Two Sources of Subjectivity: Qualitative Assessment and Dimensional Uncertainty

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ABSTRACT   *This paper examines the use of scalar adjectives in two contexts that have played a role in discussions of the subjective/objective distinction: 'faultless disagreement' discourses and the nonfinite complement position of the subjective attitude verb* find. *I argue that the pattern of distribution and interpretation of scalar adjectives in these contexts provides evidence for two sources for subjectivity, which are distinguished from each other in that one affects the grammatical properties of a predicate and one does not. The first kind, which licenses appearance in the complement position of* find, *is based in the lexical semantics of predicates that encode qualitative assessments. The second kind, which gives rise to faultless disagreement effects, arises from uncertainty about the dimensions of evaluation that are involved in fixing the extension of a predicate in a context of utterance.*

I. Introduction

What makes a predicate subjective? For example, why is it that (bare) predicates of personal taste like *tasty*, *disgusting* and *fun* are subjective according to certain tests (which I examine in more detail below), but predicates like *vegetarian* and *mechanical* are not? To a certain extent at least, this question is independent of the question of how (or whether) subjectivity should be captured by semantic theory, in the sense that any theory that recognizes a subjective/nonsubjective distinction in the first place should be able to say what kinds of features constitute the difference between the subjective and the nonsubjective terms of the language. However, it is often the case that a better understanding of fine-grained details of the lexical semantic properties

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of particular classes of terms can inform our theoretical understanding and analysis of the categories and constructions that those terms enter into. The aim of this paper is to begin to develop such an understanding. My strategy is to focus on one empirical domain—scalar predicates—and to look at patterns of distribution and interpretation that are sensitive to the subjective/objective distinction. A caveat: focusing on scalar predicates allows me to carry out a fine-grained examination of lexical semantic details, but it remains to be seen whether the conclusions I reach about subjectivity in this domain can also help us understand subjectivity in modals, conditionals, and other kinds of constructions.

II. Two Diagnostics for Subjectivity

In order to investigate subjectivity, we need to know how to identify it. The most common diagnostic for subjectivity involves truth assessment: if a sentence and its negation can be used by competent speakers to contradict each other, but in a way that (from an external viewpoint) appears to be consistent with both speakers saying something true, they are thought to involve some form of subjectivity. This kind of test is exemplified by the 'faultless disagreement' pattern in (1).[1]

(1) (a) Anna: '*Trippa alla romana* is tasty.'
     (b) Beatrice: '*Trippa alla romana* is not tasty.'

Beatrice's utterance in (1b) is understood as contradicting Anna's utterance in (1a), and so represents a kind of disagreement, yet we have a clear sense that both Anna and Beatrice could (in some sense) be right, and so the disagreement is 'faultless'. This situation contrasts with the one in (2), in which we have a case of disagreement in which one of the speakers must be wrong. (In this case, it is Anna, because *trippa alla romana* is made from the stomach lining of a cow or other animal.)

(2) (a) Anna: '*Trippa alla romana* is vegetarian.'
     (b) Beatrice: '*Trippa alla romana* is not vegetarian.'

The scenario in (1) also contrasts with the one in (3), where we imagine a context in which Anna and Beatrice are looking at menus that, unknown to each other, differ on the dish that will follow the one they are currently eating: for Anna, it is *trippa alla romana*; for Beatrice, it is *saltimbocca*.

(3) (a) Anna: '*Trippa alla romana* is next.'
     (b) Beatrice: '*Trippa alla romana* is not next.'

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[1] Kölbel, 'Faultless Disagreement'.

As in (1) and unlike (2), there is an understanding of this dialogue in which neither Anna nor Beatrice make a false assertion. But unlike (1), if this is the case in (3), it means that Anna and Beatrice are 'saying different things'. Put another way, in (1), Anna and Beatrice can simultaneously both be right and be talking *to* each other, but in (3), the only way in which both can be right is if they are talking *past* each another.

Faultless disagreement and other phenomena related to truth assessment sensitivity have played a central role in theorizing about subjectivity, and in particular in deciding between contextualist and relativist accounts of the phenomenon. According to both accounts, subjectivity—and corresponding faultlessness in disagreements like (1)—arises when a predicate is relativized to a 'judge', which is typically the speaker in simple assertions like the ones under discussion here. In a relativist analysis, both the character and content of a subjective predicate are fixed, but its extension is judge-dependent.[2] On this view, Anna and Beatrice truly disagree about whether the same property can be predicated of *trippa alla romana*; at the same time, their two utterances can both be true in virtue of the fact that the extension of *tasty* relativized to Anna may include *trippa alla romana*, while the extension of *tasty* relativized to Beatrice may not.

In a contextualist account, by contrast, while the character of a subjective predicate is fixed, its content and extension are judge-dependent.[3] Faultlessness in (1) is due to the fact that the property claimed to hold of *trippa alla romana* in Anna's utterance in (1a) is different from the property denied to hold of *trippa alla romana* in Beatrice's utterance in (1b): roughly *tasty for Anna* vs. *tasty for Beatrice*. The problem for this view is that it does not provide a clear explanation of why Anna and Beatrice appear to be 'saying the same thing' in (1). In particular, without saying more, it fails to explain the difference between the discourse in (1) and the one in (3), in which a standard contextualist analysis of *next* derives exactly the right result: *next* in Anna's mouth means *next on Anna's menu* and *next* in Beatrice's mouth means *next on Beatrice's menu*, so there is no disagreement (and no fault).

While patterns of truth assessment like the faultless disagreement paradigm provide us with a diagnostic for subjectivity, and may also help distinguish competing theoretical analyses, they do not help us decide whether subjectivity correlates with some feature of the linguistic representation.[4] To answer this question, we need to ask whether there are patterns of interaction between subjective predicates and other expressions. The one I want to focus on here involves subjective attitude verbs such as English *find* in the construction *find*

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[2] See, e.g., Lasersohn, 'Context Dependence', 'Relative Truth'; Stephenson, *Theory of Subjective Meaning*; Kölbel 'Evidence for Relativism', 'Faultless Disagreement'.

[3] See, e.g., Glanzberg, 'Context, Content and Relativism'; Stojanovic, 'Talking about Taste'.

[4] Cf. Stojanovic, 'Talking about Taste'.

x pred, which is discussed in detail by Kjell Johan Saebø.[5] As shown by the pattern of acceptability in (4), this construction requires the predicate that heads the small clause complement of *find* to be subjective: replacing the subjective predicate *tasty* with a nonsubjective predicate like *vegetarian* or *tasty for Beatrice* (in which *for Beatrice* makes the judge explicit, and renders the predicate nonsubjective) results in unacceptability.[6]

(4)   (a) Anna finds *trippa alla romana* tasty.
      (b) ?? Anna finds *trippa alla romana* vegetarian.
      (c) ?? Anna finds *trippa alla romana* tasty for Beatrice.

Speaking descriptively, these examples show that subject of *find* must be understood as the judge of the embedded predicate—(4a) means roughly the same thing as '*Trippa alla romana* is tasty to Anna'—and when this condition is not met, the resulting sentence is unacceptable.

  Find is not the only verb whose subject can be understood as the judge of an embedded subjective term; the subjects of doxastic attitude verbs such as *think* and *believe*, discussed by Tamina Stephenson, can also be understood in this way.[7] (5a), for example, has a reading that is more or less synonymous with (4a).

(5)   (a) Anna believes *trippa alla romana* to be tasty.
      (b) Anna believes *trippa alla romana* to be vegetarian.
      (c) Anna believes *trippa alla romana* to be tasty for Beatrice.

However, unlike *find*, *believe* can also embed nonsubjective predicates, as shown by the acceptability of (5b–c). Similarly, the contrast between (6a) and (6b) shows that only the subject of *find* is obligatorily understood to be the judge of the embedded predicate. (6a) is acceptable because a contextual individual (the cat) can be understood to be the judge of what counts as tasty, rather than the individual denoted by the subject of the attitude verb (Anna); (6b) is odd because Anna must be understood as the judge, which in turn implies that she has been eating the cat food.

(6)   (a) Anna thinks/believes the cat food is tasty (because the cat ate it
          all up).

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[5]Saebø, 'Judgment Ascriptions'.

[6]Note that there is a different sense of *find* meaning 'discover' which does not show the same restriction to subjective predicates: 'After closely examining the contents of my dish, I found my *trippa alla romana* to be vegetarian, and so not actually *trippa alla romana* at all.' Because this sense of *find* is an achievement verb, while the one I am interested in is stative, I keep my example sentences in the simple present form in order to filter it out.

[7]Stephenson, *Theory of Subjective Meaning*.

(b) ?? Anna finds the cat food tasty (because the cat ate it all up).

Based on the contrast in (6), Stephenson proposes that *find* means the same thing as *think* or *believe*, but has an extra requirement that the doxastic anchor have direct experience of the embedded proposition.[8] However, as Saebø points out, this analysis does not explain the unacceptability of (7b), given the assumption that Homer has direct experience of his sexual orientation.[9]

(7) (a) Homer thinks/believes he is gay.
     (b) ?? Homer finds himself (to be) gay.

Saebø argues that (7b) shows that *find* actually selects for a subjective predicate, and (in accord with the intuition stated above) fixes the judge of the embedded predicate to the semantic value of its subject. On this view, *find* does not itself introduce any truth-conditional content; it is instead a 'radical judge-shifter'.

Saebø provides both a relativist and a contextualist implementation of the analysis. In the relativist variant, *find* causes the extension of the embedded predicate to be determined relative to its subject. On this view, the problem with (7b) is that the contribution of *find* is completely vacuous: since *gay* is nonsubjective, its extension is judge-independent, and fixing its judge parameter to Homer makes no difference in meaning. In the contextualist version of Saebø's analysis, subjective predicates are type-wise distinct from nonsubjective predicates, in having an extra judge argument: *tasty* is type $<e,<e,t>>$, where the most external argument is the judge; *gay* is type $<e,t>$. The function of *find*, on this view, is to bind the value of the judge argument of the embedded predicate to the matrix subject, and (7b) is unacceptable because the nonsubjective predicate *gay* lacks a judge argument position: this is a case of type-mismatch.

In his paper, Saebø discusses several patterns of data involving *find* and related verbs in other languages which he claims support the hypothesis that there is a type-theoretic difference between the predicates that are acceptable under *find* and those that are not, and uses this result to draw conclusions about the right theory of subjectivity, arguing for a contextualist analysis of the sort proposed by Isadore Stojanovic.[10] In this paper, I want to step back from the contextualism/relativism debate, and instead use the subjective attitude verb construction as a way of probing the linguistic representation of

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[8] Ibid.

[9] Saebø, 'Judgment Ascriptions'.

[10] Stojanovic, 'Talking about Taste'.

subjectivity. In particular, I want to ask whether all predicates that are subjective in virtue of their behavior in faultless disagreement contexts are also acceptable in the *x find y pred* construction. If so, we may conclude that subjectivity uniformly affects grammatical distribution. If not—as I believe the facts indicate—then we must recognize more than one source for subjectivity: one that is associated with the lexical semantic features of certain predicates and affects their distributional properties, and one that does not. To keep things simple, I proceed under the assumption that Saebø's type-theoretic analysis of acceptability under *find* is correct, but I am not wedded to this particular account. The more general question is whether we can identify some common lexical semantic features that distinguish those predicates that are acceptable under *find* from those that are not, and in turn provide the basis for a formalization of their distributional properties; whether these features also give rise to a type-theoretic distinction is, in the end, a separate question.[11]

III. Two Classes of Subjective Predicates

Mark Richard observes that predicates of personal taste are not the only kinds of scalar predicates that display faultless disagreement effects.[12] Instead, most (and maybe all) vague scalar predicates can give rise to this pattern:

(8) (a) Anna: 'Carla is rich/heavy/old/tall.'
     (b) Beatrice: 'No she's not!'

Richard points out that are two ways of understanding the dialogues in (8). On one interpretation, Anna and Beatrice appear to disagree because they are each implicitly comparing Carla to different groups of people or 'comparison classes', for example for *rich*, the bottom 99% (for Anna) vs. the top 1% (for Beatrice) of the American population. But this is not a real disagreement: this situation is analogous to Anna and Beatrice's discussion about what is next on the menu in (3).

The other way of understanding these dialogues is one in which Anna and Beatrice are both implicitly comparing Carla to the same comparison classes but nevertheless have different assessments about whether she counts as rich, thin, heavy, and so forth. This constitutes a true case of faultless disagreement, so we must conclude that vague predicates in general are subjective, not just

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[11]Consider, for example, the mass/count distinction in nouns, which affects grammatical distribution (e.g., composition with numerals and plural morphology), but is typically analyzed as a purely referential distinction whereby the two classes of nouns range over distinct subsets of the domain of individuals. This is an example of a lexical semantic distinction that provides a basis for formalizing the distributional properties of the expressions in question, but is not reflected in a type-theoretic difference. Link, 'Logical Analysis'.

[12]Richard, 'Contextualism and Relativism'.

vague predicates of personal taste. In particular, even vague predicates that are used to describe (in principle) externally observable and measurable features of an object—such as its wealth (*rich*), its weight (*heavy*), its age (*old*), its height (*tall*), and so forth—can be subjective.

However, when we look at acceptability under *find*, we see that there is a subtle contrast between 'dimensional' vague predicates such as the ones in (8a) on the one hand, and predicates of personal taste and other 'evaluative' vague predicates on the other.[13] Consider the latter group first. (9a) illustrates the acceptability of taste predicates under *find*, which we have already discussed; (9b) shows that other kinds of evaluative predicates are also acceptable here.

(9)   (a) Anna finds her bowl of pasta tasty/delicious/disgusting.
      (b) Anna finds Carla stimulating/annoying/boring/tedious.

Similar examples with dimensional vague predicates appear at first glance to be acceptable:

(10)   (a) Anna finds her bowl of pasta big/large/small/cold.
       (b) Anna finds Carla rich/heavy/old/tall.

But in fact for some speakers, the examples in (10) are not fully acceptable, though they can be made so with the addition of an adverb that provides a subjective/evaluative dimension such as *surprisingly, remarkably, excessively*, and so forth, or with the addition of the degree word *too*:

(11)   (a) Anna finds her bowl of pasta {surprisingly, remarkably, unusually, too} big/large/small/cold.
       (b) Anna finds Carla {annoyingly, disgustingly, irritatingly, too} rich/heavy/old/tall.

And indeed, when we take a closer look at a range of data involving adjectives like the ones in (10), I believe that we are led to the conclusion that they are acceptable in the *find* construction only to the extent that they can take on a subjective/evaluative understanding. When they are understood in a purely dimensional way, they are not acceptable, even though they are vague. This indicates that although vagueness can license faultless disagreement, it is not sufficient by itself to license acceptability under *find*.

One of the clearest pieces of evidence for this conclusion comes from adjectives that conventionally have both dimensional and evaluative senses, such as *heavy*, *light* and *dense*. In (12a), these adjectives can be understood in two

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[13]These categories come from Bierwisch, 'Semantics of Gradation'.

distinct ways: as expressing a judgment of whether an objective, quantitative aspect of the cake (its weight or density) is above some threshold, or as expressing a judgment of whether a subjective, qualitative aspect of the cake (how it sits in the stomach or feels on the tongue) is above some threshold.

(12)   (a) This piece of cake is heavy/light/dense.
       (b) I find this piece of cake heavy/light/dense.

The examples in (12b), however, have only the latter reading: these sentences are ways of reporting a subjective experience of the cake, made in virtue of tasting it, but they are not good ways of describing the cake's physical properties, made in virtue of, for example, weighing it on a scale. The contrast between the examples in (13) highlights this point: the use of the measure expression *about 2 cm* in (13b) retains a certain amount of vagueness, but forces the dimensional/objective understanding of the adjective (if we are talking about centimeters, then we are talking about a dimensional measurement of thickness), and the resulting sentence is anomalous.

(13)   (a) I find this frosting thick.
       (b) ?? I find this frosting about 2 cm thick.

In sum, the fact that the *find* construction disambiguates these adjectives to their evaluative senses indicates that vagueness alone is not sufficient to license the occurrence of a scalar adjective as the complement of *find*; it must also be the case that the adjective is understood in an evaluative way.

This conclusion is further strengthened by examples like the ones in (14), which differ from those in (10) only in that the verb *find* is replaced by *consider*, and which freely allow the dimensional interpretation of the adjective.

(14)   (a) Anna considers her bowl of pasta big/large/small/cold.
       (b) Anna considers Carla rich/thin/heavy/old/young/short.

The following pair illustrates the contrast between *find* and *consider* in a particularly clear way. In a situation in which a passenger is checking his luggage for a flight, the attendant could report the fact that his bag exceeds the standard weight allowance by uttering (15a), but not by uttering (15b).

(15)   (a) I'm sorry, sir, but the airline considers this bag heavy. You will have to pay an extra baggage fee.
       (b) ?? I'm sorry, sir, but the airline finds this bag heavy. You will have to pay an extra baggage fee.

Similarly, in the discourse in (16), Anna can use *consider* to report her subjective assessment of whether Carla's income justifies her as rich for the purposes of the discussion, but the corresponding sentence with *find* sounds strange.

(16)   (a) Anna: 'We need to invite some rich people to our party.'
         (b) Beatrice: 'What about Carla? She makes over $500,000 per year.'
         (c) Anna: 'Yes, I consider her rich.'
         (d) ?? Anna: 'Yes, I find her rich.'

Syntactically, *consider* and *find* have almost identical distributions, and in constructions in which they are fully interchangeable, they appear to have quite similar semantic effects: (17a–b) sound synonymous, and in particular both are understood in a way that relativizes the embedded predicate to the surface subject.

(17)   (a) Anna finds the pasta tasty/beautifully presented.
         (b) Anna considers the pasta tasty/beautifully presented.

However, there is a crucial difference between *find* and *consider*: like *think* and *believe*, *consider* does not require its complement predicate to be subjective:

(18)   (a) Homer considers/??finds himself gay.
         (b) Homer considers/??finds trippa alla romana vegetarian.

These facts indicate that, despite the similarity in meaning between the constructions in which *find* and *consider* occur, only the former is a 'radical judge shifter' in Saebø's sense. We may then conclude, based on the systematic difference in acceptability in dimensional and evaluative (senses of) vague predicates under *find* and *consider*, that, although the kind of subjectivity introduced by vagueness generally can give rise to faultless disagreement, it is not the kind of thing that is linguistically encoded in a way that satisfies the selectional properties of *find*. [14]

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[14]There is, evidently, some degree of cross-linguistic variation here, or perhaps more likely, different subjective attitude verbs in different languages have slightly different properties. Sæbø (2009) shows that in Norwegian, the subjective attitude verb *synes* (which he glosses as 'seem') is incompatible with nonsubjective predicates, but is nevertheless acceptable with vague dimensional predicates, as shown in (i). (Here I follow Sæbø in just writing SUBJECTIVE ATTITUDE VERB in the free translation, to indicate the difficulty of providing true translations of these constructions.)

(i)   a. ?? Mange forskere synes at dinosaurene ble utryddet av et voldsomt kometnedslag
          Many researchers seem that dinosaurs were extinguished by a violent comet.impact for

This conclusion can be both strengthened and refined by examining a second set of facts, which highlight another difference between subjectivity in dimensional predicates and subjectivity in evaluative predicates. We have already seen that both classes of predicates give rise to faultless disagreement effects in their vague, positive forms. When we turn to forms that are not vague, such as comparatives, we see that evaluative predicates still give rise to faultless disagreement:

(19) (a) Anna: 'The tripe is tastier than the haggis.'
      (b) Beatrice: 'No, the haggis is tastier than the tripe.'
(20) (a) Anna: 'Skiing is the most fun!'
      (b) Beatrice: 'No, skating is the most fun!'
(21) (a) Anna: 'Carla is more stimulating/annoying/boring/tedious than
          David.'
      (b) Beatrice: 'No, David is more stimulating/annoying/boring/
          tedious than Carla.'

Comparative forms of dimensional predicates, however, do not give rise to faultless disagreement: in the following dialogues, it is clear that one of Anna or Beatrice is right and the other is wrong.

(22) (a) Anna: 'The tripe is colder than the haggis.'
      (b) Beatrice: 'No, the haggis is colder than the tripe.'
(23) (a) Anna: 'Skiing is the most expensive!'
      (b) Beatrice: 'No, skating is the most expensive!'
(24) (a) Anna: 'Carla is richer/taller/heavier/older than David.'
      (b) Beatrice: 'No, David is richer/taller/heavier/older than Carla.'

The same pattern appears in interactions with subjective attitude verbs. Comparative forms of evaluative predicates can be embedded under *find*, but comparative forms of dimensional predicates cannot be, unless we understand them in an evaluative way, as discussed in more detail below:[15]

(25) (a) Anna finds the tripe tastier than the haggis.
      (b) Beatrice finds skating the most fun.
      (c) Anna finds Carla is more stimulating/annoying/boring/tedious
          than David.

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65 millioner år siden.

for 65 million years since

'Many scientists SUBJECTIVE ATTITUDE VERB that the dinosaurs were extinguished by a major comet impact 65 million years ago.'

  b. De synes det er langt til lege.

[15] Cf. Sæbø, 'Judgment Ascriptions'.

(26)   (a) ?? Anna finds the tripe colder than the haggis.
        (b) ?? Beatrice finds skating the most expensive.
        (c) ?? Anna finds Carla richer/taller/heavier/older than David.

Turning to adjectives that have both evaluative and dimensional senses, we see that this polysemy is retained in the comparative form: the disagreement between Anna and Beatrice in (27) can be understood either as a disagreement about their quantitative measurements of the cakes' weight or density (the dimensional senses of the adjectives), or as an argument about their qualitative assessments of the cakes' imprint on their taste/digestion (the evaluative senses of the adjectives).

(27)   (a) Anna: 'This cake heavier/lighter/denser than that one.'
        (b) Beatrice: 'No, that cake is heavier/lighter/denser than this one.'

However, this disagreement is faultless only on the latter understanding, for example if Anna and Beatrice are food critics. If instead they are food scientists reporting on a set of culinary experiments, then their disagreement is not faultless: one of them is right and the other is wrong, because her measurements were off, or she misread her instruments, or whatever. Similarly, if we report Anna's utterance in (27a) with (28a), it is ambiguous whether we are reporting on her taste experience (as a food critic) or on her measurements (as a food scientist). (28b), on the other hand, can only be understood as a description of Anna's subjective taste experience.

(28)   (a) Anna thinks that this cake is heavier/lighter/denser than that
            one.
        (b) Anna finds this cake heavier/lighter/denser than that one.

This kind of polysemy between an evaluative/qualitative/subjective sense and a dimensional/quantitative/objective sense appears in other classes of predicates as well (i.e., not only predicates that can be used to describe aspects of taste experiences), with similar results. Consider, for example, the dialogue in (29), uttered in a context in which it is an objective fact that the flight from Chicago to Tokyo takes 13 hours and 5 minutes, while the flight from Chicago to Hong Kong takes 15 hours and 40 minutes.

(29)   (a) Anna: 'The flight from Chicago to Hong Kong is longer than
            the one from Chicago to Tokyo.'
        (b) Beatrice: 'No, the flight from Chicago to Tokyo is longer than
            the one from Chicago to Hong Kong.'

There is one reading of (29) in which Anna is right and Beatrice is wrong. There is, however, a second reading in which their disagreement may be faultless, but the disagreement has to do with their subjective experiences of the flight time, rather than about the objective durations of the flights. On the latter, subjective reading, Beatrice could justify her claim in virtue of the fact that she has to fly coach from Chicago to Tokyo, but gets to fly first class from Chicago to Hong Kong, and we could report her view using either (30a) or (30b). On the former, objective reading, in which Beatrice is wrong about the objective difference in flight time, only (30a) is an appropriate description of her mental state.

(30) (a) Beatrice thinks that the flight from Chicago to Hong Kong is longer than the flight from Chicago to Tokyo.
      (b) Beatrice finds the flight from Chicago to Hong Kong longer than the flight from Chicago to Tokyo.

The facts that we have examined so far support two generalizations. First, vague, positive form scalar predicates give rise to faultless disagreement effects across the board, but only evaluative positive form scalar predicates are acceptable under *find*. Second, only evaluative scalar predicates in the comparative form (which is not vague[16]) show faultless disagreement effects and acceptability under *find*; comparative forms of dimensional scalar predicates do not. The conclusion to be drawn from these generalizations is that the kind of subjectivity associated with vagueness—subjectivity about whether or not an object meets a standard for satisfaction of the predicate—must be distinguished from the kind of subjectivity associated with evaluativity— subjectivity about an assessment of an object's qualities—because only the latter licenses embedding under subjective attitude verbs. In particular, the facts indicate that the component of meaning that is responsible for making a predicate one that expresses a qualitative assessment has a representational status that the component of meaning that is responsible for making a predicate one that expresses a relation to a vague standard does not, namely whatever status is responsible for licensing composition with *find* (which, following Sæbø, I am assuming to be a type-theoretical one, though see the qualifications at the end of Section II). Let us now see how this observation fits in to current thinking about vagueness and evaluativity.

IV. Two Sources of Subjectivity

Richard's observation that vague predicates in general give rise to faultless disagreement effects is, from one perspective, unsurprising, as a number of

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[16]See Kennedy, 'Vagueness and Comparison'.

researchers have argued for an essentially subjective semantics for vague predicates. For example, Andrzej Bogusławski proposes that a vague scalar predicate is true of an object just in case the value of the object on the relevant scalar continuum is 'conspicuous', 'noteworthy' or 'sufficient to attract attention'.[17] Similarly, Delia Graff Fara claims that an object satisfies a vague scalar predicate just in case the degree to which it manifests the relevant scalar property is 'significant', and uses this semantic analysis to explain the phenomenological properties of vague predicates.[18] Both of these characterizations imply that the interpretation of a vague form is relativized to some agent: the entity relative to whom conspicuousness, noteworthiness, or significance is assessed.[19]

Moreover, given common assumptions about the compositional semantics of gradable predicates, the fact that the positive form of adjectives like *rich*, *tall* and *old* is subjective while the comparative form is not, is also unsurprising. This is because a core semantic difference between the positive and comparative forms—one that must be captured by any empirically adequate semantic analysis of gradable predicates—is that the latter lacks whatever semantic (or pragmatic) features give rise to the vagueness of the former, and simply expresses an asymmetric ordering relation.[20] In a Fara-style analysis, for example, *tall* expresses the interest-relative property of having a degree of height that significantly exceeds some threshold (for a comparison class). Such a property is both vague and subjective, since whether it holds of an object depends not only on that object's height, but also on some subjective assessment of significance.[21] The comparative predicate *taller than David*, on the other hand, denotes a property that is true of an object just in case its height exceeds David's height. This is a precise property, and is moreover fully objective, since whether it holds of an object or not is fully determined by facts about that object's height.

If this semantic picture is more or less correct, we expect the following pattern: positive-form adjectives should be subjective; comparative-form adjectives should not be. If we restrict our empirical focus to dimensional adjectives and our diagnostics to faultless disagreement, this is indeed what we see, but once we broaden our empirical domain to include evaluative adjectives, and add subjective attitude verbs to our set of diagnostics, the

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[17] Bogusławski, 'Measures Are Measures'.

[18] Fara, 'Shifting Sands'.

[19] Actually, whether these analyses are relativist or contextualist in the technical sense is unclear: in principle, they could be implemented in either way, just as a semantics for taste predicates can have either a contextualist or relativist implementation. My central point here is that there is a tradition of thinking of the meaning of vague predicates in a way that makes their extension judge-dependent in some way.

[20] For discussion, see Kennedy, 'Vagueness and Comparison'.

[21] Richard, 'Contextualism and Relativism'.

Table 1. Two kinds of subjectivity.

	Positive	Comparative
Dimensional	+FD, −FIND	−FD, −FIND
Evaluative	+FD, +FIND	+FD, +FIND

picture becomes more complex. Table 1 summarizes the pattern we observed in the previous section. What this table makes clear is that vagueness (i.e., positive form semantics) is a sufficient condition for faultless disagreement effects with scalar predicates, but not a necessary one. Vagueness is neither a necessary nor a sufficient condition for embedding under *find*, however; in fact, vagueness does not correlate with acceptability under *find* at all. Instead, whether a scalar predicate is acceptable under *find* correlates with the evaluative/dimensional distinction: based on the data we have seen, evaluativity is both a necessary and a sufficient condition for embedding under *find*. The behavior of comparative forms of evaluative adjectives shows moreover that evaluativity is a sufficient condition for faultless disagreement.

The conclusion to be drawn is that, at least in the domain of gradable predicates, there are two kinds of subjectivity, which in turn give rise to different characteristics of the predicates that manifest them. The first is the kind manifested by vague gradable predicates generally, which gives rise to faultless disagreement effects, but does not license embedding under *find*. The second kind of subjectivity is the kind that we see with evaluative scalar predicates, which licenses their appearance under *find* (and also appears to give rise to faultless disagreement). The fact that the first kind of subjectivity can vary strictly according to the positive/comparative distinction, as in the case of *is tall* vs. *is taller than*, suggests that it is not linked to the lexical semantic features of the expressions that provide the shared content of positive and comparative predicates—in the case of *tall*, the features involved in relating objects to measures of heights—but is rather connected to vagueness more generally. By contrast, the fact that the second kind of subjectivity is associated with a particular class of expressions (the evaluative adjectives), and holds independent of the positive/comparative distinction (both *find the tripe tasty* and *find the tripe tastier than the haggis* are acceptable), suggests that it is rooted in the lexical semantic features of the relevant set of expressions—in the case of *tasty*, the features involved in relating objects to measures of taste.

Our task now is to figure out exactly what it is about vagueness that gives rise to the first kind of subjectivity (and why), and what it is about the relevant lexical semantic features of evaluative predicates that gives rise to the second kind of subjectivity (and why). This task is important both for the purpose of linguistic analysis, and because doing so will provide us with a more informed empirical and theoretical basis for evaluating arguments about the

implications of subjectivity for contextualist, relativist and other theories of meaning. It is also a task that, done properly, would take more space than I have here, so I limit myself to providing an initial presentation of, and motivation for, the following hypotheses: the subjectivity of evaluative predicates arises from a shared semantics of qualitative assessment, while the subjectivity of vagueness reflects a more pragmatic phenomenon that arises in the presence of uncertainty about which of multiple dimensions of evaluation are relevant for determining what exactly is asserted.

Let us first discuss the 'lexical' subjectivity of evaluative predicates. If Saebø is correct that a predicate is acceptable as the complement of *find* just in case it semantically selects for a judge (i.e., if its semantic type is such that it requires saturation by an individual-denoting expression that corresponds to the source of subjective assessment), then the lexical features underlying this kind of subjectivity not only distinguish evaluative and dimensional adjectives semantically, but also ensure that the former have a judge argument and the latter do not.[22] The characterization of the dimensional/evaluative distinction as a lexical one is developed in most detail in Bierwisch, the most comprehensive discussion of this distinction in the literature, though unfortunately not in the way that we need.[23] Bierwisch proposes that the difference between dimensional and evaluative adjectives is that the former encode relations between objects and degree scales, while the latter are underlyingly 'regular' property-denoting expressions. (In type-theoretic terms, dimensional predicates are $<d, <e,t>>$, where d is the type of degrees, and evaluative predicates are $<e,t>$.) On this view, then, evaluative predicates are not inherently scalar, and only come to be so in virtue of a special mapping function that turns them into degree predicates, and which accounts for various entailment patterns that Bierwisch wants to explain. However, the actual semantics that Bierwisch proposes does not introduce anything like a judge argument, and so does not give us an obvious way of explaining the different pattern of acceptability of dimensional and evaluative adjectives under *find*.

On the other hand, Bierwisch's hypothesis that there is a systematic way to derive evaluative predicates fits in well with the data we saw involving words like *dense*, *thick*, *heavy* and so forth, which have both dimensional, *quantitative* interpretations, and evaluative, *qualitative* ones. A way to modify Bierwisch's proposal, then, is to hypothesize that all gradable adjectives have some core meaning—say, a specification of a dimension of ordering or measurement (or possibly multiple such dimensions, something I return to below)—which can then be converted into right meaning for the scalar

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[22]Saebø, 'Judgment Ascriptions'. And, as noted at the end of Section II, even if Saebø is not correct about the type-theoretic distinction, it still must be the case that there are some lexical semantic features that distinguish evaluative from dimensional predicates in a way that interacts with the selectional properties of *find*.

[23]Bierwisch, 'Semantics of Gradation'.

predicate (as, say, a degree relation) in one of two ways: either as a quantitative measure of an object relative to the appropriate dimension, or as a qualitative assessment of the object relative to the appropriate dimension (cf. Kennedy and McNally's analysis of the semantics of color words).[24] For example, an adjective like *heavy* encodes a core concept of 'ordering by weight', and can be mapped either to a dimensional meaning, which says something about the quantity of weight that its argument has (what precisely it says depends on the kinds of degree morphology it composes with), or to an evaluative meaning, which says something about how the weight of its argument is qualititively assessed by some judge. If we further suppose that this semantic distinction is reflected type-theoretically in the argument structure of the two meanings of *heavy*, such that the qualitative one adds a judge argument (the source of qualitative assessment), then we have a basis for explaining the pattern of distribution and interpretation under *find*.

Adjectives based on dimensional concepts like weight (*heavy*), elapsed time (*long*) and density (*dense*) have both qualitative and quantitative interpretations, as we have seen, as do adjectives describing aspects of taste like *salty*, *sugary*, *watery*. There are, I suspect, many other adjectives that pattern in the same way; adjectives based on substance terms, such as *plastic*, *metallic*, *wooden*, *icy* and so forth, provide one class of examples. At the same time, there are some adjectives that appear to have primarily quantitative readings (e.g., *tall* and *rich*), and many that appear to have only qualitative meanings (e.g., predicates of personal taste). This could indicate that these adjectives lexicalize one meaning but not the other, but it may also simply indicate that there are concepts that are naturally mapped to both quantitative or qualitative measurements, while others are naturally mapped only to one kind of measurement or the other. For example, it is natural to talk about a subjective experience of the salt manifested by a particular bowl of soup, but a bit odd (though maybe not impossible) to talk about the subjective experience of the height manifested by a particular individual. Similarly, it is natural to talk about an objective measurement of the quantity of salt in a bowl of soup, absent any subjective experience of it, but it is not so natural to talk about the objective quantity of taste in the soup, without any subjective experience of it.

In any case, I take the existence of a large class of adjectives that display a dimensional/quantitative vs. evaluative/qualitative ambiguity, and the fact that the two readings give rise to different patterns of distribution under *find* (as well as to other distributional differences of the sort observed by Kennedy and McNally for color words[25]), as evidence for the core hypothesis advanced here: that scalar predicate meanings can be broken down into a basic concept term that provides some dimension of measurement, plus either a quantitative and objective or qualitative and

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[24] Kennedy and McNally, 'Color, Context and Compositionality'.

[25] Ibid.

subjective (and judge dependent) way of measuring an object relative to that dimension. How exactly to implement this hypothesis formally is a question that will be answered only through careful thought about the basic elements of predicate meaning and by a close examination of languages in which predicate expressions show more grammatical complexity than they do in English.[26]

Let us now turn to the kind of subjectivity manifested by vague predicates. Here I would basically like to adopt a version of the proposal advanced by Chris Barker in his contribution to this issue: faultless disagreement effects arise in the presence of uncertainty about the criteria involved in determining whether a particular predicate can be appropriately used in the context of utterance to describe some object.[27] Specifically, what is uncertain is a particular feature of the discourse: the precise value of the standard of comparison relative to which the extension of a vague predicate is determined. While it may be the case that the conventions of use for the predicate in the speech community ensure that such a standard exists, no individual speaker has privileged authority to dictate precisely where it is. Disputes about whether a vague predicate can or cannot be applied to an individual are therefore 'faultless' in the sense that the speakers are in an equal position with respect to the judgments under consideration: 'no one has superior authority when it comes to assessing communicative norms'.[28] At the same time, individual speakers typically have their own ideas about what these norms are (or ought to be), and this subjective perspective naturally plays a role in conditioning their use of vague predicates. In the case of effective communication, speakers dynamically coordinate their subjective perspectives about the norms of use of a vague predicate with the perspectives of their interlocutors; disagreement arises when coordination fails.

An important feature of Barker's analysis is that it defuses the relativism vs. contextualism debate over faultless disagreement phenomena, at least in the case of vague predicates. Faultless disagreements involving such expressions do not involve disagreements about content in the first place, but rather disagreements about use. Moreover, the analysis applies to vague predicates generally, that is to any predicate whose extension is fixed based on a contextual standard of comparison, and which is subject to a tolerance principle of the sort that gives rise to sorites effects, borderline cases, and so forth. This means that it applies both to dimensional/quantitative vague predicates like *tall* and to evaluative/qualitative vague predicates like *tasty* and other predicates of personal taste. It is therefore no surprise that both classes of predicates share the property of giving rise to faultless disagreement effects, even though they differ semantically in whatever way determines

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[26]See, e.g., Koontz-Garboden and Francez, 'Possessed Properties'.

[27]Barker, 'Negotiating Taste'.

[28]Ibid.

embeddability under *find* (which we have assumed here to be the presence of a judge argument).

It is also no surprise that comparative forms of dimensional predicates do not give rise to faultless disagreement effects, because such forms do not have extensions that are fixed based on contextual standards of comparison: to know the extension of *taller than Kim*, we just need to know Kim's height, we do not need to know anything about the prevailing standard of comparison for *tall*. What is surprising and apparently unexpected on Barker's view is that comparative forms of qualitative adjectives also show faultless disagreement effects. Just as the extension of *taller than Kim* is not dependent on the prevailing standards for *tall*, *tastier than the haggis* is not dependent on the prevailing standards for *tasty*, but only on the taste of the haggis (according to some judge). Does this mean that faultless disagreements can arise both from the kind of uncertainty about use that Barker focuses on and from actual, judge-dependent differences in content (derived either relativistically or contextually)?

Perhaps, but what I want to suggest instead is that there is a way of refining Barker's analysis in which all the expressions that show faultless disagreement affects—positive (vague) dimensional and evaluative adjectives, and comparative evaluative adjectives (see Table 1)—are predicted to behave in the same way, for the same reasons. The core idea is that the uncertainty that Barker points to—uncertainty about vague standards—is actually derivative of a more basic kind of uncertainty about the dimensions of evaluation according to which those standards are determined. As Barker points out, his analysis relies crucially on the idea that vague standards are subject to a tolerance principle of the sort advocated by Timothy Williamson, since it is virtue of such a principle that vague standards are guaranteed to be uncertain, but he remains agnostic as to where the tolerance principle itself comes from.[29] Several authors have argued that this principle arises from the semantic content of the positive form: the requirement that an object have a 'noteworthy' or 'significant' degree of the property in question, or that it 'stand out' along the dimension of measurement,[30] but the relevant notion has proved very difficult to pin down.

One of the reasons that the relevant notion is so difficult to pin down is that there are (almost) always multiple factors at play in fixing a standard of comparison—the interests and goals of the discourse participants, the conversational goals, the question under discussion, and so forth—which may vary in strength or applicability in different conversational situations. Building on work in Social Choice Theory, Timothy Grinsell argues that the multidimensional nature of the standard calculation is in fact the source of tolerance

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[29]Williamson, 'Vagueness and Ingnorance'.
[30]See Bogusławski, 'Measures Are Measures'; Fara, 'Shifting Sands'; Kennedy, 'Vagueness and Grammar'.

in vague predicates;[31] what I suggest here is that it is uncertainty about the dimensions of evaluation involved in calculating a standard of comparison that underlies uncertainty about the standards themselves, and so introduces the possibility of faultless disagreements in the way that Barker proposes.

If this line of thought is correct, then we might expect to find faultless disagreement effects in all cases of 'dimensional uncertainty': scenarios in which the conventions of use are consistent with different ways of evaluating some aspect of meaning, and individual speakers are not in a privileged position to dictate which of the multiple ways are correct. This is essentially what Kai von Fintel and Anthony Gilles say is going on in faultless disagreements involving epistemic modals, and it is what I suggest is going on with comparative forms of evaluative adjectives (and arguably also with positives, along with the dimensional uncertainty effects generated by vague standard calculation).[32] If the semantic analysis I outlined above is on the right track, then such adjectives always involve a qualitative assessment by a judge of how an object manifests some gradable property. For any qualitative/evaluative predicate, the norms of the speech community should fix the set of dimensions relative to which this assessment is made (e.g., the various dimensions according to which we judge taste). However, just as there is uncertainty about how the dimensions involved in vague standard calculation are weighted and applied in different conversational situations, there is uncertainty about how the dimensions of qualitative assessment are weighted and applied by different judges. In the former case, the uncertainty leads to uncertainty about standards; in the latter case, it leads to uncertainty about orderings. In both cases, the dynamics of a successful discourse involve coordination on the relevant dimensions of evaluation; failure of coordination results in disagreement.

V. Conclusion

In this paper, I have compared different classes of scalar predicates relative to two diagnostics of subjectivity: faultless disagreement effects and acceptability under the subjective attitude verb *find*. We have seen that these diagnostics provide the basis for distinguishing two types of subjectivity: a 'semantic' kind that arises from the lexical properties of expressions of qualitative assessment and affects the distribution of predicates that have this sort of meaning; and a 'pragmatic' kind that arises from uncertainty about the dimensions of evaluation involved in fixing a standard of comparison or making a qualitative assessment, and gives rise to faultless disagreement effects.

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[31] Grinsell, 'Avoiding Predicate Whiplash'.

[32] von Fintel and Gilles, '"Might" Made Right'.

Acknowledgements

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