What Is the Value of Vagueness?

by

DAVID LANIUS

Karlsruher Institut fur Technologie

Abstract: Classically, vagueness has been considered something bad. It leads to the Sorites paradox, borderline cases, and the (apparent) violation of the logical principle of bivalence. Nevertheless, there have always been scholars claiming that vagueness is also valuable. Many have pointed out that we could not communicate as successfully or efficiently as we do if we would not use vague language. Indeed, we often use vague terms when we could have used more precise ones instead. Many scholars (implicitly or explicitly) assume that we do so because their vagueness has a positive function. But how and in what sense can vagueness be said to have a function or value? This paper is an attempt to give an answer to this question. After clarifying the concepts of vagueness and value, it examines nine arguments for the value of vagueness, which have been discussed in the literature. The (negative) result of this examination is, however, that there is not much reason to believe that vagueness has a value or positive function at all because none of the arguments is conclusive. A tenth argument that has not been discussed so far seems most promising but rests on a solely strategic notion of function.

Keywords: vagueness, value of vagueness, indeterminacy, sorties paradox, function of vagueness

1. Introduction

Almost since the beginning of the philosophical debate on vagueness, most people have seen it as a problem. It leads to the Sorites paradox, borderline cases, and the (apparent) violation of the logical principle of bivalence. In jurisprudence, for instance, it has widely been regarded as a threat to the rule of law.

Most theories of vagueness give up on certain logical principles in order to accommodate the vagueness of natural language in an effort to save logic from paradox and inconsistency. And, even from a layperson's perspective, it is doubtful what function vagueness could possibly have in everyday communication. After all, clarity is an important goal to both speakers and listeners in most conversations. There is prima facie reason to treat vagueness as a problem.

Nevertheless, there have also been surprisingly many people claiming that vagueness is valuable. Among them are Max Black, Ludwig Wittgenstein, Friedrich Waismann and, more recently, Manfred Pinkal, Nora Kluck, Manfred Krifka, Matthew J. Green, and Kees van Deemter. They (explicitly or implicitly)

assume that in many cases we use vague terms when we could have used more precise ones because their vagueness itself has a positive function.[1]

While there is a number of contributions in the philosophy of law (e.g., Sorensen, 2001; Endicott, 2005; Asgeirsson, 2015; Lanius, 2019; Asgeirsson, 2020), game theory (e.g., Lipman, 2000; de Jaegher, 2003; de Jaegher and van Rooij, 2011), as well as computational linguistics (van Deemter, 2009, 2010; Green and van Deemter, 2011; Green and Deemter, 2013; Green and Deemter, 2019) that discuss in some way or other the value of vagueness, the legal community is concerned with the use of vagueness and other forms of indeterminacy specifically in the law and most of the contributions by game theorists and computer linguists try to explain in general why language has evolved to be vague in the first place. This paper, in contrast, deals with the question of why individual language speakers use vague terms in ordinary conversation when they could have used more precise ones instead. Unfortunately, except for the work by Green and van Deemter, the arguments for this claim being true are rarely made explicit. In this paper, I will discuss nine arguments that can be reconstructed from the literature in favour of the claim that vagueness is valuable in the specified sense.

2. Setting the Stage

Two general remarks are in order before we can dive into the discussion of the arguments. First, let us get clear about what vagueness is. A proper grasp of the concept will allow us to differentiate it from other — related — phenomena. Second, let us get clearer about what it means to say that vagueness is valuable, has a positive function, or is useful.[2] Both clarifications are, I take it, necessary to precisely state and properly evaluate the arguments.

2.1 What is vagueness?
Vagueness is usually explained by reference to paradigmatically vague terms such as "blue", "tall", or "heap". Moreover, three characteristics have been accepted in the literature as essential to vagueness. According to Rosanna Keefe (2000, pp. 6–7), vague expressions are commonly understood to: 1) admit borderline cases, 2) be susceptible to the Sorites paradox, and 3) (apparently) lack sharp boundaries. These three criteria are, however, rarely accepted as individually necessary and collectively sufficient conditions for vagueness. Sometimes they are treated simply as symptoms or signs of vagueness.

---

1   A term is "precise" iff it is not vague.
2   Please note that I will use the phrases is "valuable", has a "positive function", and is "useful" interchangeably and nontechnically in this paper. See section 2.2.

Consequently, there is no commonly accepted definition of vagueness. An influential way to understand vagueness has been put forward by H. Paul Grice, however:

To say that an expression is vague [...] is [...] to say that there are cases (actual or possible) in which one does not know whether to apply the expression or to withhold it, and one's not knowing is not due to ignorance of the facts. (Grice, 1989, p. 177)

Cases in which an expression does neither clearly apply nor clearly not apply, while the reason for this unclarity is not ignorance of the facts, are commonly called "borderline cases".[3] Higher-order unclarity about borderline cases is generally seen as the source of Sorites susceptibility. That is, vague terms are susceptible to the Sorites paradox because they do not (appear to) demarcate a (sharp) boundary between those cases in which an expression does clearly apply and those cases in which it does not clearly apply. There are borderline cases of borderline cases as well as borderline cases of borderline cases of borderline cases, and so forth.

Due to this property of vague terms, they give rise to the Sorites paradox:

(1)   1000,000 grains of sand is a heap of sand.
(2)   A heap of sand minus one grain is still a heap.
(3)   **Thus:** One grain of sand is a heap.

The premise (2) captures what has been coined the *tolerance* (by Crispin Wright) or *boundarylessness* (by Mark Sainsbury) of vague terms. In the now famous words of Wright (1976/1997, p. 156), "[w]hat is involved [...] is a certain tolerance [...], a notion of a degree of change too small to make any difference, as it were." As Sainsbury (1997, p. 257) describes it, a vague term is boundaryless

in that no boundary marks the things which fall under it from the things which do not, and no boundary marks the things which definitely fall under it from the things which do not definitely do so; and so on. Manifestations are the unwillingness of knowing subjects to draw any such boundaries, the cognitive impossibility of identifying such boundaries, and the needlessness and even disutility of such boundaries.

Part of what "heap" means is that the addition or subtraction of a single grain cannot make a difference to whether some arrangement of grains constitute a heap. If someone denies this, we have reason to think that they do not understand

---

3   Epistemicists attribute the unclarity in question to ignorance of linguistic facts and thus seem not to accept Grice's definition of "borderline cases". They could, however, accept it by interpreting "facts" as solely those facts which concern the object of the expression and context of utterance — ruling out the linguistic facts that determine the expression's exact extension. I will leave this question open in the remainder of this paper.

the meaning of "heap". That is, vague terms are tolerant to small changes (or, in other words, they are boundaryless).[4]

Although it is controversial what properties are essential to vagueness, we could surely say that vagueness has a positive function if at least one of the three characteristics has a positive function. If it can be shown that being susceptible to the Sorites paradox, lacking sharp boundaries, or admitting borderline cases has positive effects, then we can also justifiably say that vagueness has a value. Maybe vagueness has a value only if all three properties are combined or due to some other property of vague terms that is (more fundamentally) connected to vagueness. We will look at this possibility when examining the arguments in due course. What is certain, however, is that it is not enough to show only that sometimes we prefer vague terms when we could have used more precise ones instead; we need to show that we do so because of their vagueness (however understood).

2.2 Value, function, utility

But what can it mean that vagueness has a *positive value*, *function*, or *use*? People who have claimed that vagueness has a value have rarely explicated what having a value means or even in what sense vagueness might possibly have a value.

Clearly, when asking what value vagueness might have, we are concerned with instrumental value. The instrumental value of something is the value that it has in virtue of the fact that it is a means to something desirable. Desirability can be understood very broadly as anything that is desired by someone. If Mary desires to manipulate her audience into believing that she is a goddess, then whatever is a means to fulfilling that desire has instrumental value to her. Usually, desirability is understood somewhat narrower: more normatively. Something has instrumental value only if it is a means to the common good, to some rational goal, or to something that is objectively desirable.[5]

We have an intuitively clear grasp on what it would mean for tools such as pens to be instrumentally valuable. A pen has instrumental value if it helps us to accomplish tasks such as writing or drawing. We desire to write a letter, and the pen is a suitable means to that end. This is due to some properties such as, for example, its handiness or having a functioning ballpoint, but not due to others such as, for example, its having a certain colour.

A pen might even be valuable as a hair clip or a tool for scratching. Again, this is arguably more due to its handiness and less due to its colour. It is indispensable

---

4 Sainsbury already suggests that boundarylessness itself be a feature — something that has utility, in contrast to "the disutility of boundaries." However, like so many others, he does not offer an explanation of how boundarylessness might be useful or an argument why this be the case.

5 Most scholars who argue for the value of vagueness, arguably, have such narrower concepts of value. What happens when we broaden our concept of value, will be discussed in section 5.

that the pen has *some* colour, but this does not make the colour a means to the end of pinning up one's hair. In contrast, a pen can have aesthetic value, too. With regard to this end, its colour may very well be the property that is functional to further it. Its colour may help to accomplish that we feel pleased when looking at the pen.

How are things when examining the potential value of vagueness? How can borderline cases, Sorites susceptibility, or the lack of boundaries be useful? What might these properties help to accomplish?

Please note that it does not suffice to have an explanation for why there is vagueness in our language. Of course, we also want to know why we speak vague languages. But giving such an explanation is not the same as providing reasons for the claim that vagueness has a value. Equating this presupposes an impoverished (and fairly uninteresting) concept of value. We would not say that something is valuable if it is an unavoidable side effect of something that has a value. Something has a value if *it* helps us to achieve something.

This is why it is paramount to differentiate between vagueness and other properties of vague terms. As Roy Sorensen points out:

"Vague" has a sense which is synonymous with abnormal generality. This precipitates many equivocal explanations of vagueness. For instance, many commentators say that vagueness exists because broad categories ease the task of classification. If I can describe your sweater as red, then I do not need to ascertain whether it is scarlet. This freedom to use wide intervals obviously helps us to learn, teach, communicate, and remember. But so what? (Sorensen, 1997*)*

If we want to know whether vagueness is valuable, we need to ascertain that it is not something else that helps us to achieve the goal in question; that vagueness is not simply a byproduct of successful communication, but that it contributes to its success; that we have not mistaken the vagueness of the vague term "red" (that it allows for borderline cases, is susceptible to the Sorites paradox, and that it lacks boundaries) with its generality (that it can be equally applied to many things).

Of course, there are also people who claim that some linguistic property that they call "vagueness" has value. In most cases, it becomes immediately clear that these people do not mean vagueness in the sense captured by Keefe's three characteristics when they argue for the "value of vagueness" — but some other property of (contingently) vague expressions (such as their generality or ambiguity).[6] Other people, however, list paradigmatic examples of vague terms, use Keefe's three characteristics of vagueness, and cite the philosophical literature on the Sorites paradox and borderline cases. These people claim that vagueness in the

---

6 Most economic literature on the "value of vagueness" actually deals with the value of generality. For instance, Hadfield (1994), Staton and Vanberg (2008), or Choi and Triantis (2010).

philosophical sense has a positive function. In what follows, I will examine arguments for this claim only.

3. Nine Arguments for the Value of Vagueness

As a matter of fact, we often use language in ways less determinate than possible. In particular, we often use vague terms when we could have used more precise ones instead. Why do we so often voluntarily opt for vague terms? Do we and should we do so because of their vagueness — or do other forms of indeterminacy (e.g., ambiguity, generality, or indeterminacy in implicatures) or even entirely different features of these terms have positive functions only? What does the vagueness of vague terms do (independently from their other properties)?

We are looking for arguments that have approximately this structure:

(1)   X is desirable.
(2)   Vagueness is a suitable (or indispensable) causal means to bring about X.
(3)   If vagueness is a suitable (or indispensable) causal means to bring about something desirable, then vagueness has instrumental value.
(4)   **Thus:** Vagueness has instrumental value.

When do we use the vagueness of vague terms? To show that using vague language is a suitable means to some desirable end is clearly not sufficient to show that its vagueness has instrumental value. If we can show that being susceptible to the Sorites paradox, lacking sharp boundaries, admitting borderline cases, or a combination thereof is a suitable means to some desirable end, however, we can be certain that vagueness has instrumental value. Let us now examine the nine most promising arguments for the value of vagueness that can be reconstructed from the literature.

3.1 The argument from communicative success

Some philosophers have argued that vagueness does not preclude successful communication and thus cannot be problematic.[7] They reject the Fregean ideal of a perfect, precise, and unambiguous language. As Wright (1975, p. 325) puts it, "we have long since abandoned the Frege-Russell view of the matter. We no longer see the vagueness of ordinary language as a defect." Indeed, there are hardly any philosophers who defend this ideal anymore. Most linguists and philosophers of language today explicitly hold the view that ordinary language is fine as it

---

7   Historically, this argument has been advanced in some form or other by, for example, Black (1937), Hempel (1939), Wittgenstein (1953/2009), Peirce (1960), or Quine (1960).

is. It is close to uncontroversial that vagueness is not necessarily a problem. But what does this tell us about its value?

The most famous version of the *argument from communicative success* might be attributed to Rohit Parikh.[8] Parikh (1994) game-theoretically shows that even if borderline cases actually arise and unclarity results, as long as the conversational purpose is not (seriously) obstructed, vague messages can be useful. According to his interpretation of vagueness, vague terms have an extension which is slightly different for different language users such that there is disagreement between them in some cases (sc. borderline cases). Based on this understanding of vagueness, he shows that vague messages can succeed in promoting the conversation's goal — even under perfect alignment of interests.

Consider the following situation: Ann wants Bob to bring her the topology book from the library. She only tells him that it is blue. Due to its vagueness, the phrase "blue books" does not have a single extension, but is divided into $blue_A$ books (within Ann's semantic) and $blue_B$ books (within Bob's semantic); the extensions of the homonymous terms "$blue_A$ books" and "$blue_B$ books" merely overlap. As long they do so sufficiently (i.e., if there are not too many borderline cases), Bob obtains sufficiently useful information to efficiently find the correct book and bring it to Ann. If Bob searches all $blue_B$ books first and then the others (the less and less blue ones from his perspective), he will find the correct book with higher probability more quickly than if he has to search all books more or less randomly. Bob will thus save time by searching all $blue_B$ books, even though this is not (strictly speaking) what Ann intended.

Parikh's representation captures an important aspect of vagueness. What is problematic about it, however, is that language users usually do not unconsciously have idiosyncratic idioms which they assume to be precise. It is possible for language users to explicitly disagree in borderline cases on whether the term correctly applies or to explicitly agree that they face a borderline case in which they should suspend their judgement about the term's application. Vagueness does not (merely) consist in incompletely overlapping extensions between idiolects. But if we accept that this captures at least an important aspect of vagueness (and I think that we should), we can conclude with Parikh that this property of vague terms is useful inasmuch as it does not preclude successful communication.

Do we also have an appropriate argument to show that vagueness has a value? Parikh's argument establishes the claim that borderline cases do not preclude successful communication. It does not establish, however, the claim that borderline cases are a suitable causal means to bring about successful communication. Parikh convincingly shows that communication in vague terms can be valuable in

---

8   In fact, it has been attributed to him by Kluck (2014, p. 83).

the sense that it is better than no communication at all. However, it is also clearly the case that Ann and Bob would communicate even better if the extensions of blue$_A$ books and blue$_B$ books would overlap entirely, that is, if the terms used were precise.[9] Parikh presupposes that vagueness is a necessary feature of natural language, which it arguably is, and, based on this presupposition, argues that natural language can be used to successfully exchange information *despite* its vagueness. Parikh cannot — and does not even try to — explain why vagueness is valuable in a more interesting sense. Unless we are willing to say that something is valuable if it does not preclude something valuable, we cannot draw the conclusion that vagueness is valuable.

This is also the case for more elaborated scenarios like the ones discussed by van Deemter (2009, pp. 624ff.). He argues that the vagueness of vague terms facilitates search. Van Deemter asks us to imagine a situation in which a diamond has been stolen from an emperor by one of his 1,000 eunuchs, and the only witness can describe the thief just with the expression "tall". Due to its vagueness, van Deemter argues, the emperor can rank the eunuchs, searching them from tallest to less tall, and thus save time (instead of searching all the eunuchs randomly). I take it that, also in such scenarios, communication would be even more successful if the terms used would be precise (and that the vagueness here is practically unavoidable due to limited information). But even if that was not the case, the property facilitating search is not borderline cases, Sorites susceptibility, or boundarylessness. Van Deemter even mentions himself that it is the gradability of the term "tall" that is needed to make sense to rank the eunuchs in the first place. But gradability is not the same as vagueness. We can imagine a term "tall*" that is gradable and allows for ranking eunuchs from tallest* to least tall* but does not allow for borderline cases, is not susceptible to the Sorites, or has precise boundaries (by, for instance, introducing a sharp cut-off point at the 500th eunuch that is precisely 170 cm tall).

How precise must our expressions be for communication to be successful? Consider the following passage from Wittgenstein. He asks us to take into account the conversation's purpose and shake off any ill-advised longings for the ideal of exactness:

Now, if I tell someone: "You should come to dinner more punctually; you know it begins at one o'clock exactly" — is there really no question of exactness here? After all, one can say: "Think of the determination of time in the laboratory or the observatory; there you see what 'exactness' means" "Inexact" is really a reproach, and "exact" is praise. And that is to say that what is inexact attains its goal less perfectly than does what is more exact. So it all depends on what we call "the goal". Is it inexact when I don't give our distance from the sun to the nearest metre, or tell a

---

9   This has also been shown formally. See Lipman (2009, 2000).

joiner the width of a table to the nearest thousandth of a millimetre? No single ideal of exactness has been envisaged [...]. (Wittgenstein, 1953/2009, p. 88)

Wittgenstein's point is that the goal of perfect precision is not a generally reasonable one. There is no sense in which someone is completely punctual. But also for most other scales there is usually a certain point from which onward precise measurement becomes increasingly difficult or outright impossible, such as the measurement of position and momentum of particles due Heisenberg's Uncertainty Principle. As a consequence, it is futile to strive for absolute precision in many cases.[10]

As Charles Peirce is supposed to have said, "vagueness is no more to be done away with in the world of logic than friction in mechanics."[11] Accordingly, the purpose of most conversations can be furthered by using vague terms. Conversations demand different "ideals of exactness" depending on their purpose. What counts as perfectly precise in one conversation, is unacceptably vague in another.

Just as with Parikh's claim about communicating successfully with vague language, there is nothing to say against this claim. It is as convincing as modest. Communication would obviously be hindered by always telling the time exactly to the nanosecond. Doing it would achieve nothing. Indeed, it would violate the conversational maxims of quantity and relation to always telling the time exactly to the nanosecond or to describe the blueness of a book in terms of its wavelength. Even though a message informing about the exact time would be more precise, it would also be more informative than required and, as a result, less relevant for the purposes of the conversation. There are some contexts in which the highest possible precision is pursued, as in science or logic. But the standard of precision is adjustable. It depends on the object and purpose of the conversation. As such, in virtually all contexts of ordinary conversation it is significantly lower. More importantly, the fact that we usually do not — and should not — tell the time to the nanosecond or describe colours by their wavelength spectrum does not entail that there is value in the vagueness of vague language.

3.2 The argument from stability

Some have seen in an argument by Manfred Pinkal (1995) evidence for the claim that vagueness is valuable. He argues that a coarse-grained degree of granularity can facilitate stability in judgement. Perhaps this means that also vagueness (due to the fuzziness in the terms' extension and the lack of (sharp) boundaries) can

---

10 This is in part due to the imperfection of measurement. At least for continuous scales like time one can add always another decimal place — exacting ever more precise measurement. Cf. Swinburne (1969, p. 288).
11 Cited in McNeill and Freiberger (1993, p. 136).

facilitate stability in judgement. Let us have a look at his argument and the concept of granularity.

Granularity is the concept of breaking down a description into smaller parts (or granules). A coarse-grained description contains only a few parts and is thus less informative than a more fine-grained one. For instance, one can describe someone by saying that she is a person (coarse-grained description) or by saying that she is a self-confident, 190-cm tall, and brown-haired Polish citizen (more fine-grained description). Most parts in the descriptions can be decomposed further into finer levels of granularity, for example, that the person's hair is long, thick, and parted on the left.

Now, if we were to describe someone by her precise height measured to the tenth decimal place, the description would need to be adjusted on a regular basis. The same is true if we describe her by the number of hairs on her head. Otherwise, it would not fit the subject who is slightly changing in height and number of hairs every day. Because we cannot simply perceive the height of a person or the number of hairs exactly how they are, it is better to be less precise.

Consider the following two utterances:

(E1)   "Anna is tall."
(E2)   "Anna has a height of 190cm."

The utterance in (E1) is vague. However, if used as an answer to the question of how tall Anna is, the utterance in (E2) normally does not convey something precise either but rather that Anna has a height of 190 cm plus or minus a few nanometres or millimetres. If the degree of granularity is sufficiently coarse-grained, (E2) could even communicate that Anna has a height of 190 cm plus or minus a few centimetres. Strikingly, the expressions used in (E2) are perfectly precise. What is vague is the implicit content.[12] This is what has been called pragmatic vagueness.[13] Thus, it is better to utter the vague utterance in (E1) or at least the pragmatically vague one in (E2) instead of the precise utterance in

(E3)   "Anna has a height of 191.02 cm."

For pragmatic reasons, a more coarse-grained degree of granularity is typically not possible for (E3). The judgements expressed by (E1) and (E2) are more stable because they are not susceptible to such small changes. It seems that vagueness facilitates this stability in judgement.[14]

---

12   I use the notion of implicit content as Bach (1994) introduced it.
13   See, for example, Endicott (2000, pp. 50–53).
14   For instance, de Jaegher and van Rooij (2011) or Kluck (2014) explicitly claim this.

We can now try to explicate the *argument from stability*:

(1)   Stability in judgement is desirable.
(2)   The lack of (sharp) boundaries is a suitable means to achieve stability in judgement.
(3)   If the lack of (sharp) boundaries is a suitable causal means to bring about something desirable, then vagueness has instrumental value.
(4)   **Thus:** Vagueness has instrumental value.

At first glance, this looks like a promising candidate of an argument to establish the value of vagueness. Unfortunately, however, a coarse-grained degree of granularity is not identical to a lack of (sharp) boundaries. Stability is primarily facilitated by the generality of the expressions used.

However, generality must be differentiated from vagueness, as pointed out in section 2.2. A higher generality entails that the utterance is true in more (possible) states of affairs. The utterances in (E1), (E2), and (E3) will all be accepted as true (or appropriate) if Anna has a height of 191.02 cm. The utterances in (E1) and (E2) will, however, also be accepted as true (or appropriate) if Anna has a height of 190.98 cm. In contrast, if the speaker utters (E3), she can be reasonably criticized if Anna's height differs even by a millimetre from 191.02 cm. The lack of (sharp) boundaries is not what makes such less than fully precise utterances useful. It is their generality. Thus, Pinkal does not establish anything about the value of vagueness when he argues that sometimes a more coarse-grained degree of granularity is useful. He establishes that generality can be valuable.

3.3 The argument from perception

It has also been argued that vagueness is useful because it adequately represents our perceptual experience.[15] The unclarity caused by vagueness is, so the argument goes, a perfectly accurate reflection of the vague language's object. Friedrich Waismann (1965, p. 210) illustrates this claim with the example of rain:

The picture of the rain I see is blurred. [...] I could not say of any exact description — e.g. for a description mentioning an exact number of raindrops — that it describes my experience exactly.

Waismann's argument can be reconstructed as the *argument from perception* in the following way:

(1)   It is desirable to adequately represent our perception.
(2)   Our perception is blurred.

---

15   See, for example, Russell (1923), Wittgenstein (1953/2009), or Waismann (1965) for this claim.

(3)   Vagueness is a suitable (or maybe even indispensable) causal means to adequately represent blurred perception.

(4)   If vagueness is a suitable (or maybe even indispensable) causal means to bring about something desirable, then vagueness has instrumental value.

(5)   **Thus:** Vagueness has instrumental value.

Due to our blurred perception of the world a vague language is more useful than a precise one because the former corresponds to our experience, whereas the latter simply misses the point.

Wittgenstein makes a similar argument:

The moment we try to apply exact concepts of measurement to immediate experience, we come up against a peculiar vagueness in this experience. But that only means a vagueness relative to these concepts of measurement. And, now, it seems to me that this vagueness isn't something provisional, to be eliminated later on by more precise knowledge, but that this is a characteristic logical peculiarity. If, e.g., I say: 'I can now see a red circle on a blue ground and remember seeing one a few minutes ago that was the same size or perhaps a little smaller and a little lighter,' then this experience cannot be described more precisely. (Phil. Remarks, p. 263)

But the argument continues:

Admittedly the words "rough," "approximate" etc. have only a relative sense, but they are still needed and they characterise the nature of our experience; not as rough or vague in itself, but still as rough and vague in relation to our techniques of representation. This is all connected with the problem "How many grains of sand make a heap?" (ibid.)

Inga Bones (2020, p. 7) thinks that "what Wittgenstein is getting at […] is that *compared to more sophisticated means of measurement and representation —* such as, for example, spectroscopic analysis — the nature of our experience is rough, and this roughness is reflected in the vagueness or 'fuzziness' of the expressions of ordinary language." However, it is worthwhile to look closer at what is going on when we use vague language to describe our "fuzzy" or "blurred" experiences. We may have a blurred picture of the rain (or of a red circle), and there is certainly not a number of raindrops that we directly perceive. However, even if we grant for the sake of the argument that there is no more exact description of our experience (which I doubt), the fuzziness involved is not the right kind of fuzziness that relates to vagueness in the philosophical sense. There may be unclarity about the number of raindrops, about their size, and about other aspects of the weather conditions, but what we see is clearly rain.

There seems to be an ambiguity and confusion about the term "fuzziness". Vagueness concerns fuzziness *in the extension* of the term "rain"; it does not concern the fuzziness Waismann and Wittgenstein talk about. The phenomenon that we perceive may more or less clearly qualify as rain, but this does not depend on

any fuzziness in our perception. It depends on the fuzziness in the term's extension — on there being borderline cases and maybe on the boundarylessness and Sorites susceptibility of the term. Evidently, borderline cases, boundarylessness, and Sorites susceptibility can be there when perception is rather exact; we can count the number of sand grains; and we may even know everything there is to know about a particular arrangement of grains and it might still turn out to be a borderline case of "heap."[16] Conversely, our perception can be blurred, while at the same time the term clearly applies to the phenomenon experienced — something that quite generally is the case when we use terms such as "rain" to clearly refer to the rainfall that we perceive more or less blurredly.

3.4 The argument from memory

Perhaps we adequately represent our perceptual experience due to the generality and broadness — and not the lack of (sharp) boundaries — of language. But our cognitive limitations with respect to memory do seem to require the use of vague language: vagueness is useful because it suits the way we store and retrieve information — it suits the way our memory works.[17] Consider the following scenario by van Deemter (2010, p. 263):

> Suppose I told you that 324,542 people perished in some cataclysmic earthquake. For a while, you might remember the exact death toll. In the longer term, however, details are likely to be corrupted (if you remember the wrong number) or lost: the next day, you may only recall that the victims numbered in their hundreds of thousands; a year later, you may only remember that there were many.

Van Deemter concludes that human memory retains only the gist of information due to evolutionary economization of memory space. At first glance, this really seems like a promising argument to establish the value of vagueness. And, indeed, something seems to draw (most of) us to vague terms such as "many" when our memory is fading. What is it about "many" that we tend to prefer it to other comparatively easily truth-assessable but perfectly precise expressions?

It seems that two cognitive mechanisms described by Alan Baddeley (2007) support van Deemter's conclusion. First, there is *semantic coding* by which only the meaning of an expression is retained, whereas the expression itself is forgotten. Second, there is *chunking* by which a handful of items are clustered together as a unit. Chunking is clearly connected to generality. We lump together specific information into general "chunks." This is perhaps what is also going on in the case of perception. If details are corrupted or lost, one can choose a more general

---

16   As an anonymous reviewer pointed out to me, this is very much at the core of the arguments concerning inexact knowledge by Williamson (1992, 1994).
17   See Waismann (1953/1978), van Deemter (2010), Kluck (2010), or Kluck (2014) for this claim.

expression instead of a more specific one. Even if you cannot remember whether there are hundreds or merely tens of thousands people, you are usually still able to say whether there are more than 1,000 (or more than 10,000, etc.).

Semantic coding, however, could be the source of vagueness. Maybe we really think "vaguely." Maybe, it is easier for our memory to retain a fuzzy image than a clear-cut one. Let us assume for the sake of the argument that this is the case. Then we can explicate the *argument from memory*:

(1)   It is desirable to effectively memorize and remember information.
(2)   Semantic coding is a suitable causal means to effectively memorize and remember information.
(3)   Vagueness is a necessary consequence of semantic coding.
(4)   If vagueness is a necessary consequence of some suitable causal means to something desirable, then vagueness has instrumental value.
(5)   **Thus:** Vagueness has instrumental value.

Maybe our brains are such that we cannot but think and speak vaguely. Maybe vagueness is a necessary feature of human thought and language. If one does not have sufficient information and wants to be truthful, one must be less precise than generally desirable. But the reason is not that the lack of (sharp) boundaries helps one to stay truthful or to effectively memorize and remember information. Chunking and semantic coding facilitate this, and vagueness may be a necessary consequence of these mechanisms.

However, it is not enough that the vagueness of vague terms is a necessary consequence of their other (actually valuable) properties for it to be valuable. As Hrafn Asgeirsson (2015, p. 426) argued, "value only 'transmits' from ends to means but not to necessary consequences of those means." That is, whereas semantic coding facilitated by a vague and general term may be valuable in virtue of being a means to effectively memorize and remember information, its vagueness (even though it might be a necessary consequence of semantic coding) is not. The argument goes through only if we assume an extremely diminished sense of value because only then premise (4) can be upheld.

3.5 The argument from metaphysics

Something very similar can be said for another argument that might be made for the value of vagueness. Because the world is fuzzy and we want to correctly and adequately represent the world, we should use vague language.

(1)   It is desirable to correctly and adequately represent the world.
(2)   The world is fuzzy.

(3)   Vagueness is an indispensable causal means to correctly and adequately represent a fuzzy world.

(4)   If vagueness is an indispensable causal means to something desirable, then vagueness has instrumental value.

(5)   **Thus:** Vagueness has instrumental value.

Premise (2) is, of course, highly controversial. But even if we would accept such an ontology, the argument would still run into the same difficulties as the *argument from memory* and the *argument from perception*. There is an underlying ambiguity of "fuzzy" that makes the arguments invalid. The fuzziness induced by vagueness is simply not the same as the (assumed) fuzziness in perception, memory, or the world. Vagueness is not concerned with fuzziness in the object, but with fuzziness in the extension of the term.

A term such as "mountain" is vague because it is susceptible to the Sorites paradox and there are (possible) borderline cases of mountains. It, so to speak, fuzzily refers to some objects. The term can, however, also be used to (clearly) refer to fuzzy things in the world. When referring to the mountain Zugspitze with the phrase "this mountain", we do not care whether the mountain begins at the camp at an altitude of 1,000 meter, at the tree line at 2,000 meter, or anywhere in between. But this fuzziness in the objects themselves has nothing to do with the fact that there are borderline cases of mountains in the world.

In order to maintain premise (3), one would have to say that the world is fuzzy not because there are fuzzy objects in it, but because there are things in it that we fuzzily refer to with our vague language. Then, however, the argument begs the question because the world cannot be considered fuzzy without reference to our already existing vague concepts: Vague concepts are needed to correctly and adequately represent a world that is fuzzily divided by these concepts.

3.6 The argument from learning

Some philosophers have hinted at the possibility that vagueness could improve the learning of language. Maybe it is easier to learn vague terms than to learn precise ones? In fact, children first learn vague expressions and only later more difficult precise ones such as number words and mathematical operators. In general, children learn expressions by reference to prototypes.[18] They learn the expression "red" by reference to fire trucks, roses, and sunsets. They do not care about boundaries between red things and non-red things.

Nora Kluck (2014) claims that vagueness plays the central role in the learning strategy of overgeneralization. Consider a child who does not yet know the

---

18   See, for example, Rosch (1973) and Rosch et al. (1976).

correct expression for some object. She could either remain silent, thus giving away even the chance to be understood; or, alternatively, she could overgeneralize making herself at least potentially understood. Kluck claims that vagueness facilitates overgeneralization because it allows the child to *freely move* within the borderline area. She can use a term that only borderline applies if she does not know a better term which would clearly apply. Thus, she argues, overgeneralization is a communicative strategy in language learning relying on the use of vagueness. And this means that vagueness has a value. Let us explicate the *argument from learning* in this way:

(1) Borderline cases help children to learn language due to overgeneralization.
(2) If borderline cases help children to learn language due to overgeneralization, then vagueness has instrumental value.
(3) **Thus:** Vagueness has instrumental value.

Unfortunately, premise (1) is highly questionable. Children primarily overgeneralize in clear cases of non-application. Vagueness is neither conceptually dependent on the phenomenon of overgeneralization nor empirically correlated. Whereas overgeneralization might make it slightly easier for children to learn certain terms, borderline cases do not play any role here because children can overgeneralize by applying expressions to cases to which they clearly do not apply. That is the point of overgeneralization.

More strikingly, the value of overgeneralization is highest when the child's audience can figure out that she wanted to clearly apply the expression — despite it semantically not clearly or even clearly not applying. Borderline cases here are least disadvantageous when their main effect is mitigated; they are not disadvantageous when we can figure out that the term is intended to apply even though it is in fact (semantically) a borderline case. Hence, also the *argument from learning* fails to show that vagueness has instrumental value.

3.7 The argument from cognitive costs

Maybe overgeneralization does not require vagueness but somehow vagueness makes our language processing easier, does it not? There is reason to believe that vague messages can be processed more easily than precise ones and, for that reason, cause less cognitive costs. It is arguably easier to pronounce the term "many people" than "324,542 people." It is arguably also easier to hold the thought in mind and to learn the term. Examples such as this one are often used in an attempt to demonstrate that vagueness is valuable because it makes it easier for us to use language. Let us explicate the *argument from cognitive costs* as follows:

(1)   Vague language is (cognitively) easier to process than precise language.
(2)   If vague language is (cognitively) easier to process than precise language, then vagueness has instrumental value.
(3)   **Thus:** Vagueness has instrumental value.

Premise (1) is uncontroversial: most people have a harder time to process mathematical equations than statements about tall people or blue books. But can we really infer from this that it is vagueness that makes it (cognitively) easier to process these utterances?

It appears that we generally use language according to some form of the minimax principle, that is, we are as unclear and inarticulate as possible in order not to waste energy, while at the same time as clear and articulate as necessary in order to still get the message across. Hence, the goal of avoiding unclarity has to be balanced with the goal of not wasting energy. This principle is a reformulation of the so-called false Zipf's law.[19] If that is true, any formal proof for the value of vagueness based on cognitive costs becomes trivial. The agents' expected utility increases simply because costs decrease.[20]

As Manfred Krifka (2009) points out, it is often beneficial for both speaker and listener to use descriptions of the world at a more coarse-grained degree of granularity. It is both linguistically and cognitively easier to process the utterances in

(E1)   "Anna is tall."

and

(E2)   "Anna has a height of 190 cm."

than the utterance in

(E3)   "Anna has a height of 191.02 cm."

Cognitive costs seem to rise with degree of granularity. A coarse-grained degree of granularity allows for loose interpretation even of precise terms. In general, the more fine-grained the degree of granularity, the less pragmatically vague the utterance can be interpreted. If the speaker uses several decimal places, there is no room for the hearer to interpret her utterance loosely. The reason is the

---

19   It is not to be confused with Zipf's law in mathematical statistics. Cf. Zipf (1949).
20   In the classical model by Spence (1974), sending a message is costly by itself and one could increase the costs for precise messages by stipulation.

conversational maxim of quantity: the speaker would not have added the informa-
tion if it were not required.

Conversely, the lack of decimal places indicates (in combination with other fac-
tors) that a few minutes more or less do not matter. This allows for pragmatic vague-
ness. However, the use of less precise terms and loose interpretation do not imply
that it is the vagueness of the less precise terms that accounts for less cognitive costs
when processing them. An imprecise term such as "tall" is not only vague but also
general; that is, "tall" has a larger extension than "a height of 191.02cm." A more
coarse-grained degree of granularity allows thus for more generality — a property of
language which clearly does make information processing easier (and also helps, as
we noted, to adequately represent our inexact perceptual experiences and memories).

Whereas it might be both informationally and economically best to use a vague
term, its vagueness does not become actual in most situations. Importantly, any
gains in processing vague terms are lost when actually confronted with borderline
cases. Then we have to think twice about what could have been meant by the
vague utterance. That is why vague terms are usually not used when confronted
with borderline cases; it would hinder the purposes of communication. Rather,
they are used to apply to clear cases. It might thus be the case that the costs of
using precise terms outweigh the expected costs of vague ones because the likeli-
hood of actually encountering borderline cases is negligible. The risk of running
into borderline cases is merely tacitly assumed.

Moreover, it is not entirely clear whether vagueness reduces cognitive costs
even in clear cases. The experiments by Green and van Deemter (2011, p. 5) do,
according to the authors' own conclusion, "more to cast doubt on the cost reduc-
tion hypothesis than to confirm it." They think that other linguistic properties of
vague terms are actually effective in reducing the cognitive costs. Consider again
replacing the term "many" with the expression "more than 1,000" when reacting
to van Deemter's earthquake scenario. What is done by replacing "324,542 people"
with "more than 1,000" is pruning away details, which may not be available any-
more (due to a fading memory) or which may simply be irrelevant. The same effect
is present when going from "324,542 people" to "many." The vague term "many"
is not only more general than the precise "324,542 people," it is also shorter, gram-
matically less complex, and devoid of mathematical concepts. These properties
alone explain why "many" is cognitively less costly than "324,542 people."

More recent and impressively careful experiments by the same authors seem to
replicate these results. Although Green and van Deemter (2019, p. 83) found that
instructions containing vague words tended to be processed more rapidly and
more reliably by hearers than their precise equivalents, they could not rule out
that "the observed benefits of vague expressions may be due to factors other than
vagueness: factors like avoiding numbers, permitting comparison tasks, and range

reduction" as well as granularity and the use of evaluative terms.[21] Green and van Deemter (2019, p. 84) conclude that in most situations it seems to be "relatively unimportant whether a given expression is vague" or not.

Although it arguably is cost-efficient to use vague terms, it is doubtful that their vagueness is the reason for it. A reduction in cognitive costs with vague terms cannot by itself show that vagueness is valuable, that is, that borderline cases, Sorites susceptibility, or the lack of (sharp) boundaries are effective. Again, it seems that vagueness is only a side effect of other actually valuable — in this case, cognitive cost reducing — properties of vague terms. That is why premise (2) is not warranted — at least not without further evidence.

3.8 The argument from measurement

It is (surprisingly often) argued that vagueness is valuable because precision is inefficient. In particular, it is said that the use of precise terms requires unnecessary and inefficient measurement.[22] Vagueness, in contrast, makes ordinary language expressions fit for everyday use. Without vagueness we would have to measure all day long the number of grains, the height of people, and the wavelength of light when all we want is to talk about heaps, tall people, and blue books. The argument can be reconstructed as follows:

(1)   The use of precise language requires unnecessary and inefficient measurement.
(2)   If the use of vague language prevents unnecessary and inefficient measurement, then vagueness has instrumental value.
(3)   **Thus:** Vagueness has instrumental value.

Let us assume for the sake of the argument that premise (2) be true and let us focus on premise (1). It certainly would be inefficient to measure the number of grains each time we want to determine whether some arrangement of grains is a heap. But does the use of precise language really *require* measurement?

It does not. It is perfectly conceivable to have a completely precise language without the need of any additional measurement. The replacement of the vague term "blue" with the precise term "blue*," the extension of which is determined by an exact range in the wavelength spectrum would not require any new measurements. Most of the time we use language such that it clearly applies. For that reason, no measurement is necessary because we do not come sufficiently close

---

21   See also Green and van Deemter (2013, p. 5). Cf. Kennedy (2011) for the relation between vagueness and comparisons.
22   See, for instance, Kluck (2014). Cf. also the *Arguments from Perception*, *Memory* and *Cognitive Costs*.

to the vicinity of the (sharp) boundary — independently of the term's vagueness or precision. Hence, we can most of time use the precise term "blue*" just as we use our ordinary language expression "blue".

On one hand, it is correct that measurement is necessary if the case at hand is close to the sharp boundary of a precise term and we want to be certain about its application to it. On the other, if the case is close to the fuzzy boundary of a vague term, we are necessarily ignorant about its application. Both precision and vagueness thus result in ignorance if we are close to the boundary of the term's extension. But precision has the additional advantage that ignorance can be resolved by measurement. Precision does not require measurement but makes it possible. Thus, premise (1) has to be rejected.

Gottlob Frege's *analogy of the hand* is sometimes cited as support for a variant of the *argument from measurement*:

The [...] shortcomings result from a certain softness and changeability of language which [..] is a precondition of its viability and versatility. In this respect, language can be compared to the hand which, despite its ability to adapt itself to most diverse tasks, does not suffice. We created artificial hands, tools for special purposes which work in such precision in which the hand could not. And by what is this precision facilitated? Exactly by the rigidness, the parts' unchangeability, the lack of which makes the hand so versatilely skilled.[23]

Natural language is "soft "and "changeable." It is multifunctional just like the human hand. In contrast, tools such as screwdrivers are rigid. They can only be used for particular purposes — and the same is true for the tools of formal logic. The precision of screwdrivers and formal logic is facilitated by their rigidity. Supposedly, the multifunctionality of natural language is based on its vagueness because it is precision that makes formal logic so useful for its purpose. However, this is a non sequitur. Let me show why.

Frege's analogy — understood in this way — can be reconstructed as the following argument:

(1)   Formal languages are useful because of their precision.
(2)   If formal languages are useful because of their precision, natural language must be useful because of its lack of precision.
(3)   **Thus:** Natural language is useful because of its vagueness.

---

23   Translated from Frege (1882, p. 52): "Die [...] Mängel haben ihren Grund in einer gewissen Weichheit und Veränderlichkeit der Sprache, die [...] Bedingung ihrer Entwicklungsfähigkeit und vielseitigen Tauglichkeit ist. Die Sprache kann in dieser Hinsicht mit der Hand verglichen werden, die uns trotz ihrer Fähigkeit, sich den verschiedensten Aufgaben anzupassen, nicht genügt. Wir schaffen uns künstliche Hände, Werkzeuge für besondere Zwecke, die so genau arbeiten, wie die Hand es nicht vermöchte. Und wodurch wird diese Genauigkeit möglich? Durch eben die Starrheit, die Unveränderlichkeit der Teile, deren Mangel die Hand so vielseitig geschickt macht."

Frege's analogy does not aim at the vagueness of natural language, and it is difficult to see how Frege himself could have understood it in this way. His analogy applies to other properties of natural language, which happens to contain lots of vague terms. Natural language is certainly multifunctional due to its generality, polysemy, and various pragmatic features. We can use the same terms for different purposes because they are polysemous. We can use the same terms to express different contents because we make implicature and implicitures. We use metaphors and irony to convey virtually any imaginable content with the same limited number of symbols. Has vagueness anything to do with this? It is at least highly doubtful that Frege thought it did.

Frege was right to claim that the exactness of formal languages stems from their precision. Premise (1) is arguably correct. Also, premise (2) seems warranted. Frege's analogy suggests that formal and natural languages have complementary functions. Formal language is useful because it is precise. Natural language is useful because it is multifunctional. However, there is no explanatory link between the effects of precision in formal languages and the effects of vagueness in natural language. Lack of precision does entail much more than vagueness. It certainly does not entail that the adaptability and efficiency of natural language stems from borderline cases, Sorites susceptibility, or the lack of (sharp) boundaries.[24] To draw the conclusion (3), an additional premise is needed. We would need the premise that the usefulness of imprecision entails the usefulness of vagueness — a premise that is untenable.

3.9 The argument from adaptability
A common argument for the value of vagueness is that it makes language more flexible and adaptable. In particular, it has been argued that the gradual widening of a term's extension along a Sorites series over time, and by a significant group of speakers can facilitate a change in meaning that satisfies the communicative needs of a language community. We can reformulate it in the following way:

(1)   Sorites susceptibility makes language more adaptable.
(2)   If Sorites susceptibility makes language more adaptable, then vagueness has instrumental value.
(3)   **Thus:** Vagueness has instrumental value.

---

24   Although it is true that vagueness correlates with context sensitivity and precision correlates with context insensitivity, there is no necessary connection. It is conceivable, as Åkerman and Greenough (2010) show, that vague terms are completely context insensitive and equally conceivable that precise terms are context sensitive.

This argument can be traced back to Waismann (1945) and his discussion of open texture, which was subsequently adopted by many legal scholars to show that the same (legal) terms can be used in varying circumstances and with flexible and adaptable meanings.[25] The law needs to be adaptable and the open texture (or vagueness) of its language facilitates this, the arguments goes.

Also, Renate Bartsch seems at first glance to support the *argument from adaptability*:

Semantic norms carry the possibility of change with them. Because of this, we can adjust our language to change in our physical and social world. If vagueness and context-dependence of meanings were not part of the meanings of words, language would be a less efficient means of communication [...]. (Bartsch, 1984, p. 372)

Bartsch claims that vagueness and context-dependence of meaning make language more efficient by facilitating semantic change. Gradual change in meaning allows us to adjust our language efficiently in a changing and complex world. Kluck (2014) argues, based on Bartsch's claim, that vagueness facilitates adaptability of language. Kluck considers the gradual changes underlying the Sorites susceptibility of vague terms as evidence for premise (1). Indeed, meaning does change gradually, and this is the reason why we can create Sorites series from an old meaning to a new one. But does this entail that it is the Sorites susceptibility which facilitates the change?

On closer examination, also the *argument from adaptability* fails. Bartsch actually attributes the possibility of change to polysemy and other forms of context relativity, explicitly denying any role of vagueness in the philosophical sense:

Vagueness due to gradualness does, to my knowledge, not play a role in semantic change, while vagueness due to contextual indeterminateness of a relative term can give rise to metonymic relationships in the structure of meaning [...]. (Bartsch, 1984, p. 374)

Whereas it could still be possible that vagueness plays some role, other properties of language are clearly efficient to facilitate long-term adaptability — as, for instance, the figurative use of words and their context relativity. We can metaphorically use a term consistently in the same way until its metaphorical meaning becomes part of the lexical meaning of the then polysemous term.[26]

For some reason, it seems to be particularly difficult to keep vagueness and standard relativity apart. Even van Deemter, who writes on the value of vagueness with matchless accurateness, seems to oscillate between both phenomena. He is

---

25   See, for example, Bix (1991). Cf. also Lanius (2019, pp. 37–38).
26   In a similar way fails an argument by Barwise and Perry (1983) for the value of vagueness, who conflated standard relativity with vagueness. This is discussed by Green and van Deemter (2019, p. 65).

quite explicit about his intention to talk about vague terms in the philosophical sense that they "allow borderline cases." Nevertheless, he then asks why people make "such frequent use of words whose meaning is difficult to pin down" and why it is that "their meaning varies so much from one context to the next" (van Deemter, 2010, p. 2). The first question points to polysemy (a term's property of having multiple semantically related meanings), whereas the second aims toward standard relativity or context sensitivity more generally. Van Deemter also describes vagueness and context sensitivity as two sides of the same coin, arguing that terms such as "indecent" or "vehicle" are vague "because context affects the interpretation of these words in ways that are impossible to foresee: their precisification depends on who is it that does the precisifying" (van Deemter, 2010, p. 269).

Context, of course, affects the interpretation of vague words. But what exactly is its relation to borderline cases, Sorites susceptibility, or the lack of (sharp) boundaries? Surely, vague terms can be precisified differently by different persons in different contexts. But before they can precisify them, they need to determine a context of application. This requires them to settle on a particular meaning, sense, or standard of "indecent," "tall," "blue," or "many." The impossibility to foresee in which ways context affects the interpretation of these terms stems from their property of being context sensitive — not from their vagueness.

As long as it cannot be shown how *vagueness* can help to achieve any of these features of language, premise (1) is unwarranted. There is no positive argument for the claim that Sorites susceptibility or the lack of (sharp) boundaries allow for gradual change in meaning. Nor is there any reason to believe that it is vagueness (and not polysemy, standard relativity, or the possibility of figurative speech) that allows the desired flexibility in the application of vague terms. Hence, neither Sorites susceptibility nor the lack of (sharp) boundaries entail that vagueness plays an interesting role in facilitating the impressive flexibility and adaptability of language that we set out to explain.

4. Preliminary Conclusions

We have gathered nine arguments for the value of vagueness that can be found in or reconstructed from the literature. Unfortunately, it seems that they have a number of recurring problems. Let us sum up.

Some arguments fail due to a kind of equivocation. They conflate the boundarylessness of vague terms with the (presumed) fuzziness of the (perception of the) world (as in the *argument from perception* and the *argument from metaphysics*). However, there is no relation between the fuzziness of a cloud or of our

perception of the rain on the one hand and the vagueness of the terms "cloud" and "rain" on the other hand. A cloud does not end at any particular point, and there are water droplets that neither clearly belong to the cloud nor clearly do not belong to it. But the boundarylessness of the vague term "cloud" is fundamentally different, as it can clearly apply to any such object, while still entailing that there are some objects in the sky that are neither clearly clouds nor clearly not clouds. In fact, the term "cloud" could be perfectly precise while still adequately and coherently referring to fuzzy objects.

Another problem is that in many cases there is simply no way around vagueness. Sometimes (as in the *argument from communicative success* and the *argument from perception*) it is close to impossible to find a fitting precise description that could be substituted for the vague one (e.g., when talking about the rain). In other cases, vagueness might theoretically be avoidable, but there is no sufficient practical reason to actually do it (as in the *argument from cognitive costs*). The costs of vagueness may not be high enough. In many situations, the vagueness of vague terms does not become a problem because there are no borderline cases and no risk of running into Sorites series. In other words, the vague terms are only potentially vague (there are possible borderline cases) but not actually vague (there is no borderline case in the given situation). If this is (likely to be) the case, there is no reason not to use vague terms (even though there is no positive reason to use them for their vagueness either).

There is yet another more serious and pervasive problem that inheres in most arguments for the value of vagueness. Vague terms always have several properties besides their vagueness. The problem is that in virtually all cases these properties clearly are better candidates for suitable means to desirable ends than vagueness, whereas there is no evidence that vagueness (in any viable sense) is suitable to produce the desired effects (as in the *argument from stability*, the *argument from metaphysics*, the *argument from learning*, the *argument from memory*, the *argument from cognitive costs*, the *argument from measurement*, and the *argument from adaptability*). Thus, even when vagueness is detrimental, there can still be sufficient reason to use vague terms if the expected benefits of some other property of the vague terms outweigh the negative expected utility of encountering borderline cases and Sorites series.

The ingenious experiments by Green and van Deemter indicate a number of these properties such as the possibility to avoid mathematical terms, which are generally more difficult to process. Also, other forms of indeterminacy have a number of effects that are falsely attributed to vagueness in these arguments. Consider the term "many" again. As pointed out above, it is not only vague but also more general than the original "324,542." Moreover, it is relative to a contextually valued

standard and can thus vary in its extension in a way "324,542" or "more than 1,000" cannot. Nor do these precise expressions lean themselves toward figurative or other pragmatic uses as do terms such as "many." Furthermore, if a speaker says that the number of perished people in an earthquake is "many," she might not only say something about the earthquake but also give a value judgement. She provides information about her values and assessment of the state of affairs.[27] As Frank Veltman put it, the speaker adds an opinion.[28] She can pragmatically imply that the number is high relative to other contexts that she considers comparable. The audience can learn something about the speaker herself from her uttering "many" — something they could not learn from her uttering "more than 1,000" or "324,542."

We can thus identify three underlying problems with the nine arguments for the value of vagueness discussed here. First, some of them equivocate two distinct forms of fuzziness. Second, some of them use an impoverished understanding of value, assuming vagueness to be valuable if it is unavoidable or not detrimental. Third, some of them conflate vagueness with other properties of vague terms such as generality or context sensitivity that are valuable in a more robust sense. It seems to me that none of the nine arguments ultimately survives these problems.[29] Do we have to conclude that there simply is no value of vagueness?

5. The Argument from Strategic Fallacy

If we do allow for something to have value if it is a suitable means to an end that is desirable for *someone*, then another argument can be made. There may be somewhat sinister functions for vagueness that have so far been overlooked in the literature entirely. It is possible that someone exploits the vagueness of vague terms in slippery slope arguments to make other people believe or do something that she desires. The argument is the following:

(1)   Someone desires to make other people φ.
(2)   Making a slippery slope argument by exploiting the Sorites susceptibility of vague terms is a suitable causal means to make other people φ.

---

27   Jucker et al. (2003) show, for instance, that imprecise speech acts better convey the speaker's attitude and inform also about her assumptions about the audience's beliefs in addition to what is said.
28   This is discussed by van Deemter (2010, pp. 266–267) and van Rooij (2011, pp. 129–130). Both refer to an inaugural lecture by Veltman (2002).
29   Also formal models have been developed by, for example, de Jaegher (2003), de Jaegher and van Rooij (2011), Franke et al. (2011), Douven (2019), and Correia and Franke (2019), in an attempt to show why vagueness is so ubiquitous in language despite its being apparently suboptimal. The results have been mixed. Some models employ a notion of vagueness that is closer to generality or context sensitivity. Those models that do not are much less conclusive in showing that there is value in using what the authors call "vagueness".

(3)   If making a slippery slope argument by exploiting the Sorites susceptibil-
        ity of vague terms is a suitable causal means to bring about what some-
        one desires, then vagueness has instrumental value.

(4)   **Thus:** Vagueness has instrumental value.

This, now, is a function that clearly relies on the Sorites susceptibility of vague
terms. Premise (1) is evidently unproblematic. Premise (2) may require an exam-
ple to be warranted. But it is easy to produce one: Just consider the argumenta-
tion by many opponents to what they call "political correctness." They argue that
if we were to restrict the freedom of speech, there will soon be a tyranny of politi-
cal correctness, which will prohibit even the most innocent expressions of opin-
ion. By doing so, they try to make other people stop criticizing them by
exploiting the Sorites susceptibility of the vague term "restriction to freedom of
speech." Does a criticism restrict the freedom of speech? Does a taboo? A moral
rule with strict social sanctions? A legal provision? Indeed, a Sorites series with a
corresponding slippery slope argument can easily be constructed — and often in
public debate such argumentations do have the desired effect.

   Finally, whereas premise (3) requires little from the concept of instrumental
value, it is not at all absurd — in contrast to the senses of "value" that were
required to make some of the other arguments work. Here, we need not assume
that vagueness has instrumental value simply due to its being an unavoidable side
effect of something desirable. The vagueness of the term has instrumental value
for the speaker because *it* helps to further her goal of manipulating other people.
This may be morally reprehensible, and certainly it is not a value in any objective
sense. Thus, although this might not be the function people have in mind when
claiming that vagueness is valuable, I take this to be the only "value" of vague-
ness that has (so far) been clearly shown.[30]

6. Summary

Unfortunately, the discussion of the arguments for the view that vagueness is
valuable has not yielded very promising results. Most arguments fail because
either they only show that vagueness is not necessarily bad, that it is simply
unavoidable, or that some feature of vague language other than its vagueness has

---

[30]   There are other (more or less similar) arguments for the strategic use of vagueness, which fail, how-
ever, for the same reasons as the nine arguments of the value of vagueness discussed here; they conflate
vagueness with generality or standard relativity or in some other way fail to show that it is the vagueness
of the vague terms that can be strategically used. See Lanius (2019) for a discussion of some of these
arguments with respect to the law as well as for a general argument why vagueness is unlikely to play
any strategic role in communication at all.

a value. Only the last argument for the value of vagueness as exploiting the Sorites susceptibility in slippery slope arguments appears conclusive. Although there seems to be some value of vagueness in the sense that it can strategically be exploited, it proved to be much harder to show a more objective value of vagueness. If we are interested in value in this stronger sense, we should better refrain from talking about "the value of vagueness" given that, at the moment, we do not have a sufficiently good grasp of what such a value of vagueness could be.

Acknowledgements

References

ÅKERMAN, J. and GREENOUGH, P. (2010) "Hold the Context Fixed, Vagueness Still Remains." In R. Dietz and S. Moruzzi (eds), *Cuts and Clouds: Vaguenesss, its Nature, and its Logic*, pp. 275–288. Oxford; New York: Oxford University Press.

ASGEIRSSON, H. (2015) "On the Instrumental Value of Vagueness in the Law." *Ethics* 125(2): 425–448.

ASGEIRSSON, H. (2020) *The Nature and Value of Vagueness in the Law.* Oxford: Hart Publishing.

BACH, K. (1994) "Conversational Impliciture." *Mind & Language* 9(2): 124–162. https://doi.org/10.1111/j.1468-0017.1994.tb00220.x.

BADDELEY, A. (2007) *Working Memory, Thought, and Action.* Oxford: Oxford University Press.

BARTSCH, R. (1984) "Norms, Tolerance, Lexical Change, and Context-Dependence of Meaning." *Journal of Pragmatics* 8(3): 367–393.

BARWISE, J. and PERRY, J. (1983) *Situations and Attitudes.* Cambridge, MA: MIT Press.

BIX, B. (1991) "H. L. A. Hart and the "Open Texture" of Language." *Law and Philosophy* 10: 51–72.

BLACK, M. (1937) "Vagueness: An Exercise in Logical Analysis." *Philosophy of Science* 4 (4): 427–455.

BONES, I. (2020) *How to Swim in Sinking Sands: The Sorites Paradox and the Nature and Logic of Vague Language.* Paderborn: Mentis.

CHOI, A. H. and TRIANTIS, G. G. (2010) "Strategic Vagueness in Contract Design: The Case of Corporate Acquisitions." *Yale Law Journal* 119: 848–924.

CORREIA, J. P. and FRANKE, M. (2019) "Towards an Ecology of Vagueness." In R. Dietz (ed.), *Vagueness and Rationality in Language Use and Cognition*, pp. 87–113. New York; Berlin: Springer.

DE JAEGHER, K. (2003) "A Game-Theoretic Rationale for Vagueness." *Linguistics & Philosophy* 26: 637–659.

DE JAEGHER, K. and VAN ROOIJ, R. (2011) "Strategic Vagueness, and Appropriate Contexts." In A. Benz, E. Christian, G. Jäger and R. van Rooij (eds), *Language, Games, and Evolution*, pp. 40–59. Trends in Current Research on Language and Game Theory. Berlin: Springer.

DOUVEN, I. (2019) "The Rationality of Vagueness." In R. Dietz (ed.), *Vagueness and Rationality in Language Use and Cognition*, pp. 115–134. New York; Berlin: Springer.

ENDICOTT, T. A. O. (2000) *Vagueness in Law*. Oxford: Oxford University Press.

ENDICOTT, T. A. O. (2005) "The Value of Vagueness." In V. K. Bhatia, J. Engberg, M. Gotti and D. Heller (eds), *Linguistic Insights*: *Vol*. yes. *Vagueness in Normative Texts*, pp. 27–48. Bern: Lang.

FRANKE, M., JÄGER, G., and VAN ROOIJ, R. (2011) "Vagueness, Signaling and Bounded Rationality." *Logic and Engineering of Natural Language Semantics* 7:41–55.

FREGE, G. (1882) "Über die wissenschaftliche Berechtigung einer Begriffsschrift." *Zeitschrift für Philosophie und philosophische Kritik* 81: 48–56.

GREEN, M. J. and VAN DEEMTER, K. (2011) "Vagueness as Cost Reduction: An Empirical Test." *Proceedings of the 'Production of Referring Expressions' Workshop at the Annual Meeting of the Cognitive Science Society*, Vol. 33, pp. 1–6. https://pre2011.uvt.nl/pdf/green_van_deemter_7_8.pdf.

GREEN, M. J., and van DEEMTER, K. (2013). "The Utility of Vagueness: Does It Lie Elsewhere?" *Proceedings of the 'Production of Referring Expressions' Workshop at the Annual Meeting of the Cognitive Science Society*, Vol. 35, pp. 1–5. https://pre2013.uvt.nl/pdf/green-vandeemter.pdf.

GREEN, M. J. and VAN DEEMTER, K. (2019) "The Elusive Benefits of Vagueness: Evidence from Experiments." In R. Dietz (ed.), *Vagueness and Rationality in Language Use and Cognition*, pp. 63–86. New York; Berlin: Springer.

GRICE, P. (1989) *Studies in the Way of Words*. Cambridge, MA: Harvard University Press.

HADFIELD, G. K. (1994) "Weighing the Value of Vagueness: An Economic Perspective on Precision in the Law." *California Law Review* 82(3), 541–554.

HEMPEL, C. G. (1939) "Vagueness and Logic." *Philosophy of Science* 6(2): 163–180.

JUCKER, A. H., SMITH, S. W., and LÜDGE, T. (2003) "Interactive Aspects of Vagueness in Conversation." *Journal of Pragmatics* 35: 1737–1769.

KEEFE, R. (2000) *Theories of Vagueness*. Cambridge: Cambridge University Press.

KENNEDY, C. (2011) "Vagueness and Comparison." In P. Égré and N. Klinedinst (eds), *Vagueness and Language Use*, pp. 73–97. Houndmills; Basingstoke; Hampshire; New York: Palgrave Macmillan.

KLUCK, N. (2010) "Some Notes on the Value of Vagueness in Everyday Communication." In E. Hüllermeier, R. Kruse and F. Hoffmann (eds), *Communication in Computer and Information Science. Information Processing and Management of Uncertainty in Knowledge-Based Systems. Applications*, pp. 344–349. Berlin, Heidelberg: Springer.

KLUCK, N. (2014) *Der Wert der Vagheit [The Value of Vagueness]*. Berlin; Boston: de Gruyter. https://doi.org/10.1515/9783110347791.

KRIFKA, M. (2009) "Approximate Interpretations of Number Words: Case for Strategic Communication." In E. W. Hinrichs and J. Nerbonne (eds), *Theory and Evidence in Semantics*, pp. 109–132. Stanford: CSLI Publications.

LANIUS, D. (2019) *Strategic Indeterminacy in the Law*. New York: Oxford University Press.

LIPMAN, B. L. (2000) In A. Rubinstein (ed.), Comments: Economics and Language. *Economics and Language*, pp. 114–123. New York: Cambridge University Press.

LIPMAN, B.L. (2009). *Why Is Language Vague?* Working Paper. Retrieved from Boston University website: http://people.bu.edu/blipman/Papers/vague5.pdf

MCNEILL, D. and FREIBERGER, P. (1993) *Fuzzy Logic*. New York: Simon & Schuster.

PARIKH, R. (1994) "Vagueness and Utility: The Semantics of Common Nouns." *Linguistics & Philosophy* 17(6): 521–535.

PEIRCE, C. S. (1960) "Pragmatism and Pragmaticism." In C. Hartshorne, P. Weiss and A. W. Burks (eds), *Collected Papers*. Cambridge, MA: Harvard University Press.

PINKAL, M. (1995) *Logic and Lexicon: The Semantics of the Indefinite*. Dordrecht: Springer.

QUINE, W. V. O. (1960) *Word and Object*. 24th ed. Cambridge, MA: MIT Press.

ROSCH, E. H. (1973) "Natural Categories." *Cognitive Psychology* 4(3): 328–350.

ROSCH, E. H., MERVIS, C. B., GRAY, W. D., JOHNSON, D. M., and BOYES-BRAEM, P. (1976) "Basic Objects in Natural Categories." *Cognitive Psychology* 8(3): 382–439.

RUSSELL, B. (1923) "Vagueness. *The Australasian Journal of Psychology and*." *Philosophy* 1 (2): 84–92.

SAINSBURY, R. M. (1997) "Concepts without Boundaries." In R. Keefe and P. Smith (eds), *Vagueness: A Reader*, pp. 251–264. Cambridge, MA: MIT Press.

SORENSEN, R.A. (1997). Vagueness. Retrieved from http://plato.stanford.edu/entries/vagueness/

SORENSEN, R. A. (2001) "Vagueness Has no Function in Law." *Legal Theory* 7(04): 387–417.

SPENCE, A. M. (1974) *Market Signaling: Information Transfer in Hiring and Related Processes*. Cambridge, MA: Harvard University Press.

STATON, J. K. and VANBERG, G. (2008) "The Value of Vagueness: Delegation, Defiance, and Judicial Opinions." *American Journal of Political Science* 52(3): 504–519.

SWINBURNE, R. G. (1969) "Vagueness, Inexactness, and Imprecision." *The British Journal for the Philosophy of Science* 19(4): 281–299.

VAN DEEMTER, K. (2009) "Utility and Language Generation: The Case of Vagueness." *Journal of Philosophical Logic* 38(6): 607–632.

VAN DEEMTER, K. (2010) "Not Exactly." *Praise of Vagueness*. Oxford: Oxford University Press.

VAN ROOIJ, R. (2011) "Vagueness and Linguistics." In G. Ronzitti (ed.), *Vagueness: A Guide*, pp. 123–170. Dordrecht: Springer.

VELTMAN, F. (2002) *Het Verschil Tussen "Vaag" en "Niet Precies" (the Difference between "Vague" and "Not Precise")*. Amsterdam: Vossiuspers.

WAISMANN, F. (1945) "Open Texture." *Proceedings of the Aristotelian Society, Supplementary Volumes* 19: 119–150.

WAISMANN, F. (1965) *The Principles of Linguistic Philosophy*. London: Macmillan.

WAISMANN, F. (1978) "Language Strata." In A. Flew (ed.), *First Series. Logic and Language*. Oxford: Basil Blackwell (Original work published 1953).

WILLIAMSON, T. (1992) "Inexact Knowledge." *Mind* 101(402): 217–242.

WILLIAMSON, T. (1994) *Vagueness*. London: Routledge.

WITTGENSTEIN, L. (2009) *Philosophical Investigations*. 4th ed. Chichester: Wiley-Blackwell (Original work published 1953).

WRIGHT, C. (1975) "On the Coherence of Vague Predicates." *Synthese* 30(3/4): 325–365.

WRIGHT, C. (1997) "Language-Mastery and the Sorites Paradox." In R. Keefe and P. Smith (eds), *Vagueness: A Reader*, pp. 151–173. Cambridge, MA: MIT Press (Original work published 1976).

ZIPF, G. K. (1949) *Human Behavior and the Principle of Least Effort: An Introduction to Human Ecology*. Cambridge, MA: Addison-Wesley Press.