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ORIGINAL ARTICLE

"'Oval' is not a word of mine": a candidate for substantial yet faultless cross-linguistic disagreement?

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Abstract

Could there be a situation in which speakers of language *A* assert or accept a sentence *P* but speakers of language *B* deny its translation, while there is no ignorance, misunderstanding or error about the world on either side? In discussing this question, I am especially interested in the possibility of a *substantial* disagreement. Such a disagreement should concern independent facts of the matter. I dismiss several candidates for disagreement. I then present my candidate: the response-enabled property *oval*. The disagreement can arise because we call geometrical objects oval although *oval* is no mathematically eligible property. While there remain principled doubts that any disagreement can be both faultless and substantial, it is puzzling to tell how these doubts materialize in the case of disagreement on *oval*. I close with considering the prospects of generalizing the lesson to parallel cases like imprecision and contestable kinds like *jade*, *tomato*, *fish,* and *reptile*.

Keywords Disagreement · Dispute · Cross-linguistic disagreement · Verbal dispute · Translation · Response dependence

Carson: "Do you consider that blasphemous?"

Wilde: "I think it is horrible. 'Blasphemous' is not a word of mine."

Could there be a situation in which speakers of language *A* assert or accept a sentence *P* but speakers of language *B* deny its translation, while there is no ignorance, misunderstanding, or error about the world on either side? Such a disagreement is often called *faultless*. One exemplary definition of faultless disagreement along these lines is the following:

'A faultless disagreement is a situation where there is a thinker *A*, a thinker *B* and a proposition (content of judgement) *p*, such that:

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(a) A believes (judges) that *p* and *B* believes (judges) that not-*p*
(b) Neither *A* nor *B* has made a mistake (is at fault)' (Kölbel, 2004, 53–54, critical discussion Macfarlane, 2014, 6.7).

For my purposes, I will have to replace the disagreement about a proposition by disagreement on a sentence in translation, but I can preserve the faultlessness part. There is an intense debate on faultless disagreement (a milestone which has shaped subsequent debate is Macfarlane (2014)). One focus of the debate is to provide a semantics that makes sense of faultless disagreement on judgements of taste. A disagreement of this sort may well be cross-linguistic. However, the truth of a judgement of taste is determined with regard to a relevant taste. The question of cross-linguistic disagreement becomes more intriguing if there is no such relativization, and the resulting cross-linguistic disagreement would be *substantial*. It would concern the way reality is independently of our evaluations. It is such a substantial disagreement I am interested in.

I shall say a little bit on the relevance of the topic: There is a scholarly debate on cross-linguistic disagreement, as witnessed by conferences, papers, and the special issue to which this piece is a contribution. The topic has a venerable tradition leading back to debates on the language and culture relativity of human thinking, as in the controversies on the Sapir–Whorf hypothesis: The particular language a community speaks influences the way it takes independent reality to be. Different language communities can radically differ in how they take reality to be, without there being a language-independent standpoint to adjudicate between them. The result is a rather disquieting cultural relativism (Whorf, 1956, overview of the debate in Scholz et al. (2023)).[1]

As for my special interest in *substantial* cross-linguistic disagreement, it is motivated by the observation that non-substantial cross-linguistic disagreement seems a rather unproblematic subcase of faultless disagreement more generally. What made the Sapir–Whorf hypothesis so controversial is that the radical difference between language communities is supposed to extend to seemingly substantial questions. Such questions concern the way the world is like independently of us.

I admit that my case in two respects lacks the disruptive force of Sapir–Whorf. Firstly, it is not clear to what extent the lesson generalizes. Secondly, it concerns merely possible and not actual disagreement. How can an isolated case of mere possible disagreement be interesting, given there are actual candidate cases, some of which I am going to discuss? How can it be meaningful or important to the study of linguistic disagreement that often concerns the practical interest in understanding actual communication and resolving disagreements between different linguistic or cultural communities? In response, what we lose in terms of generality and actual practical relevance is partly compensated by addressing a matter of principle. The conditions of substantial cross-linguistic disagreement as I see them are very demanding. In this radicality, the disagreement would compare to the Sapir–Whorf

[1] There is also a connection to Davidson's (1973) discussion of purported differences in 'conceptual schemes'.

hypothesis. There would have to be (near-)perfect agreement among the speakers of a language but disagreement between different language communities, the disagreement would have to be faultless, and it would have to concern facts which are independent of any linguistic practice. Speakers differ on completely independent matters of fact not because of a mistake but due to the different languages they speak. The question is how far we can get towards such a disagreement. We have to look at merely *possible* cases to check the *principled* compatibility of these strong conditions. Eventually, I will express doubts about this compatibility.

I shall proceed in four steps. First, I give an initial characterization of what I mean by substantial cross-linguistic disagreement. Second, I discuss several candidates for such a disagreement. I argue that they are perfect candidates for cross-linguistic disagreement, but they are not substantial. Third, I present what I consider a promising candidate, the 'response-enabled' property *oval*. I proceed to critically discussing the case. Fourth, I draw comparisons to related candidates of disagreement.

1 Substantial cross-linguistic disagreement

In this section, I shall introduce my notion of *substantial* cross-linguistic disagreement.

I begin with a note on the modal 'could' in the guiding question. I interpret 'could' broadly in terms of metaphysical possibilities. I do not intend to cover the partly empirical question whether there actually *is* (substantial) cross-linguistic disagreement, or whether there could *easily* be such a disagreement. In order to answer the guiding question about *possible* disagreement, I do not have to reconstruct an actual language. It is certainly helpful not to steer too far away from actual languages in order to avoid doubts about the feasibility of a language. Yet in order to assuage such doubts, it suffices to posit languages that are not too dissimilar to existing ones.

A more important clarification concerns the notion of a translation. Translation is a complex interlinguistic practice. I content myself with an intuitive heuristic. To keep things simple, I shall avail myself of a toy formalization, which I hope to be sufficiently perspicuous: let $T_{\text{AtoB}}(\ldots)$ stand for the result of translating from language *A* into *B*. $T_{\text{AtoB}}(P)$ is the translation of an expression *P* of *A* into language *B* if and only if: Whenever a speaker *S* of *A* sincerely asserts *P*, a speaker of *B* can make her monolingual fellow speakers know what *S* has said by asserting: T_{AtoB}(*S says* '$T_{\text{AtoB}}(P)$')

Here the first T_{AtoB} stands for a translation from any language into language *B*, in this case a translation of the English '*S* says' and a translation of $T_{\text{AtoB}}(P)$, which remains just $T_{\text{AtoB}}(P)$. I use the second T_{AtoB} to mark that the expression within the quotation marks is not the original one used by the speaker quoted but a translation into *B*. For instance, 'Gras ist grün' is the correct German translation of the English sentence 'grass is green'. The translation meets my heuristic criterion: assume John, a speaker of English, asserts 'grass is green'. Hans, a speaker of German, asks his fellow speaker Grete to translate. Grete truly and completely abides by responding:

John hat gesagt ‘Grass ist grün’.

John has said ‘grass is green’.

Here the lower line is a word-for-word translation into English. The quotation marks signal that one directly reports (and does not paraphrase or interpret) what the other person has said, albeit with the license of translating it. I anticipate that in my key example we might not be able to get a perfect translation. My remedy is to accompany the best available candidate by a meta-linguistic gloss that prevents misunderstanding.

Given this working characterization of a translation, I propose the following heuristic test for cross-linguistic disagreement on P between speakers of A and B.

First, a speaker of A S can *faultlessly* assert P. Second, a speaker of B can then *faultlessly* utter the following:

T_{AtoB}(S says ‘T_{AtoB}(P)’. But S is wrong. It is not the case that T_{AtoB}(P))

To give a negative example, assume Grete in my example says:

John sagt ‘Grass ist grün’. Aber John irrt sich. Es ist nicht der Fall, dass Gras grün ist.

John says ‘grass is green’. But John is wrong. It is not the case that grass green is.

In this case, the test is not met as Grete’s statement is false. She should agree that grass is green. The test indicates that ‘grass is green’ is not a good example for faultless cross-linguistic disagreement between speakers of English and German.

A disagreement uncovered by my test may not yet fully live up to the requirements of the initial question. First, the disagreement is to be specifically *cross*-linguistic. Second, one central part of the initial question concerns whether a disagreement is *faultless*, i.e. no ignorance, misunderstanding or error about the world on either side. One trivial way of realizing a disagreement that is faultless in this way is to disagree when there is no independent fact of the matter on which one could be mistaken. I shall illustrate candidates of such a disagreement in the next sections, but I do not find them particularly interesting for the guiding question. The disagreement on them can be explained by a divergence in the reactions of speakers. These reactions may freely diverge as far as they are not bound to tracking a common standard, in particular independent facts.

In light of these considerations, the guiding question can be sharpened. Could there be *substantial cross*-linguistic disagreement where there is an independent fact of the matter on which one could be wrong? *Substantial cross-linguistic* disagreement on P has to satisfy the following requirements:

(i) It is *only cross*-linguistic: there *is no* disagreement on *P* among speakers of language *A*, but there *is* faultless disagreement between speakers of *A* and *B*.[2]
(ii) It is *substantial*: there is an *independent* fact of the matter corresponding to whether *P* is true or not.

As for condition (i), I am interested in particular in *cross*-linguistic disagreement (see Wyatt, 2022). If there is already a significant disagreement among the speakers of one and the same community, it should not come as a surprise if the disagreement spreads beyond one language. There is nothing specifically cross-linguistic here.

Condition (ii) needs a bit more commenting. What does it take for there to be an independent fact of the matter whether *P*? The most immediate answer is that *P* has to be *truth*-apt. It has to be either true or false that *P*. Yet we may need more for there to be an independent fact. For instance, anti-realists (e.g. Blackburn (1993)) argue that there are statements which are true in a thin, disquotational sense (see Horwich (1990) and Wright (1992)), but without there being any independent facts for them to correspond to. Moreover, other statements are true relative to circumstances of evaluation by some relevant speakers. Again there are no *independent* facts for *P* to represent. By independent facts I mean facts that are the same regardless of anything people think and do (including their linguistic practice). The most straightforward example are facts that would be the same if there were no linguistic practice whatsoever.

I shall say a bit more about this independence requirement. I assume that there are linguistic facts due to conventions, communal practices of usage, and so on, which are crucial factors in determining what our words mean. They also have a certain independence of what individual speakers say and think in the following sense: once established, they impose a standard of correctness which speakers have to respect. Speakers of language *B* have to defer to the rules of *A* with regard to words of *A*. However, such linguistic facts do not have the independence I target when I talk of substantial disagreement. I distinguish two kinds of facts we may disagree on. Sometimes our linguistic practice is supposed to track independent facts (in the sense clarified above [i.e. that are independent of any linguistic practice]). Typical examples are natural kind terms, but in my view also predicates like 'oval'. The rules for such terms are also established by convention. It is our usage that makes 'gold' a natural kind term that is to track whatever has the chemical structure of gold. But the structure itself is an independent fact to be tracked. There can be substantial disagreement on what the structure is like. In other cases, linguistic facts do not privilege a rule of tracking independent facts. An example are conventional facts like whether punching counts as validating or destroying a ticket. There may be disagreement among speakers on this, but there can be no substantial disagreement among communities as each sets its own standard.

[2] A reviewer has reminded me that there is always likely to be some disagreement within a language, but I think that requiring perfect intra-linguistic agreement for my *possible* case avoids debates as to how much intra-linguistic disagreement is compatible with the agreement being genuinely cross-linguistic.

I add a note on the term 'linguistic disagreement'. The term may mean specifically disagreement on matters of language: use, rules, meaning and so on. Yet when I talk about 'cross-linguistic disagreement', I do not have in mind a disagreement on matters of language. I have in mind a disagreement between communities with different languages not about language but about non-linguistic facts. The disagreement is cross-linguistic not because it concerns matters of language but because it is a disagreement between language communities. One may still insist that a cross-linguistic disagreement *must* be linguistic; there has to be some disagreement on language involved. I shall come to this requirement at the end of Sect. 3.4.

One last important clarification about my notion of substantial disagreement concerns its relationship to the debate on merely verbal disputes. Some philosophers oppose merely verbal disputes to disagreement on facts (Jenkins, 2014, 13). Speakers who engage in merely verbal disputes only disagree on how to use a word but not on the facts. Obvious cases of verbal disputes are quite trivial. They concern how to correctly use a word. An example is the

> …Dispute between the purist who says that only cocktails made of gin or vodka, dry vermouth, and perhaps an olive or two count as martinis, and the sorority girl who calls practically anything a martini as long as it is served in the characteristic, V-shaped glass (Bennett, 2009, 50).

I note that verbal disputes are not idle. They can make an important contribution to coordinating how we use our words. For instance, a dispute between the sorority student and the barkeeper may lead them to coordinate their use of 'martini', either deferring to one of them or each one keeping their different idiosyncratic uses but keeping score of the other uses, preventing misunderstanding. At a communal level, meta-linguistic negotiation on verbal disputes may create linguistic facts concerning the correct use of our words, e.g. establishing one use of 'martini'. However, I would claim that a substantial disagreement is not a merely verbal dispute. It seems therefore important to discuss to what extent the disagreements exposed amount to merely verbal disputes.

Having outlined my notion of a substantial disagreement, I admit that there are principled doubts as to whether *any* disagreement can be both faultless and substantial. It seems that, if there is a fact of the matter for a disputed claim to correspond to, one of the disagreeing parties *must* be wrong about this fact, either the one that accepts or the one that denies the claim. While I see no way of dissolving these doubts, the most convincing candidates for disagreement leave us with a puzzle. It is difficult to tell how what looks like a substantial and faultless disagreement nevertheless fails to be one.

In the next sections, I shall consider candidates for substantial cross-linguistic disagreement.

2 Not so substantial candidates for cross-linguistic disagreement

2.1 Statements we actually disagree on

In this section, I shall consider some candidates for cross-linguistic disagreement. They prove that there can be cross-linguistic disagreement. The question remains

whether there can be *substantial* cross-linguistic disagreement. In raising doubts as to how substantial the disagreement in standard candidate cases is, I shall prepare a contrast foil for a more promising candidate for substantial disagreement.

In particular, I shall consider the following candidates: statements of taste, aesthetic statements, moral statements.

Taste: Liquorice is tasty.
Aesthetics: The movie *Ai no corrīda* is good.
Moral: The movie *Ai no corrīda* is obscene.

Abortion is wrong.

All these statements have at least the surface form of declarative statements and therefore seem truth-apt. Moreover, there is already disagreement on them, and the disagreement may well be faultless. The heuristic test for cross-linguistic disagreement is easily met.

However, there is one main reason for doubting that the statements considered qualify for *substantial cross-linguistic disagreement*. It concerns condition (ii). There are doubts about whether there is an independent fact of the matter that could correspond to the truth of the statements under consideration. The widespread and persistent actual disagreement on them calls for an explanation. One explanation is that there are subjective criteria for one's assessment without there being an independent fact of the matter for the assessment to track. For at least some of the predicates under consideration, it is difficult to imagine what the independent facts of the matter corresponding to these predicates could be. For instance, the fact of the matter corresponding to an abortion is easily settled: one intentionally terminates the intrauterine life of a foetus. Yet there is no easy answer to the question what the fact of the matter corresponding specifically to the rightness or wrongness of abortion might be.

Analogously for taste predicates. Tasting liquorice comes with a certain phenomenology. There may be a categorical or an irreducibly dispositional base for generating this phenomenology. Yet again, given the disagreement, it seems difficult to identify a fact of the matter which is independent of any evaluating subject and corresponds to the alleged truth that liquorice tastes *good*, and which one of the disagreeing parties misses.

Since there is an intense debate on the assessment relativity of taste predicates, I shall say a bit more on why disagreement on them does not qualify for a *substantial* disagreement. The following dialogue is perfectly in order:

John: Liquorice is tasty.

Jane: You are wrong/that's false. It is not true that liquorice is tasty.

There may be a parallel case of cross-linguistic disagreement, where a whole community likes a taste, and a different community disapproves of it, perhaps due to acculturation. For instance, *spiders* are a regular dish in many countries, but they regularly top the lists of food varieties that tourists find disgusting. There may be taste varieties in the neighbourhood that cleanly divide language communities. For simplicity, I assume that speakers of *A* (for simplicity: English)

including John like spiders as food while speakers of *B* (for simplicity: German) like Grete and Hans reject them:

John: Spiders are tasty.

Grete: Du irrst Dich. Es ist nicht wahr, dass Spinnen schmackhaft sind.

You are wrong. It is not true that spiders tasty are.

There is cross-linguistic disagreement between John and Grete. The disagreement is faultless, provided John likes and Grete dislikes eating spiders. Yet I contend that the disagreement is not substantial. Taste predicates do not display the right kind of speaker independence.

Disagreement on taste predicates has been intensely discussed, and the results largely can be transferred to cross-linguistic disagreement. Facts about tastiness must be somehow relativized to tasting subjects. One explanation is contextualism about taste. 'Liquorice is tasty' is true or false relative to the speaker context. In John's context, it is true as John likes liquorice. In Jane's context, it is false as she does not like liquorice. However, such a simple contextualism cannot explain the dialogue between John and Jane. Jane insists that the utterance *John* has made is false, but his utterance seems perfectly true in its context. An alternative analysis that captures the structure of the dialogue is *relativism* about taste: An utterance like 'liquorice is tasty' is *assessment-relative*. In John's mouth, 'liquorice is tasty' is true as it is assessed relative to his taste. In Jane's assessment, that very utterance is false as it is assessed relative to her taste (Macfarlane, 2014). There is an intense ongoing debate on relativism (Wyatt et al., 2022).

As the case of spiders illustrates, disagreement on judgements of taste may easily be cross-linguistic, in particular when it takes a lot of cultural embedding to acquire a certain taste. Such a disagreement does not just happen to be cross-linguistic, there are reasons why it occurs between language communities. No ignorance, misunderstanding or error about the world on either side has to be involved. Yet is such a disagreement substantial? Does it concern facts about the world that are as they are independently of the speaker's reaction? Obviously not. Whatever the ultimate analysis is, judgements of taste are somehow relativized to speakers.

In sum, it seems doubtful that the predicates under consideration meet condition (ii). I do not deny that some of them *might* meet it. For instance, a robust moral realism may entail that there is a fact out there in reality that makes abortion right or wrong (for instance, whether it is disliked by the Gods). Yet even if we were willing to incur such a contentious commitment, we would run into difficulties with the condition that the disagreement be faultless. If there is a fact to be tracked, one of the disagreeing parties must have made an error in failing to track it (perhaps they did not listen to the Gods' command).

Analogous observations apply to words that concern social conventions. Assume punching counts as validating in a community of language *A* but as invalidating in the community of language *B*. Speakers of neither community can claim that the other community is wrong as to whether punching *is* validating or invalidating. It is the one or the other relative to a communal practice.

2.2 Response-dependent properties

I shall now consider a further candidate for disagreement: Response-dependent properties. As contrasted to the candidates considered earlier, disagreement on such properties does not abound in real communities. They are thus candidates for meeting the requirement of agreement within a community. The question becomes whether there can be substantial disagreement on them between speakers of different communities.

Response-dependent properties form an established category that is intensely discussed in philosophy. I just mention one exemplary characterization of a response-dependent property *F* without entering into the debate:

> *x* is *F* if and only if for any subject *S*: if conditions *C* obtain, then *S* judges that *x* is *F* (DeClerq, 2002, 160).[3]

Instead of further discussing how to characterize response-dependent properties, I shall consider a typical example of such a property, the gustatory property *sweet*.

SWEET: Sugar is sweet.

I assume that normal speakers of language *A* (English) cannot faultlessly disagree on *SWEET*. A speaker of *A* who denies it is mistaken.

Given such intra-linguistic agreement, could there be substantial cross-linguistic disagreement about *SWEET*? I shall approach this question by first introducing a counterfactual test. What if our tastebuds systematically functioned differently? Many are tempted to agree to the following:

> *CFSWEET*: If our tastebuds functioned so as to systematically experience sugar as we actually experience salt, sugar would be salty.[4]

CFSWEET trades on the dependency of properties like *sweet* on our normal response. The dependency is specified as counterfactual. One may question *CFSWEET*, but I shall rely on its plausibility in developing a thought experiment. The aim of the experiment is to check under idealized conditions whether there could be cross-linguistic disagreement on predicates like 'sweet'. The conditions are idealized as I do not have to take into account the contingencies of how close actual speech communities come to disagreement. In the experiment, I introduce a counterfactual community of speakers of language *B* with tastebuds that systematically diverge from ours. Assume speakers of language *B* have tastebuds that systematically invert our response: To them, sugar tastes as salt tastes to us, and salt tastes as sugar tastes to us. Such a community seems far-fetched, but it does not seem metaphysically impossible.

A community of speakers whose tastebuds systematically diverge from ours with regard to perceiving things as sweet will judge very different things to be sweet than

[3] In order to facilitate the comparison to the counterfactual test to come, one may also opt for a counterfactual variant: '…*S* would judge…'.

[4] Some context may have to be added to ensure the truth of *CFSWEET* in the standard semantics. I rely on the charity of the reader in choosing a favourable interpretation.

we do. It therefore seems to harbour the maximal potential of disagreeing on statements like *SWEET*. In order to consider whether speakers of my hypothetical community *B* indeed could disagree with us (speakers of language *A*), I have to look at their practice of translation. It seems that speakers of *B* can correctly deny T_{AtoB}*(SWEET)*:

T_{AtoB}(It is not the case that sugar is sweet)

Consider.

SALTY: Sugar is salty.

We *A*-speakers can truly say:

It is not the case that sugar is salty.

Speakers of *B* can truly assert:

T_{AtoB}*(Sugar is salty)*

In order to figure out whether this is a case of genuine disagreement, I apply my test. To anticipate, the result is negative. Since the situation as described is symmetric, we can look at speakers of any language translating from the other language, respectively. For simplicity, let us begin with translating into *A* (English). Can speakers of *A* correctly utter the following?

Speakers of *B* say:

'Sugar is salty.' But they are wrong. Sugar is sweet.

I think the answer is negative. In the utterance considered, speakers of *A* charge speakers of *B* with being wrong with regard to the statement quoted as 'sugar is salty'. Yet in the statement quoted, speakers of *B* seem to make a claim that *in their mouth* is perfectly right. The reason is that truths like *SWEET* are not absolute. They are to be relativized to a certain standard of assessment. It is the typical response of speakers of *A* (English) that makes *SWEET* true in their mouth; it is the typical response of speakers of *B* that makes T_{AtoB}*(Sugar is salty)* true and T_{AtoB}*(Sugar is sweet)* false *in their mouth*. I leave it to the reader to run the test for speakers of *B* as translators of speakers of *A*. The point also applies to cases where the difference in taste is not so pronounced, as when speakers of *A* and speakers of *B* just require different levels of sugar and salt, respectively, to judge something sweet or salty. Again one cannot say that the speakers of the other community are wrong.[5]

[5] An anonymous reviewer has raised concerns as to whether inverted (taste) qualia examples support my point. Given information about the inversion, speakers of *B* may consider dissolving any disagreement by using the predicate they use when some *x* tastes salty to them to translate the predicate members of *A* apply when some *x* tastes sweet to them and vice versa. While I agree that this would avoid or dissolve disagreement, I think that the correct translation method would be the one that highlights the difference. In using 'sweet', speakers of *A* want to convey the way objects under normal conditions affect their tastebuds, and speakers of *B* are interested in knowing this (and vice versa). Knowing it is practically relevant, for instance if speakers of one community want to cook for speakers of the other. If there is a difference, it should be communicated. The goal of translation is not to achieve extensional match between predicates at any price. Anyway my main point applies: in any case of disagreement, the claim that speakers of the other community make a mistake is inappropriate.

Taking stock, I doubt that there can be substantial cross-linguistic disagreement on response-dependent properties like *sweet*. The reason is that there is no substantial disagreement. In terms of substantial cross-linguistic disagreement, condition (ii) is not satisfied: There can be no disagreement *among* speakers of *A*, but there can be no disagreement *between* speakers of *A* and speakers of *B* either. Such a disagreement is precluded by the fact that each community inevitably uses its own standard, and it has to acknowledge that other communities use theirs. Response-dependent properties leave no room for imposing one's own standard on other communities.

3 Substantial cross-linguistic disagreement on response-enabled properties

3.1 Introducing response-enabled properties

Having discussed some disappointing candidates for substantial cross-linguistic disagreement, I shall now discuss a candidate that I reckon more auspicious: so-called *response-enabled* properties. The notion of a response-enabled property is not standard in the literature. It has been promoted by Yablo (2002). One may doubt that there are response-enabled properties as described by Yablo, and one may disagree on particular candidates for them. Still I shall accept the category for the sake of argument and consider how far it leads us. After all, it suffices that there is a *possible* linguistic practice which comes with a commitment to response-enabled properties. More specifically, I shall use Yablo's own prime example of a response-enabled property: The property of being *oval*. Roughly, to be oval is to be shaped like an egg. At some point, I shall slightly diverge from Yablo's account. I think the divergence provides a more faithful account of our use of 'oval', but again it suffices if the resulting practice seems possible.

In his analysis of response-enabled properties, Yablo combines two things, the established notion of response-*dependent* properties, and a departure from that notion that is modelled on Kripke's (1980) analysis of rigid designators. Predicates standing for response-*enabled* properties are like predicates standing for response-*dependent* ones as far as our response under normal circumstances settles their *extension*: the class of things these predicates apply to. Let *F* be a response-enabled property. For any *x*, *x* is *F* if a normal subject under standard conditions judges *x* to be *F*. An object is oval if it strikes us as egg-shaped under normal circumstances. So far response-enabled properties behave like response-dependent ones.

The difference manifests itself when we look at the *intension* of 'oval': for any possible world *w*, the intension settles the class of things that are oval in *w*. I contrast the following two counterfactuals:

> *CFSWEET*: If our tastebuds functioned so as to systematically experience sugar as we actually experience salt, sugar would (not be sweet but) be salty.

> *CFOVAL*: If our perceptual apparatus were different (so as not to perceive eggs as oval), eggs would *still* be oval.

Following Yablo, I diagnose a tendency to accept these counterfactuals, marking a difference between the behaviour of response-dependent properties like *sweet* and properties like *oval*.[6]

Yablo explains the difference by a parallel to Kripke's analysis of rigid designators. In the case of oval, our perceptual response functions like a *reference-fixer*:

> it settles the actual extension of the predicate 'oval'.

Anything that falls under this extension has the same property of *being oval*. Then, this property is held fixed over any counterfactual situation, even a situation in which our perceptual apparatus systematically differs so as not to recognize things as oval. The property *oval* as singled out by our response in the actual world stays the same.

Of course, it remains to be settled what it means for a property to stay the same. In the case of *oval*, the question does not seem overly difficult to settle, even if some subtleties remain. *Oval* is a property that a thing has purely in virtue of its shape. Thus, for something in a merely possible situation to be *oval*, it is required to have the same shape as something that we are actually disposed to call 'oval' given our actual perceptual endowment used under normal circumstances. The same goes also for a counterfactual situation in which our perceptual endowment is radically different. This is why *CFOVAL* is true. 'Oval' is intended to track a shape-property. We are generally disposed to treat shape-properties as revealed by looking and touching differently than properties revealed by smell and taste. The former rather than the latter seem to directly correspond to Lockean primary properties.

I shall now articulate where I slightly depart from Yablo. He characterizes *oval* as follows:

> A thing in *w* is oval if it is of a shape that would strike me as egg-shaped were I (with my sensibilities undisturbed) given a chance to look at it (Yablo, 2002, 465).

Yablo takes this to be an analytic truth about the predicate 'oval'. The indexical 'I' is to be read as ensuring that *anyone* with the same sensory endowment will be authoritative on what counts as oval. The counterfactual stability of 'oval' results from the very restrictive conditions that Yablo imposes on 'my sensibilities undisturbed'. The clause is supposed to ensure that the same property is selected in any world.

Coming to my departure from Yablo, I am not sure that Yablo's characterization is an analytic truth. There are two reasons for my doubts: First, I find it plausible that we introduce the word 'oval' by simply *using* our perceptual apparatus and identifying things as oval. It does not follow that anything about this practice amounts

[6] An anonymous reviewer has raised concerns about this distinction. One alternative is that *oval* also is response-*dependent*. The apparent truth of *CFOVAL* and *CFSWEET* counts against this alternative. The other alternative is that *sweet* is also bound to a certain chemical structure, which serves as a dispositional base for our experience. In the latter case, *sweet* would also be response-enabled. Nothing would follow for my case of *oval*. The apparent truth of *CFSWEET* and my considerations from Sect. 2.2 count against this alternative.

to an analytic truth. Second, consider Yablo's other examples of response-enabled properties:

…Oval, aquiline, jagged, crunchy, smiley-faced (Yablo, 2002, 467).

These fall into two classes, shape properties and structural properties (*crunchy*). *Oval* is an objective, non-perspectival shape property. 'Oval' therefore hooks into a property that things out there have in common independently of our sensibilities. Our perceptual capacities are used to recognize a shape property comparable to *circular* or *cubic*. As we shall see, there is a striking difference to the latter, but the intuition remains that there is more to *oval* than just that it strikes the eye in a certain way. Our sensibilities are supposed to track an independent property. No obvious conceptual truth precludes that they can in principle go wrong in tracking this property even under standard circumstances. If we understand 'can' as a conceptual possibility, this claim is reconcilable with *CFOVAL*. One cannot rule out that there might be disagreement among people applying a qualitatively identical sensory endowment under the same circumstances. I shall elaborate such a disagreement.

3.2 Response-enabled properties of mathematical objects

We recognize shape properties like *oval* beyond standard applications like eggs. In particular, we characterize two-dimensional drawn shapes as oval. We unhesitatingly call even geometrical objects on a (mental or real) drawing board *oval*, just as we call a circle on a drawing board circular. At the same time, we are aware of the special idealizing requirements that are imposed by representing mathematical objects.

Yablo comes up with a striking example of this tendency. He introduces one particular type of mathematical objects, *cassinis*, by the cartesian equation "$(x^2+y^2)^2$—$(x^2$—$y^2)=5$" (Yablo, 2002, 468). Cassinis are a subcategory of the established mathematical category of *cassini ovals*. The cartesian equation of the latter is:

$$((x - a)^2 + y^2)\,((a + x)^2 + y^2) = b^4$$

When we look at the graph of a *cassini* in a cartesian coordinate system, it strikes us as oval.[7] In this respect, cassinis diverge from many other *cassini ovals*, which do not look oval at all.

Thus, Yablo takes the following to be true:

CASSINI: Cassinis are oval.

CASSINI may be doubted. There is an intense discussion on the role of drawing and perceiving graphs in mathematical reasoning (Giaquinto, 2007). The resulting

[7] Here is a link to a mathematical search engine (retrieved October 15, 2022): https://www.wolframalpha.com/input?i=%28x%C2%B2+%2B+y%C2%B2%29%C2%B2+-+%28x%C2%B2+-+y%C2%B2%29+%3D+5.

uncertainties may lead to doubts as to whether we really call the mathematical objects *cassinis* oval. For instance, the graph that we call oval may just be a *representation* of the mathematical object *cassini*, or we may call just any form shaped *like* the graph oval. For the purpose of my argument, I shall take it for granted that Yablo is right here:

> we (or a community very much like ours) are fully aware of the relationship between abstract mathematical objects and mathematical graphs and of the idealizing requirements for mathematical graphs; still we call the very mathematical objects cassinis oval.

It would suffice for my purposes if the form that is oval were just a token of a general type as described by the formula.

I shall now say a bit more on the mathematical status of *being oval*. As witnessed by *CASSINI*, 'oval' just applies across the board to macroscopic physical objects like eggs and mathematical objects like cassinis. This is not unusual. The same goes for properties like *circular* and *spherical*. We apply such predicates *cross-categorically*. Yet there is a striking difference between *oval* and *circular*. While *circular* can be given a simple mathematical definition as far as it applies to mathematical graphs (the set of points that have the same distance d from a central point c), the same does not go for *oval*. The mathematical graphs that strike us as oval do not form an eligible class of mathematical objects. To characterize them mathematically, we need to resort to a huge disjunction of characterizations like the cartesian equation for cassinis. *Oval* has no function in pure mathematics. There are neighbouring mathematically eligible classes of objects like *cassini ovals* or *cartesian ovals*. Yet these cover graphs that strike us as oval and graphs which strike us as definitely not oval. Thus, we have a curious result. A set of two-dimensional shapes that, applying the idealizations for mathematical graphs, strike us as clearly belonging together does not turn out to be mathematically eligible.

While this result seems curious, it can be explained by our otherwise useful tendency to generally apply our dispositions of classifying things as oval. The idealizing tendencies implicitly at work in drawing mathematical graphs largely overlap with those applied when calling things 'oval'. Even eggs are not perfect ovals. When we zoom into their microstructure, they look rough and irregular. There is always some idealization involved in judging shapes. Applying such an idealization, mathematical graphs like cassinis just seem ideal cases of ovals.[8] The question whether oval is an eligible mathematical property does not enter our classificatory practice.

In the next section, I shall use the scaffolding considerations on *oval* and mathematical objects falling under it to elaborate an example of cross-linguistic disagreement that has a strong appearance of being substantial.

3.3 Disagreement on response-enabled properties

I shall build on the peculiar application of 'oval' to mathematical graphs to outline a potential candidate for substantial cross-linguistic disagreement. Such a disagreement is

[8] The idealization I have in mind concerns aspects like perfectly straight lines, extensionless points and so on. It does not concern whether a set of curves is mathematically eligible.

subject to several opposing requirements. (i) On the one hand, there is to be disagreement between different language communities. On the other hand, there is to be agreement within a community. (ii) On the one hand, the disagreement concerns an independent fact. On the other hand, no one should be mistaken about that fact. The question is how two parties could disagree on that fact without at least one party being mistaken. My strategy of making good on these requirements is to exploit the tension within our notion of *oval*. On the one hand, there supposedly is a fact of the matter. It is part of our commonsense conception of material objects that they have definite shapes independently of our assessment. Oval is just a shape property. The same goes for geometrical objects. Shape properties seem as factual as one might wish. On the other hand, from a mathematical viewpoint, the predicate 'oval' looks arbitrarily concocted from our response to shapes of very different things. This mixture, I contend, provides room for disagreement.

I shall now run a thought-experiment regarding *oval* that is comparable to my earlier one on response-dependent properties. Consider a community of speakers *B* who otherwise share our response to egg-like shapes but refuse to apply 'oval' to mathematical objects. They have a word (call if 'shmoval') specifically for egg-like shapes, which so near-perfectly overlaps with our word 'oval' that it should work fine as a translation T_{AtoB}*(oval)*. Just as in the case of 'oval'. The application of the *B*-predicate ('shmoval') is guided by what strikes speakers of *A* and *B* alike as shaped like an egg. Only when it comes to mathematical shapes the recognitional criterion is overridden by an eligibility clause.

Speakers of *B* use their word ('shmoval') in translating *CASSINI* by T_{AtoB}*(cassinis are oval)*. They share our habits of mathematical reasoning by visualizing cartesian coordinate systems. They also use metaphors and comparisons to characterize mathematical shapes ('the curve is steep'). They even admit that mathematical objects like cassinis *resemble* ovals. Still they simply refuse to accept that mathematical objects like cassinis *are* literally shmoval. Their rationale is that statements of fact about mathematical graphs should correspond to genuine mathematical facts. The property *oval* would be too gerrymandered as a property of mathematical objects for them to be oval as a matter of fact.

The attitude of speakers of *B* seems somewhat reasonable. At least it is not easy to tell what is wrong about it. In this vein, members of *B* may say:

> T_{AtoB}*(Speakers of A assert: '*T_{AtoB}*(cassinis are oval)'. Yet they are wrong. It is not the case that cassinis are oval. Though cassinis resemble oval shapes, oval is not an eligible property for mathematical objects).*

The test for cross-linguistic disagreement seems met. What about the requirements for *substantial* cross-linguistic disagreement? These requirements were:

(i) It is only *cross*-linguistic: there is *no* significant disagreement among speakers of a language *A*, but there *is* disagreement between those speakers and the speakers of language *B*.
(ii) It is substantial: there is a fact of the matter whether *P*.

Condition (i) seems met. Every competent English speaker looking at the graph of a cassini will agree on:

CASSINI: cassinis are oval.

Moreover, speakers of *B* can disagree, as witnessed by the test just performed.

Condition (ii) also seems met. The question of whether a shape is oval seems as factual as it can be. In calling something *oval*, we track an objective shape property, which is just revealed by our response but not bound to it. Moreover, it is not clear where speakers of any community are mistaken in their judgement.

3.4 Critical discussion

In this section, I shall critically discuss my example by raising several concerns.

Is the disagreement really faultless? There does not seem to be any misunderstanding or ignorance involved. In my scenario, speakers of both *A* and *B* have a perfect understanding of how the predicate 'oval' and its counterpart 'shmoval' work. They also have as perfect an understanding of mathematics as one can get. The most interesting question may be whether there is any error involved in the disagreement. Speakers of *B* charge us (speakers of *A*) with erroneously ascribing a predicate that only applies to everyday shapes to mathematical graphs. However, it is not obvious where the error is supposed to lie. We speakers of *A* are perfectly informed about the mathematical facts, including the fact that *oval* is not a mathematically eligible property. We apply 'oval' notwithstanding this acknowledged lack of eligibility. To us, cassinis just are oval.

There might be some subtle error or misunderstanding in either the implicit metaphysical presuppositions on which speakers of *A* base their acceptance or the presuppositions on which speakers of *B* base their rejection of *oval* as a property of mathematical objects like cassinis. Admittedly the metaphysics of properties and mathematical entities is thorny. Perhaps properties like *oval* come cheap, as long as we do not pretend them to be mathematically eligible. Perhaps parsimony should prevent us from ascribing them. As long as we do not have a more specific motive for diagnosing error or misunderstanding than our uncertainty about the metaphysics involved, my case of *oval* remains a candidate for substantial cross-linguistic disagreement. Of course, the alternative that one party is in error remains.

A related question is the following:

> Is there really an answer to the question whether it is legitimate to ascribe mathematically gerrymandered properties like *oval* to geometrical objects like cassinis?

Perhaps there is no answer. Perhaps the answer is that the matter is to be decided by convention. I myself am uncertain on this issue. I note, however, that one can reason for the answers given by speakers of community *A* and *B*, respectively. The reasoning within community *B* is an example:

> Mathematically gerrymandered properties are ineligible for mathematical objects.

Speakers of *A* also can argue for their practice. *Oval* has been introduced by what we recognize as shaped like an egg under favourable circumstances. Cassinis in a cartesian plane satisfy this condition. Hence they fall under *oval*. Such short arguments surely need to be carefully scrutinized, but they at least show that the question is not clearly indeterminate or may only be settled in a way that relativizes it to a community.

Further doubts concern the translation:

> The translation T_{AtoB}*(cassinis are oval)* seems questionable if we require it to have the same *content* as the original statement by speakers of A 'cassinis are oval'.

After all, the predicate T_{AtoB}*(oval)* ('shmoval') that is used to translate 'oval' has a different extension than 'oval'. It does not apply to mathematical objects. However, the requirement of sameness of content may be too strong. I have suggested a different criterion of a translation. For T_{AtoB}*(P)* to be an adequate translation, it should be possible to report a statement *P* by speaker *S* in language *A* to speakers of *B* by using the scheme T_{AtoB}*(S says '*T_{AtoB}*(P)')*. T_{AtoB}*(cassinis are oval)* in terms of the predicate T_{AtoB}*(oval)* fits the scheme. It conveys to monolingual speakers of *B* the claim speakers of *A* are making by asserting *cassinis are oval*. Speakers of *A* use the recognitional criteria common to speakers of *A* and *B* that determine the extension of *oval* in the actual world and apply them also to geometrical forms. They do not hesitate or have any reservations when it comes to such an application. Thus, they classify cassinis as oval. This is what speakers of *B* learn from the translation. Alternative translations that use weaker replacements like T_{AtoB}(oval-like) or T_{AtoB}(egg-shaped) do not bring this across. They would convey the mistaken impression that speakers of *A* have the same reservations as speakers of *B* when transitioning from ordinary shapes to mathematical ones. In sum, the translation is not obviously deviant.

An anonymous reviewer has reminded me that the translation is not perfect although it may represent the best a translator into B can do. It does not avoid that speakers of *B* get a misleading impression of language *A*. They may think that *A* contains a predicate that perfectly corresponds to the predicate ('shmoval') used in T_{AtoB}*(cassinis are oval)*, and that speakers of *A* get this predicate wrong. The rules of this predicate ('shmoval') command that it be used for normal objects but not mathematical objects. But according to the rules of *A* the *A*-predicate does apply to normal objects and geometrical forms. My proposal is that the translation be made concise by adding a meta-linguistic gloss like the following:

> …According to the rules of *A*, the predicate in *A* that is translated by T_{AtoB}(cassinis are oval) applies cross-categorically to normal objects and geometrical forms.

The gloss may be made more complex so as to convey to speakers of *B* what the *A*-predicate is like. It is to be added to the translation as given above while upholding the claim that speakers of *A* are wrong. A sufficiently specific gloss will avoid the problem that the error diagnosis is due to the inadequacy of the translation.

I have mentioned concerns as to whether a merely verbal dispute would count as genuine disagreement. I shall now discuss to what extent my example of *oval* reduces to a merely verbal dispute as follows: speakers of *A* and *B* do not disagree on the underlying facts; they only disagree on how to use the predicate 'oval'. Should the predicate be applied to mathematical objects or not? One may also call such a dispute 'meta-linguistic'. It may concern a Carnapian 'external question' that is to be decided by pragmatic considerations (Carnap, 1950). To support the alternative of a purely verbal dispute, consider again the martini example. Here a purist on classification is opposed to someone who has a more permissive attitude. We may consider *B*-speakers as purists on mathematical predicates and *A*-speakers as taking a more relaxed attitude. Verbal disputes are not idle. They can make an important contribution to coordinating how we use our words. A dispute between the sorority student and the barkeeper may lead them to coordinate their use of 'martini', either deferring to one of them or each one keeping their different idiosyncratic uses but keeping score of the other uses, preventing misunderstanding.

The dispute may be hypothetically described as arising from two different historical ways of dissolving the *open texture* a common root predicate for 'oval' once had. There must have been a time when the predicate had not yet been used for mathematical objects like cassinis. At some point, the question arose whether to apply it across the board to such objects or not. Faced with the same evidence, speakers of *A* decided to apply 'oval' across the board, speakers of *B* decided to not apply it. None of the two decisions seems obviously worse than the other. Such a historical perspective does not enforce interpreting the dispute as merely verbal, but any seeming arbitrariness in such a decision raises the suspicion that it rather has to do with how we use our words than with the way the world is.

The suspicion of a merely verbal dispute can be bolstered by reminding us of Yablo's analysis as already quoted:

> A thing in *w* is oval if it is of a shape that would strike me as egg-shaped were I (with my sensibilities undisturbed) given a chance to look at it (Yablo, 2002, 465).

According to Yablo, the sentence quoted is an analytic truth.[9] Consider Hirsch's highly influential proposal for a sufficient condition of a dispute on *D* being merely verbal:

> …There are two undisputed sentences *U1* and *U2*, one true and one false, such that one side holds that *D* is (a priori necessarily) equivalent to *U1* and the other side holds that *D* is equivalent to *U2*… (Hirsch, 2005, 83)

One might feel tempted to apply Hirsch's criterion to my case as follows: using Yablo's analysis, speakers of *A* treat (*CASSINI*) *cassinis are oval* as equivalent to:

> *Cassinis strike us with our sensibilities undisturbed as shaped like an egg*,

[9] The lessons on the alternative of a meta-linguistic dispute also apply to the alternative of a dispute on how to analyse 'oval'.

Which speakers of both communities accept as true. In contrast, speakers of *B* propose to treat (*CASSINI*) as equivalent to.

> *Cassinis strike us as with our sensibilities undisturbed as shaped like an egg, and this reveals a mathematically eligible property to us*,

Which speakers of both communities reject due to the falsity of the second conjunct.[10]

In response, I admit that a case as described *may* be construed as a merely verbal dispute. Speakers of *A* and *B* disagree on how to apply a predicate. One worry about such a construal is that the two communities are authoritative on how they use their words, respectively. The worry can be dismissed:

> even speakers from a foreign community *B* may engage in negotiating how to use words in a different community of speakers *A*.

They may want to educate us mathematically. Moreover, even if the disagreement is construed as not merely verbal, the techniques of meta-linguistic negotiation that are relevant to solving verbal disputes also can be used to facilitate communication. The differences of use can be made explicit. Once they are explicit, speakers of *A* and *B* may decide to defer to each other's use for the purpose of conversation, perhaps using signalling like scare quotes, or they may continue to use their predicates while keeping track of the difference.

A more serious doubt concerns whether speakers of *B* are faultless in their meta-linguistic disagreement. Their proposed understanding of the predicate 'oval' in language *A* is doubtful. It is not in conformity with the way the predicate is used by speakers of *A*. To uphold the assumption of faultlessness, T_{AtoB}(… Speakers of *A* … are wrong…) as asserted by a speaker of *B* must be interpreted not as attributing a falsity or a factual error to speakers of *A*. Rather it must be interpreted as the claim that speakers of *A* use 'oval' in a way that would be appropriate only if *oval* were a mathematically eligible property, and that it would be better to adopt a different way of using 'oval'.

Although a dispute on 'oval' *could* be merely verbal, it could also be factual. A substantial disagreement would target the way the world is independently of how we talk. The 'could' here is not epistemic. In one possible situation, the dispute is verbal, in another, the disagreement is factual, depending on the details added. A substantial disagreement is not a merely verbal dispute. Speakers of A and B may negotiate how to use 'oval'/'schmoval', either one group deferring to the other or knowingly keeping track of the differences in use. Such a negotiation would involve some of the same discussion moves that are made in verbal disputes, but there would always also be the issue whether a mathematically non-eligible word

[10] One technical point: Yablo takes CASSINI to be a posteriori albeit analytic and necessary because we have to experience cassinis to figure out its truth (see Dohrn 2011). This understanding does not square with the 'a priori' in Hirsch's criterion. Yet first, mental imagery as of a cassini may replace sensory experience. Second, one may replace a priori *necessarily* by *analytically* in Hirsch's condition (Bennett 2009, 53–57).

like 'oval' can or should apply to mathematical structures, which I take not to be merely verbal.

The factual disagreement arises as follows: Speakers of *A* and speakers of *B* share their common sense conception of ordinary material objects. According to such a conception, such objects are real. They exist independently of us. Moreover, they have certain properties independently of anything we say and do. Among these are shape properties. Speakers of *A* and *B* agree that among these properties there is a characteristic shape property *oval* to be tracked by 'oval' and 'shmoval'. They agree that eggs and lychees have this property. Vagueness aside, for any object, either it is oval, or it is not. However, when it comes to mathematical objects like cassinis, speakers of *B* endorse a metaphysical viewpoint that diverges from that of speakers of *A*. Speakers of *A* accept but speakers of *B* deny that mathematical objects have mathematically ineligible shape properties. They may have them metaphorically or approximately, but not literally and fully precisely.

The way the disagreement has been described is compatible with adding the assumption that everyone involved is perfectly informed on the mathematical facts and the use of language in each community. If there is an error, it is difficult to tell what it might consist in. Of course, there are options: The issue may be indeterminate. Speakers of *A* may be right because mathematical properties do not need to be eligible. Or speakers of *B* may be right that it is just metaphysical sloppiness that makes us attribute *oval* across the board. Yet the choice among these options is difficult, and this difficulty supports the appearance of a substantial yet faultless dispute.

While the dispute construed in this way does not seem merely verbal, principled doubts remain as to whether the disagreement can be both substantial and faultless. If the dispute on whether cassinis are oval is traced to an underlying non-verbal metaphysical disagreement on whether mathematical objects can have properties like *oval*, there seem to be two possibilities. Either there is a fact of the matter. Then, one party to the dispute is in error and the faultlessness requirement is not satisfied. Or there is no such fact. It is simply unsettled whether mathematical objects can have properties like *oval*. Then, there is no truth of the matter on whether (CASSINI) *cassinis are oval* in the first place. In neither case, we seem to have a substantial cross-linguistic disagreement. This result again testifies to a more principled dilemma about a disagreement that is both faultless and substantial. If there is a fact of the matter that decides whether *P* is true and one party holds that *P* is true and the other party holds that *P* is false, one party *must* be wrong about the underlying fact of the matter. If there is no such fact, the dispute is not substantial.

If principled considerations show that there can be no cross-linguistic disagreement that is both faultless and substantial, the case of *oval* leaves us with a puzzle. In contrast, in the other cases considered, it is easier to accept that one party is right, there is no fact of the matter, or the truth is somehow relative.

I mention one last point. I have insisted that a dispute on *oval* can go beyond a merely verbal dispute. One may respond that such a dispute would not be *linguistic* enough to count as cross-*linguistic*. There should be some disagreement on language involved. In response, even in the non-verbal construal one can find some disagreement about language. Speakers of the two communities disagree not only on

whether cassinis *are* oval, but also on whether 'oval' *may* or *should* be used in this way. Is it acceptable or even recommendable to have a rule for 'oval' as a cross-categorical predicate, or should we adopt a different rule that precludes cross-categorical classifications?

4 Comparisons

4.1 Other response-enabled properties

One key question about my example is to what extent the potential disagreement generalizes. Is it an isolated case that heavily depends on special circumstances like the combination of mathematical and everyday objects, or is it of general significance?

In order to answer this question, I begin with taking a look at the other examples of response-enabled properties mentioned by Yablo:

> Aquiline,
> Jagged,
> Crunchy,
> Smiley-faced.

Oval stands out among the former by the seeming regularity of oval shapes. None of the other properties invite the use I have made of *oval*. Yablo's examples also indicate why his category of response-enabled properties so far has not got that much attention. It is not obvious how to extrapolate from these examples. There is an attempt at extending the category to sentiment-based moral predicates (Dohrn, 2018), but given the huge uncertainties about moral discourse, the result remains speculative.

4.2 Standards of precision

Instead of further discussing Yablo's specific conception of response-enabledness, it seems more promising to pursue analogies to the example of *oval*. Perhaps the most striking parallel concerns imprecise ways of speaking. There are analogies between speakers of *B* refusing to apply *oval* to mathematical objects and the following dialogue:

> John: The football field is flat.
>
> Jill: No, it isn't properly flat. It is full of bumps.
>
> John: Come on, it is flat *enough*.

Could my example of *oval* be subsumed under the phenomenon of imprecision? Relatedly, could imprecision provide a more general pattern for substantial cross-linguistic disagreement? I tend to answer both questions in the negative.

As for the first question, the difference between the example of 'oval' and standard cases of precisification as in the dialogue between John and Jill is that speakers of *B* use 'shmoval' in a more restrained but not obviously more precise way. They keep mathematics pure of gerrymandered predicates. In a sense, this may be called a more precise way of thinking, but it does not fall under the linguistic phenomenon of imprecision as illustrated in the dialogue. 'Oval' *can* be used more or less precisely. For instance, a fruit may count as oval notwithstanding some irregularities. Yet cassinis are *perfectly oval—if* they are *oval* at all. It is the latter question on which speakers of *A* and *B* disagree, not on contextual standards of precision for *oval*. This is why a reaction to the precisification as displayed by John is unavailable to speakers of *A*. In the typical case of Jill and John, there is a set of common standards that can be applied more or less strictly; in my disagreement on *oval*, there is none.

As for the question of whether imprecision can provide examples of cross-linguistic disagreement, the initial test for disagreement is met. Speakers of *B* can say with regard to a speaker *S* of *A*:

> T_{AtoB}(*S* says: 'T_{AtoB}(the field is flat)'. But *S* is wrong. It is not the case that the field is flat. It is full of bumps)

Yet do we have *substantial* cross-linguistic disagreement? My criterion (i) may be met. It requires that the disagreement be specifically cross-linguistic. Surely standards of precision may vary specifically across languages. Modern languages track much more precise devices of measuring time than their predecessors. Relatedly, one may imagine speakers of community *B* having much more discriminating sense organs than speakers of *A* (English). Whenever we see a normal object as flat or oval, speakers of *B* see the irregularities. They may systematically disagree with our common judgements of what counts as flat or oval.

What about criterion (ii)? Is there a fact of the matter under discussion? I have already argued that my example of a disagreement on *oval* can be construed as a verbal dispute on how to use 'oval', but also as a disagreement on whether mathematical objects *are* oval. The question becomes whether the latter construal is also available for disagreements on imprecise statements. The answer depends on how such statements are analysed.

The phenomenon of loose talk might be analysable pragmatically or semantically. According to the prevailing semantic analysis, predicates like *flat* are context-sensitive. They come with contextual standards of precision (Kennedy, 2007; Lewis, 1979). Depending on the standard, John's assertion may be literally true even if the football field has some bumps. In linguistics, sometimes the alternative of an analysis in terms of 'pragmatic slack' is discussed (Klecha, 2018; Lasersohn, 1999; Lauer, 2012):

> John's first assertion 'the football field is flat' is not semantically true (and may even be semantically false), but it may be 'as good as if it were true' for the purposes of conversation.

As far as these purposes are concerned, there is no relevant difference to a situation in which the football field is absolutely flat.

As for the pragmatic analysis, the disagreement between John and Jill does not concern semantic truth. *Strictly* speaking, the field is not flat. The disagreement only concerns whether it comes close enough to being perfectly flat for the purposes of conversation. There is no disagreement on some independent truth.

As for the semantic analysis, there is a truth on which the parties disagree. However, the truth is relative to contextual standards of precision. The disagreement is due to the diverging standards applied by the parties involved.[11] The context relativity of truth in the case of imprecise statements again amounts to a significant difference to the example of *oval*. There are doubts that the disagreement counts as substantial in the sense of there being a fact of the matter *independently* of the linguistic practices of the parties involved. One may strengthen the requirements of substantiality so as to exclude context relativity. Given the strengthening, my case of oval would still qualify, but disagreement due to lack of precision would not.

Summarizing, while loose talk may give rise to cross-linguistic disagreement, there are doubts about its substantiality.

4.3 Science vs. everyday categories

I shall close my comparisons with pondering the prospects of generalizing a pattern that is displayed by my example *oval*. On the one hand, there is an established everyday use of a certain predicate. On the other hand, there are theory-driven arguments for revising our everyday use. In the case of the predicate 'oval', our perceptual recognition of ovals even among mathematical objects contrasts with the lack of mathematical eligibility of the shape property *oval*.

I have introduced response-enabled properties by a comparison with Kripke's notion of a rigid designator, especially with regard to natural kind terms. Kripke claims that our use of natural kind terms involves *reference fixers*. The latter settle the actual extension of a term. For instance, the extension of 'heat' is fixed by what strikes us with our normal sensibilities as hot. Yet in fully settling the intension of 'heat' for any possible world, we defer to science. Heat is identified as *high mean molecular energy*.

There are terms which do not fully fit into this standard Kripkean template. I mention four examples: 'Jade', 'Tomato', 'Fish', 'Reptile'. To start with 'jade' and 'tomato', in both cases the use we make of jade and tomatoes prompts us to diverge from the most important scientific classifications in the neighbourhood (Sundell, 2012). Jade may be either jadeite or nephrite. These are distinct minerals. Yet their aesthetic qualities make us classify them together. Tomatoes are botanically berries, i.e. fruits, but their characteristic umami taste makes us classify them as vegetables

[11] It has even been argued that the disagreement in cases of imprecision concerns the standards to be applied (Lewis 2016, 302). I am not sure about this claim. For instance, children may disagree on an imprecise statement without having the meta-linguistic awareness that there are standards of precision to be negotiated.

as contrasted to fruits for culinary purposes. In both cases, I can imagine both intra- and cross-linguistic disagreement between more scientifically-minded speakers and speakers who give more leeway to our practice (like the US supreme court classifying tomatoes as vegetables in 1893).[12]

In the case of 'fish' and 'reptilei', we have a tension within the practices of scientific classification. Even scientists speak of fish and reptiles, but both categories have turned out not to meet the requirements of modern biological taxonomy. In particular, they are not monophyletic; they do not cut a branch from the phylogenetic tree. In order to do so, they would have to comprise kinds of animals like tetrapods in the case of fish and birds in the case of reptiles. Again I can imagine both intra- and cross-linguistic disagreement on whether tetrapods would have to count as fish, or birds would have to count as reptiles.

To what extent are such imagined cross-linguistic disagreements substantial? While one may insist that there is a fact of the matter corresponding to whether nephrite is jade, tomatoes are vegetables, tetrapods are fish and birds are reptiles, in a sense such candidate facts do not seem quite as substantial as the fact corresponding to whether cassinis are oval.

Everyone involved in the debate will admit that the categories at stake are infested by our peculiar needs. The categories of *jade* and *tomato* have been introduced for extra-theoretical purposes. The partially theoretical interests that guided us in the introduction of categories like *fish* and *reptile* sit somewhat awkwardly with more eligible classification schemes. This raises doubts as to whether anything falls under these categories as a matter of independent fact.

In a similar vein, *oval* may not be a mathematically eligible shape property. Our classificatory dispositions with regard to oval things may have been shaped by practical motives like the nutritional value of eggs and fruits. Still it is difficult for us to accept that there is no property shapes have in common just in virtue of their being oval. There is no extra-theoretical or premature folk-theoretical interest involved in calling cassinis oval. Moreover, it is simply not clear that a practice of applying 'oval' cross-categorically is inferior to a practice of withholding such a classification from a scientific viewpoint. Speakers of *B* argue from mathematical reasons, but their use of these reasons is not part of mathematics. It is part of their metaphysics. This resilience of *oval* to debunking strategies arguably sets disagreement on *oval* apart from disagreement on *jade*, *tomato*, *fish* and *reptile*. In a sense to be qualified by further metaphysical inquiry, the cross-linguistic disagreement on *oval* illustrated by my example seems a better candidate for being substantial.

I add an example due to an anonymous reviewer: assume the folk think of ellipses as squashed circles. They may disagree with mathematicians on.

ELLIPSE: Every circle is an ellipse but not every ellipse is a circle.

Assume there is a disagreement on (ELLIPSE) in or (by use of translations) between communities. I see two alternatives. One party to the dispute may be

[12] https://supreme.justia.com/cases/federal/us/149/304/#:~:text=The%20court%20takes%20judicial%20notice,121 (retrieved December 2, 2022).

motivated by extra-epistemic interests as in the case of 'jade' and 'tomato'. Then, the dispute would not count as substantial for the same reasons. Alternatively, the disagreeing parties may be motivated by epistemic interests in how to best represent the world. In that case, I would say that the party who denies (ELLIPSE) is wrong because deferring to well-developed mathematics (as contrasted to folk mathematics) is the best way of settling the matter. In contrast, my dispute on 'cassinis are oval' does not clearly fall under one of these two alternatives. Mathematics tells us what ellipses and cassinis are, but it is not interested in settling what ovals are. I therefore doubt that my example generalizes to examples of the (ELLIPSE)-type, where one position is clearly supported by current mathematics and the other is not.

Taking stock, while there are interesting ways of broadening the lesson from my example *oval*, the example remains a more significant candidate for substantial cross-linguistic disagreement than all the other candidates considered so far. While I cannot exclude that further candidates of equal significance may be found in the future, so far the case remains rather isolated and peculiar. Still I contend that the case of *oval* is interesting, not because the lesson spreads but rather because the case is so special. One may demur: Can a case that is both *isolated* and merely *possible* really matter to the debate in philosophy and linguistics? Yet even an isolated point far away in modal space may be instructive, for instance when we are interested in tracing essential boundaries of linguistic communication.

5 Summary

I have approached the question whether there could be cross-linguistic disagreement as follows: First, I have tried to sharpen the question with regard to the requirements of interesting, i.e. substantial disagreement. Second, I have discussed some candidates which do not meet these requirements. Third, I have introduced disagreement on the response-enabled property *oval* as my prime candidate example for a possible cross-linguistic disagreement that is both faultless and substantial. The appearance of such a disagreement remains even if there are principled reasons why disagreement cannot be both faultless and substantial. Fourth, I have tried to broaden the lesson by considering parallel cases like precisification and irregular kind terms. My concluding suggestion is that notwithstanding the principled doubts my example of *oval* remains a uniquely interesting candidate for substantial cross-linguistic disagreement.

Author contributions I hereby declare that this submission is entirely my own work, in my own words, and that all sources used in researching it are fully acknowledged and all quotations properly identified.

Data availability Data sharing is not applicable.

Declarations

Ethics approval No approval or consent was required. Any applicable ethical requirements were satisfied.

Consent to participate No research involving human participants or animals has been conducted.

Competing interests The author declares no competing interests.

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