an opinion, i.e. on how widely-held or prevalent that opinion is within a particular population. (*Nota bene*: we're assuming a broadly US-centric cultural perspective here—see $\S5.1$ for further discussion. In the present work, for ease of presentation, we divide degrees of consensus into three levels, illustrated in (7):

(7) Three levels of consensus

a.	Snails are tasty.	divisive	(lower consensus)
b.	Donuts are tasty.	widely liked	(high consensus)
с.	Paper is tasty.	inedible	(near-unanimous consensus)

If faultless disagreement is purely a reflex of the subjective predicate itself (e.g. *tasty*, *fun*, etc), then the object of predication should be irrelevant, and the prevalence of the relevant opinion in the population should be irrelevant. All predicates that are subjective should yield faultless disagreement, regardless of what they are predicated of. We suspect that this view is (implic-

itly) assumed by most prior work.

1.2. AIMS OF THIS WORK. We conducted a psycholinguistic experiment to take steps towards addressing two questions about the empirical status of faultless disagreement:

- I) Is faultless disagreement a property of predicates *simpliciter*, or a property of pairs of a predicate and an object of predication?
- II) Is faultless disagreement a binary phenomenon, or a gradient one?

We investigate both of these questions using opinions about foods as a case study. We chose attitudes about foods as our initial starting point because people tend to have fairly clear intuitions about the level of consensus of food-related opinions.

2. Experiment. We used opinions about food to assess whether the level of consensus of an opinion modulates the level of faultless disagreement. If yes, this would provide evidence that faultless disagreement is not simply a property of predicates—as often seems to be implicitly assumed in prior work—but rather a property of predicate-argument pairs. Because faultless disagreement has been used as a proxy for other properties of predicates, like subjectivity, and has driven theorizing about the semantics of predicates that display it, the finding that it is modulated by the choice of argument (i.e., the object of predication) would need to be grappled with in both domains.

2.1. DIFFERENT LEVELS OF CONSENSUS. We tested people's perception of whether agreement is faultless with three different levels of consensus about foods: First, when the food is typically seen as divisive (e.g. Brussels sprouts, anchovies, blue cheese)—i.e., the level of consensus about the opinion is *low*. Second, when there is broad consensus about the food being tasty (e.g. chocolate, cake, pizza, ice cream)—i.e., the level of positive consensus is *high*. Third, we also tested items that are (near-)unanimouslyviewed as inedible, though still technically consumable (e.g. dirt, paper, sand)¹—i.e., a context where the level of negative consensus is *very high*. Comparing this third condition to the other two—in essence: things people normally eat vs. things people do not normally eat—provides a way of checking whether a very striking difference in consensus levels about predicate-object pairs will modulate perception of faultless disagreement.

In order to identify the items to use for each category, we used existing surveys and pretesting in order to identify eight different items for each category. We initially also considered testing foods that are widely disliked but still qualify as foods—i.e., a category of widely disliked foods where the level of *negative* consensus is *high*. Such a category would pair well with the category of widely liked foods where the level of positive consensus is high. However, we decided to not include this category in our initial experiment, because it is hard to identify foods that are widely disliked. It appears that, typically, whenever something is culturally regarded as a food, even if it is not widely liked there still seems to be a certain nonnegligible number of people who like it. In essence, given our relatively coarse-grained categorybased approach, it was unclear what the cut-off would be for something to qualify as *widely*

¹ The hope is that by using things that are technically consumable, we can avoid problems associated with the predicate being simply inapplicable to its argument.

disliked rather than merely *divisive*. We felt that based on existing studies and our own U.S.based pre-testing, we could reliably identify foods that are divisive but not foods that are (reliably) widely disliked.

Importantly, it should be noted that although we used these three categories in our study, we do not regard them as monolithic categories (with the possible exception of the inedible category). Foods within each category can vary in how strong the consensus about each food is. We admit that in the present study we approach the effects of consensus from a relatively coarse-grained perspective, by splitting foods into (i) widely liked (high consensus) vs. (ii) not widely liked (lower consensus). An important direction for future work is a more fine-grained investigation that treats level of consensus as a fully gradient dimension without breaking it into categories. This will allow us to also gain insights into higher vs. lower levels of negative and positive consensus.

2.2. METHOD. **Participants.** We report the results for 52 self-identified adult native English speakers who participated over the internet.

Design. We constructed written mini-conversations between two people who disagree about whether a given food (or nearly inedible item) tastes good or bad, as exemplified in Figure 1 and examples (8a,b). The first speaker uses a predicate of personal taste in a predicative construction (e.g. *Black licorice is yucky*) and the second speaker disagrees by using 'not' (e.g. *Black licorice is not yucky*).

In the target items, we manipulated the prevalence of the opinion about the food (as described above) to test three conditions, listed here in order of increasing consensus: (i) divisive foods (low consensus), (ii) widely liked foods (high consensus) and (iii) (nearly) inedible items (very high consensus).

All target items consisted of short mini-dialogs using predicative sentences (examples 8a,b, Figure 1). Participants saw eight targets in each of the three conditions, for a total of 24, and each target had a different food item (or (nearly-)inedible item) in subject position. We used two positive PPTs (*tasty*, *delicious*) and two negative PPTs (*yucky*, *disgusting*) in the target items. Each food item/nearly-inedible item occurred with both a positive and negative PPT in different versions of the experiment. E.g. we tested both *Snails are disgusting/Snails are not disgusting* as well as *Snails are tasty/Snails are not tasty*, and *Chocolate is yucky/Chocolate is not yucky* as well as *Chocolate is tasty/Chocolate is not tasty*.² The preamble 'Eating things:' was included on targets to ensure that the dialogs about inedible things (e.g. *Sand is disgusting*) would still be construed as discussion about food/taste.

The study also included 10 filler mini-dialogs about activities described with different PPTs and designed to vary in their level of consensus (e.g. *Waiting in line is fun/not fun; Doing yoga is boring/not boring*). Fillers were preceded by the preamble 'Doing things:'. Four additional attention-check trials were included to ensure participants were paying attention to the items. Only participants who gave correct answers to at least three out of four attention-check

² We do not discuss the negative/positive distinction further here. Crucially, each target item consisted of two opposing statements by the two speakers (e.g. *tasty / not tasty*; *yucky / not yucky*). Whenever the first speaker uses a negative adjective, the second speaker expresses a positive evaluation of the food item (*not* + *negative adjective*), and whenever the first speaker uses a positive adjective, the second speaker expresses a negative evaluation of the food item (*not* + *positive adjective*). (See also Scontras et al. 2017 for use of 'not' to create pairs of statements in a faultless disagreement task.) Thus, all targets are uniform in the sense that they involve two opposing subjective statements.

trials and to two unambiguous practice items were included in subsequent analyses.

Procedure. Participants read the dialogs presented in writing on the computer screen (Figure 1). The dialog was shown on the same page as a six-point rating scale. Participants were instructed to read each conversation carefully and to indicate whether they thought it was possible for both people to be right or whether one person was wrong.³ They were instructed to select "1" if they strongly feel that one of the two people is wrong (lets call this *faultful* or *faulty* disagreement), to select "6" if they strongly feel that both people can be right (*faultless* disagreement), and to use the numbers between 1 and 6 for intermediate responses.

Thus, if a participant selects a high number on the scale, this indicates that they interpret the disagreement as faultless (both people can be right). Conversely, if a participant selects a low number, this indicates that they judge the disagreement to be 'faulty' (one of the two people is wrong). High numbers mean high rates of faultless disagreement.

On the same screen, participants also indicated how confident they were in each of their answers, using a six-point scale from "not confident" (1) to "very confident" (6). On average, confidence levels were higher than 5 out of 6 in every condition, and will not be discussed further.

Each item was presented on its own screen, and participants completed the study at their own pace.

(8) a. One person says: Blue cheese is tasty.

Another person says: Blue cheese is not tasty.

b. One person says: French fries are disgusting. Another person says: French fries are not disgusting.

Eating things:

One person says: Chocolate chip cookies are tasty. Another person says: Chocolate chip cookies are not tasty.

One of the two people is 2 wrong. 1	3	4	5	Both people can be right 6
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Figure 1. Sample item and faultless disagreement rating scale

3. Predictions. We consider three possible outcomes about whether the prevalence of an opinion modulates how we perceive disagreements concerning that opinion:

No effect of opinion prevalence on perception of faultless disagreement: First, if faultless disagreement is a reflex only of the (subjective) nature of the predicate, as seems to be

³ On the answer choices indicated for the rating scale, we did not further elaborate on what is meant by 'wrong' or 'right,' but the instructions made clear that two people with different opinions could both be right. In other words, the instructions explained that disagreement can be faultless. Nevertheless, we acknowledge that people can be wrong or right in different ways and that perceptions of these issues are also sensitive to social norms and standards. These are important issues for future work and we touch upon some of them in $\S5.1$.

implicitly assumed in prior work, we expect to see comparably high rates of faultlessness in all three conditions, regardless of whether the subject of the sentence refers to a divisive food, a widely liked food or a (nearly) inedible item—in other words, the object of predication should have no effect. This is because all targets use predicates of personal taste. Thus, according to this view, all three conditions should elicit equally high ratings on the six point scale. (Recall that '6' = faultless disagreement.)

Opinion prevalence matters but only in extreme cases: Alternatively, it could be the case that if an opinion is *near-universal*, this kind of extreme situation is strong enough to modulate how we perceive disagreements concerning that opinion. If one person expresses an opinion that virtually everyone agrees with (e.g. *sand is not tasty*) and another person expresses an opinion that virtually no one else shares (e.g. *sand is tasty*), this could be perceived as a situation where that second person is in the wrong. In this case, we expect a two-way split, such that disagreements concerning inedibles are rated more 'faulty' (lower on the 6-point scale) than disagreements concerning edibles. The two edible categories (widely liked and divisive) are predicted to pattern together.

Opinion prevalence has gradient effects on perception of faultless disagreement: A third possibility is that faultless disagreement is gradiently sensitive to degree of consensus. In this case, we expect to see a three-way contrast, such that decreasing consensus elicits more faultless disagreement. In the case of extremely high-consensus opinions, anyone who disagrees would be judged as being in the wrong (low ratings on the 6-point scale)—this is the 'sand is (not) tasty' situation described above. Furthermore, if effects of opinion prevalence are gradient, we also expect a difference to emerge between widely-liked foods (high level of consensus) and divisive foods (lower level of consensus): Disagreements about divisive foods are expected to be judged as more faultless (higher ratings on the 6 point scale) than disagreements about widely-liked foods. Thus, under this view, disagreements concerning inedibles would receive the lowest ratings (most 'faulty'), disagreements about widely liked foods would fall somewhere in the middle and disagreements about divisive foods would be receive the highest ratings (most faultless).

4. Results and discussion. Figure 2 shows the average faultless disagreement ratings for each condition. Higher ratings indicate more faultless disagreement (both people can be right); lower ratings indicate more 'faulty' disagreement (someone is wrong).

As can be seen in Figure 2, the inedible condition (high levels of consensus) yields lower ratings than both divisive foods (lmer on z-scores, |t|=15.9, p<.0001) and liked foods (|t|=19.7, p<.0001). In other words, if someone finds sand tasty, they are more likely to be viewed as being in the wrong than someone who disagrees about either a liked or a divisive food. The finding that all three conditions do *not* pattern alike goes against the first possibility we considered—that faultless disagreement is a reflex only of the (subjective) nature of the predicate, unrelated to the object of predication. The low ratings for inedibles show that the level of consensus about predicate-object pairs does have an effect.

Furthermore, we also find a difference when we directly compare widely-liked foods and divisive foods: Widely-liked foods receive lower ratings (more 'faulty' disagreement) than divisive foods (|t|=4.87, p<.0001). This result goes against the second possibility we considered, which was that that effects of consensus only distinguish between near-universal vs. non-universal opinions in a binary way: Our results suggest that perception of faultless disagree-

ment is sensitive to levels of consensus in a more gradient way. Thus, in a disagreement about whether a *widely-liked* food tastes good, someone is more likely to be judged as being wrong than in a disagreement about whether a divisive food tastes good. Ultimately, our findings support the third possibility: Ratings of faultless disagreement are sensitive to degree of consensus.



Figure 2. Faultless disagreement ratings as a function of condition. Error bars show +/- 1 SE

5. General discussion. We've shown that judgments of faultless disagreement (at least in the domain of food) are gradient, and modulated by the object of predication—specifically, by the level of consensus regarding its tastiness or lack thereof. This is contrary to what is implicitly assumed in prior work, much of which treats faultless disagreement as a categorical diagnostic that reflects properties of the predicate alone.

We highlight both methodological and theoretical ramifications of this finding. Our results show that measures of faultless disagreement do not directly reflect the subjectivity of the predicate—they reflect this only mediated by the choice of the object of predication. The higher the degree of consensus there is about a predicate-argument pair, the more faulty a disagreement is rated. Methodologically, then, this shows that researchers must control carefully for the choice of object of predication before any conclusions can be drawn about what the availability of faultless disagreement tells us about the subjective character of a predicate. In particular, if disagreement over a predicate is judged faulty, it must be shown that this is not an effect of degree of consensus about the applicability of the predicate to the object.

Our results show that even *tasty*, the poster child of subjective predicates, does not consistently license an intuition of faultless disagreement—disagreements about tastiness are judged (relatively) faulty if there is enough consensus about the (in)applicability of *tasty* to what it is being predicated of. This fact has theoretical ramifications, as predicting faultless disagreement for subjective predicates has been taken to be a desideratum in developing theories of subjective meaning. Our results show that theoretical explanations of faultless disagreement over PPTs must make some reference to the prevalence of a judgment within the relevant population. Analyses on which subjective predicates involve generic quantification might account

for these effects straightforwardly in the semantics (e.g. Anand 2009, Pearson 2013); other accounts of subjective predicates (e.g. Lasersohn 2005, Coppock 2017) might account for these facts in the pragmatics, perhaps by appealing to the notion that the less prevalent an opinion is, the more doubtful the sincerity of one who claims to hold it. For a rigorous pragmatic account of the relation the prevalence of an attribute in the population and the acceptability of a generic statement, see Tessler & Goodman (2019).

5.1. FUTURE DIRECTIONS. Our results show that judgments of faultless disagreement are sensitive not just to the predicate, but to the object of predication, in a way that we suggest reflects the degree of consensus in the relevant population, and fall into at least three statistically distinct tiers, suggesting that faultless disagreement is a gradient phenomenon. Though we do not argue that these findings support or invalidate any particular theories of the semantics of subjective predicates, we do strongly suggest that the phenomenonof faultless disagreement itself deserves much more empirical scrutiny, seeing as it has played a foundational role in the development of such theories.

For instance, a variety of recent proposals seek to explain the behavior of subjective predicates in terms of their experiential nature, rather than their formal semantics (e.g. Muñoz 2019, Rudin & Beltrama 2019, Willer & Kennedy 2019—see also Bylinina 2014, McNally & Stojanović 2017, Kaiser & Herron Lee 2017, 2018 for related work on the role of experience in the semantics of subjective predicates). Rudin & Beltrama argue that the intuition of faultless disagreement can be explained in terms of the plausibility of both parties having competently evaluated the object of predication, and having sincerely come to different conclusions. Proposals of this nature make predictions about what factors should be able to manipulate the intuition of faultless disagreement. In ongoing work, we investigate two factors that are predicted to affect the availability of faultless disagreement.

(9) Effects of socio-cultural context (e.g. US vs. Thailand):A: Crickets are tasty.B: Crickets are not tasty.

To most Americans, crickets might be judged inedible. But in Thailand, they're a popular bar snack. If perceived consensus *in the relevant population* pushes around judgments of faultless disagreement, then ratings from participants in different populations should diverge sharply if those populations differ sharply in their degree of consensus about the object of predication. To put it another way: a participant from a culture in which crickets are considered a food should find it much more plausible that a competent evaluator would sincerely find them tasty than a participant from a culture in which theyre considered inedible would.

 (10) Effects of expertise (e.g. oenophilia): Layperson: This wine is disgusting. Master sommelier: No, this 2017 Châteauneuf-du-Pape is exquisite.

In many areas of food culture, perhaps most notoriously when it comes to wine, privilege is given to the expert judgment of initiated sophisticates. If the intuition of faultless judgment requires the assumption that both parties in the disagreement are competent evaluators of the applicability of the predicate to its argument, we might expect disagreements between assessors of unequal expertise to be judged more faulty than disagreements between assessors of equal expertise.

In addition to these two factors, ongoing work also investigates the role of first-person experience in judgments of faultless disagreement. In the experiment presented here, we relied on social consensus/norms about which foods are divisive and which are widely liked. An important future step is to assess the extent to which people's own likes and dislikes shape their perceptions of faultless disagreement. PPTs have been shown to give rise to an 'acquaintance inference'-if somebody says something is tasty, we infer that they have tasted it personally (Ninan 2014, Anand & Korotkova 2018)-and have been analyzed by appealing to a privileged role for first-person experience (Moltmann 2006, 2010, Pearson 2013, Gunlogson & Carlson 2016). Not everyone likes foods typically viewed as tasty. If someone dislikes chocolate, would they rate disagreements about chocolate as more faultless than someone who likes chocolate, even though both people know that chocolate is viewed as a typically highconsensus tasty thing in the U.S.? If somebody absolutely loves anchovies, are they more likely to rate disagreement about anchovies being tasty as more faulty than someone who only has lukewarm feelings about anchovies, despite knowing that their preference places them in a minority? Put another way, when we ask a participant whether 'someone is wrong,' do they assess 'wrongness' in terms of alignment with their own preferences? And is the 'wrongness' of disagreement over inedibles reducible to the strangeness of the implication that both parties have eaten, e.g., sand? The question of whether the degree-of-consensus effects that we found are modulated by people's own opinions (or by their perception of the appropriateness of acquiring that opinion in the first place) is an intriguing direction for future research.

5.2. UPSHOT. The upshot of this paper is that judgments of faultless disagreement are affected by the object of predication, rather than directly reflecting the subjectivity of the predicate simpliciter, and, furthermore, that perceived consensus about the applicability of the predicate to that object is an important factor in explaining why. Further investigations into exactly which other factors push judgments of faultlessness around will be crucial to developing a richer understanding of the ramifications of faultless disagreement for the theory of subjective predicates.

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