A Wittgensteinian Look on Vagueness

Maksymilian Dabkowski

Brown University

Abstract

The philosopher treats a question; like an illness.

— Ludwig Wittgenstein, *Philosophical Investigations*, § 255

We first define vagueness and distinguish it from relativity and ambiguity. We then proceed to characterize the *sorites* or heap paradox and present its philosophical implications. The paradox can be summarized as follows: if removing one grain from a heap does not turn it into a non-heap, we can successively remove grains from a heap until we arrive at a one-grain (or zero-grain) heap. Hence, from apparently sensible premises and by apparently sensible reasoning at arrive at a strikingly absurd conclusion.

We then consider Williamson (1994)'s epistemic theory of vagueness, whose main postulate is that a sharp boundary between a heap and a non-heap exists, but we are ignorant of it. We reject the Williamson's epistemic theory on several grounds: it makes counterintuitive assumptions which violate our understanding of language and has counterintuitive entailments which need not be accepted. Moreover, it requires accepting metaphysical stances, which demand other approaches can avoid.

To arrive at a different theory of vagueness, we consider the ideal epistemic conditions for every-day language terms such as *thin*, and what they can tell about the philosophical question of vagueness. Subsequently, we show that scientific vocabulary behaves in the relevant respects just like the common-sense informal words such as *thin*. Finally, we turn to Wittgenstein (1953) to show what light the picture of language sketched in *Philosophical Investigations* sheds on the question of vagueness and how a fuller understanding of language's versatility can accommodate the nature of vague predicates. Adapting Wittgenstein's theory of meaning as use, we conclude that the *sorites* paradox arises from a misapplication of language and can be avoided if real-life linguistic practices are given priority in our theorizing about language.

Vagueness is a particular kind of uncertainty or indistinctness. In analytic philosophy, the term came to mean such imprecision which gives rise to borderline cases. Vagueness permeates almost all domains of natural language, so one need not look far: in fact, casual language is vagueness's natural habitat. Take *red*, *thin*, *tall*, or *long*, all perfectly natural in everyday speech, all plagued by borderline cases. A seven-foot-tall man is indubitably tall, but is a six-foot-tall man tall too? One might vacillate. Strawberries are red, but what about the insides of a grapefruit? Similarly, opinions might differ—and through no one's fault. As technical disciplines come up with ever-more-precise vocabularies in a never-ending struggle to stave off vagueness, every-day speech is where its sting is most acutely felt.

Vagueness needs to be distinguished from two other types of imprecision: *relativity* and *ambiguity*. The uncertainty resultant from a relativity can be overcome by relativization, i.e. restricting the domain via linguistics or extralinguistic means (e.g. through salience). For example, the six-foottall man whose tallness status we could not previously determine, is *not* tall for a basketball player, but he might be tall for a Formula 1 driver. But eliminating relativity does not eliminate vagueness. If we switch the numbers and ask "is a seven-foot-tall man tall for a basketball player?" we are back to square one again: vagueness remains no matter how much relativizing one attempts. That is to say, whenever one speaks of *tall*, *tall for a basketball player*, *tall for an American basketball player*, etc., one will always be able to point out (hypothetical) borderline cases.

Ambiguity arises when two different words share one phonological form (homophony) or when one word has two distinct senses (polysemy). (Syntactic ambiguity is irrelevant for our purposes.) A tired example of ambiguity is *bank*, a financial institution or the land alongside a river. *Going to the bank* is then ambiguous—it can mean either thing. The meaning of *bank* must be, so to speak, first set before the verb phrase can be comprehended. Let us set the meaning of *bank* to *the land alongside a river*, then. Now ambiguity is resolved, but where *exactly* does a river bank start and where does it end? This question remains as puzzling as always. No matter our disambiguation efforts, vagueness remains even when ambiguity is resolved. No amount of circumstantial or verbal elaboration can do the trick.

Why is vagueness of importance to the philosophy of language? First, it poses a non-trivial challenge to any account of meaning. Set-theoretically-minded formal semantics likes to model meaning as set membership, with any given individual a member of the set or not. Vagueness, seemingly defiant of such binaries, might motivate an expansion of this model. Crucially however, the naïve notion of vagueness leads to a long-debated paradox known as *sorites*.

The intuition underlying the paradox is that the property of being a heap is generally insensitive to little changes. That is, if 10,000 grains of sand form a heap, removing one grain from said heap cannot make it a non-heap. In other words, removing one grain of sand from a heap preserves its heapness. Therefore, 9,999 grains of sand are also a heap. By recursively removing grain after grain, we arrive at the absurd conclusion that a one-grain collection (or perhaps even a zero-grain one) makes a heap.

Typically, in dealing with a paradox, there are three obvious moves one might attempt: (i) deny the premises, (ii) deny the inference rule, (iii) accept the paradoxical conclusion. Yet in the *sorites* case, none of them appear satisfactory. If our first premise amounts to "a 10,000-grain collection of grains can be heap," and the second one to

"removing one grain from a heap preserves its heapness," no obvious flaw can be found, which precludes making the first move.

The inference rule cannot be easily denied either. It is an instantiation of *modus ponens*, one of most basic rules of first order logic: $p \rightarrow q, p \vdash q$. Rejecting it would be an utterly radical move, and so it should be avoided at all costs.

Our third and last option is to accept the seemingly paradoxical conclusion; perhaps one grain is a heap. What do *we* know? After all, accepting highly counterintuitive conclusions arrived at through valid reasoning has been the bread and butter of philosophy for millennia. But the *sorites* reasoning can be run backwards: assume (this time commonsensically) that one grain is not a heap, and that adding a grain to a non-heap does not yield a heap. Now you can conclude that arbitrarily large heaps are not heaps either. Accepting the paradoxical conclusion means concluding that an entity can both be a heap and not be a heap, just by the virtue of the direction in which we run our reasoning. That requires rejecting the *law of noncontradiction*, another logical mainstay, which says that two contradictory statements cannot both be true in the same sense, i.e. either proposition p is true, or its negation is true $\neg p$, but not both: $\neg(p \wedge \neg p)$.

Philosophers have approached the question of vagueness in hope of resolving the *sorites* paradox in a multitude of ways. Vagueness might simply be, some posited, the incompleteness of meaning; certain expressions in language have fully specified semantics and others do not; vague predicates are the latter. Vagueness might be a feature of the world; there are objects with imprecise borders, and language just reflects that fact. It might be an indecision with respect to meaning. It might be a lack of definite truth; borderline cases arise where definite truth and definite falsehood are inapplicable. Vagueness might even be considered the absence of a fact—there simply is nothing to know; natural language is meaningless and beyond all redemption.

Most of these accounts work by virtue of rejecting the second premise, i.e. they claim, tacitly or explicitly, that removing one grain from a heap can in fact make it a non-heap. On that premise relies the least theoretical apparatus: rejecting it does not entail rejecting modus ponens or other fundamental logical facts. Common-sensically then, the second premise is the first one to go.

These solutions might allow the most anxious among us to rest a little easier at night, but they are, I believe, deeply unsatisfying. In contradicting the second premise, they contradict what we initially took to be reasonable; taking this route resembles avoiding the paradox instead of solving it. Ultimately, we will not settle for it.

A yet different tack, and perhaps the most perplexing one, was taken by Timothy Williamson in his highly-influential *Vagueness* (1994). I consider his approach perplexing, for he adapts the *epistemic* view of vagueness, in which sharp boundaries really do exist—but we simply do not know where they are.

The goal of this paper is twofold. First, we will attempt to show why this line of reasoning is mistaken—not due to logical fallacies committed by the author (as there are few of them, if any), but rather due to the counterintuitive assumptions that violate our understanding of what language is and how its workings run, and the counterintuitive implications which need not be accepted. Second, we will propose a different, Wittgensteinian path of inquiry. We will try to show what light the picture of language sketched in Wittgenstein's *Philosophical Investigations* sheds on the question of vagueness and how a fuller understanding of

language's versatility can accommodate the nature of vague predicates (1953).

But first, let us look at Williamson (1994)'s solution. To give his argument a somewhat more intuitive appeal, Williamson (1994) uses a metaphor of omniscient speakers, the ultimate arbiters of vague predicates. First, he asks us to imagine the most favorable conditions for us and for our omniscient speakers. We then show them a number of grains, and ask "is this a heap?," each time removing one more grain. We can be more precise in adding "be as liberal as you can," or "be as conservative as you can." The speakers are not blinded; they are unhindered physically and mentally. The speakers are cooperative. In the course of the *sorites* experiment, we will eventually get our answer: at a certain point, an omniscient speaker will eventually refuse to call the collection of grains a heap. We will have found the line separating heaps from non-heaps (perhaps a liberally- or a conservatively-estimated line, but a line nonetheless).

But have we not snuck in an undue assumption? The speakers are said to be cooperative, not compliant. They will do their best to give helpful answers, but they need not answer "yes" or "no" if neither answer strikes them as appropriate. Williamson (1994) mentions this possibility in passing, but he never acts on it, which I consider an oversight.

> "Accompanied by an omniscient speaker of English, you remove grain after grain from a heap. After each removal you ask 'Is there still a heap?'. The omniscient speaker is not required to answer 'Yes' or 'No'; she can say 'That is indeterminate' or 'To degree 0.917' or […] 'You are asking the wrong question' if she likes. If there is nothing to say, she will remain silent."
> (Williamson, 1994, p. 199)

Let us make up for Williamson (1994)'s oversight. A cooperative omniscient speaker might as well respond in the following way: "I refuse to participate in this experiment on account of its faulty assumptions. Vague predicates, perhaps not unlike the rest of language, are primarily pragmatic. Terms such as *heap* are learned through exposure to heaps in various environment, on various occasions, with various intents. The word *heap* is not of an appropriately high resolution to adjudicate set membership of minimally different objects; the highly artificial situation of the *sorites* experiment takes the word *heap* out of its domain, which makes the experiment invalid." Clearly, my omniscient speaker differs with Williamson (1994)'s. He is also quite prolix.

You might object to my omniscient speaker's characterization of language; after all, he gave no arguments to support it. I will try to vindicate him shortly. You might also counter: "I have no interest in the omniscient speakers' beef," and rightly so. I suspect imagining what omniscient speakers might say can hardly prove useful. If I am not omniscient, and neither is Williamson, this long exercise is perfectly futile. But perhaps it can guide us towards an idea which *is* worth exploration.

We know for a fact that omniscient speakers do not exist (or to do the scientific method justice: we do not know for a fact that they do). But perhaps omniscience can be approximated. There are, after all, unintelligent uninformed speakers, and intelligent informed speakers. To say that intelligent informed speakers approximate omniscience is a stretch, but experts can be assumed to have a large, sometimes maybe

the largest available, body of knowledge on a given subject. Their studies last for decades, during which they gain extensive in-depth knowledge of their discipline, as well as broaden their horizons to better understand the connections between theirs and other scientific pursuits. Who, if not them, should be the authority on drawing the lines of our language?

Consider the case of pedophilia. According to *Diagnostic and Statistical Manual of Mental Disorders, 5th edition* (DSM-5), the specific criteria for a diagnosis of the disorder include:

> A. "Over a period of at least 6 months, recurrent, intense sexually arousing fantasies, sexual urges, or behaviors involving sexual activity with a prepubescent child or children (generally age 13 years or younger).
> B. The individual has acted on these sexual urges, or the sexual urges or fantasies cause marked distress or interpersonal difficulty.
> C. The individual is at least age 16 years and at least 5 years older than the child or children in Criterion A." (DSM-5)

The reader who never encountered this definition might be surprised it relies on numerical criteria in four (crucial) aspects: the age of the patient, the age of the child, the age difference between them, and the lasting of a certain phenomenology. Obviously, these delineations do not correspond even approximately to a commonsensical understanding of the term *pedophile*. To say "phew! I was afraid he was a pedophile, but he's had the sexual urges only for 5 months and 20 days! I can rest easy" is comical if not outright grotesque.

Obviously, this definition does not provide us with the meaning of the word *pedophile*. The point to be made here is a pragmatics one: our legal system does not cope well with vagueness. A verdict of guilt must be definite, and thus so do all the concepts upon which the verdict relies. Criteria for medical diagnoses occupy the same territory: the DSM-5 definition is no doubt a legalistic exercise.[1]

No lawyer, no matter how brilliant, takes the DSM-5 definitions (their numerical delineations, to be precise) to say anything substantive about the nature of a disorder. Neither do the doctors, who know about the subject matter as much as humanly possible, nor native speakers of English, nor the pedophiles themselves. These criteria are not *discovered* but *established*, however imperfect they be, to serve a purpose: allow us to tell who a pedophile is without never-ending disputes on anyone's fuzzy feelings about where the line should be drawn.

I hope the relation to the omniscient speakers metaphor is now clear. Experts draw boundaries to have any boundaries at all, but they do not claim to be any closer to discovering what the meaning of a word is; they understand that understanding the term does not have anything to do with understanding which numbers to choose.

Some philosophers claim that there really are nonvague lines that sort the borderline cases out, but none—to the best of my knowledge—claim to know them. Experts on word use and word meaning do no better than scientists or philosophers. Lexicographers, for example, embrace vagueness fully. Merriam-Webster's definition is close to that of DRM-5, just without the numbers:

> "Definition of PEDOPHILIA
>
> : sexual perversion in which children are the preferred sexual object; *specifically* : a psychiatric disorder in which an adult has sexual fantasies

> about or engages in sexual acts with a prepubescent child"
> (Merriam-Webster, 2017)

As we can see, we never get any closer to drawing the line, irrespective of all scientific, philosophical or linguistic research. A belief there are any boundaries at all appears now entirely unmotivated. It is at best confused and at worst confusing. Any valid reasoning which concludes in unknowable extensions of vague predicates is a metaphysical exercise which ignores (or violates) the realities of natural language.

But ignoring the fundamental realities of language is not devoid of repercussions. A large portion of Williamson (1994) is devoted to critiques of other theories and of vagueness, some of which I consider unjustifiably harsh. Among the theories to receive severe beating from Williamson figures the consensus theory of truth. In one passage, he writes:

> "We can certainly be wrong about whether someone is thin, for we can be wrong both about the person's shape and size and about normal shapes and sizes in the relevant comparison class. These errors may be systematic; some people may characteristically look thinner or less thin than they really are, and there may be characteristic misconceptions about the prevalence of various shapes and sizes." (Williamson, 1994, p. 206-207)

I would like to question if we truly can be wrong about someone's thinness, *especially* if such errors were to be systematic. Surely, one can be temporarily blinded, hallucinating, or misremembering someone's weight. One can also be tricked by a person's clothing. Horizontal stripes are known to make people look thinner; vertical ones – quite the opposite. Yet it seems that in ordinary cases, Williamson (1994)'s comment does not apply.

And can an *entire* language community be mistaken about thinness? I find that even less plausible. Let us imagine a great majority of people believe that most people's size is S. A ground-breaking study reveals that, in fact, the most common size is XXXXXL. Consider two headlines and decide which one is a more natural report:

> (1) How did an obesity epidemic go unnoticed!?
> (2) Fat people are actually fairly thin.

The first headline is clearly right. The second one is plainly absurd. The "characteristic misconceptions about the prevalence of various shapes and sizes" are now recognized, but the extension of a vague predicate does not change. It is difficult to avoid concluding that a language community *cannot* be systematically mistaken about vague terms. This conclusion is somewhat troubling, because I, too, have my doubts about the consensus theory of truth. "The Sun revolves around the Earth" is unequivocally false, and so was it even in the Middle Ages when a majority thought otherwise.

The same point might be made in an even zanier hypothetical scenario. The reader's intuitions might differ from mine, but mine are strong enough to merit a confident report. Imagine you have access to a computer which is never wrong. You measure the height of a friend; "seven feet"—you conclude. If you then ask the computer "how tall is my friend?" and hear back "six feet, six inches," you will most surely be puzzled. "I just measured him, he's seven feel tall!"—you might exclaim in disbelief. Nonetheless, you might have taken your

measurements wrong. Remember, the computer is never wrong. Now imagine asking "is my friend tall or short?" If the computer responds "your friend is short" (and if you are anything like me), you will not be *puzzled*—you will be dumbfounded, utterly perplexed. Yes, you *could* have taken your measurements wrong, but a person *like this* cannot be short! If the computer truly is always correct, the implications of your error (given you are not tricked or hallucinating) are unimaginable.

In talking about epistemic conditions necessary for recognizing someone's thinness, Williamson (1994) dispels a strawman argument: even if we grant the ideal epistemic conditions and provide all relevant devices for measurements, one can still be mistaken. To flood someone with more data is just to confuse them; one's cognition can only go that far.

I would say instead: The maximally relevant conditions for judging someone's thinness is seeing them up close, perhaps naked to eliminate the distractions clothing can introduce. Those *are* the ideal epistemic conditions. Additional measurements contribute *nothing*; that is not how thinness is recognized.

The reaction I reported to the above thought experiment is to be expected if my characterization of what counts as maximally informative epistemic conditions for identifying thinness is correct. Man might not be the measure of all things, but he surely is the measure of all the vague ones. We can now suggest how it might be that an entire community of speakers cannot be mistaken about who and what classifies as thin, whereas they can all be wrong about truth value of "the Sun revolve around the Earth." The answer lies in what counts as perfect epistemic conditions, and in that for *thin*, the epistemic bar hangs really low. Since there is nothing more to knowing someone's thinness than seeing them up close, to say that "some people may characteristically look thinner or less thin than they really are" is to say our sensory inputs are being systematically misguided. In Williamson (1994)'s view then, to know whether someone is thin entails knowing whether someone *really* is thin. But that uncomfortably commits us to very particular metaphysics: the validity of a philosophy of language should not depend on whether Descartes' evil demon controls our perceptions (or whether we live a simulation), and all the thin people we meet on daily basis are not *really* thin, because they are not *really* there in the first place. Our task should be to provide an account of language which makes sense of its use regardless of our metaphysical situation.

Clearly, the term we have focused on so far—*thin*—belongs to the domain of casual speech. Perhaps it is not surprising that one cannot be mistaken about another person's thinness. Granted perfect epistemic conditions, whether *x* is thin is really a matter of opinion, not a prolonged investigation. But as has been noted at the beginning, vagueness pervades *all* language, including our best and most precise sciences, and so we should do justice to scientific language, too. An example of a scientific yet vague concept is *fish*. It is scientific since *fish* can be defined taxonomically, in opposition to tunicates, which together form the phylum of chordates. Nonetheless, it is vague: we could perhaps encounter a specimen whose characteristics fall somewhere between those of fish and tunicates, and whose classification is thus unobvious. A most plausible scenario is perhaps that of discovering a fossil of a specimen from the age of fish speciation. A valid question would then be: is this a fish yet?

The case of *fish* might seem very different from the case of *thin*. Thinness or a lack thereof, we claimed, is known by the dint of naked-eye observation. That is most surely not true of fishness. The epistemic conditions

for determining the latter are much more stringent; unassisted observations will not do. Perhaps they are so stringent that in order to answer the fishy question once and for all, we would have to go back in time, catch the hypothetical proto-fish and determine its phylogenetic affiliation via a suite of rigorous genetic tests.

But this is as far as the differences go. Since evolutionary changes are gradual, but a species' phylogenetic destiny is not, we are left in a situation exactly like that of thinness. Expert marine biologists—assuming marine biologists are the most qualified people to judge an organism's fishhood—might disagree whether they are in the presence of a fish even if granted an access to its complete genome map, i.e. in epistemically ideal conditions. Nonetheless—assuming the marine biologists maintain a healthy commitment to a degree of rationality—they cannot be *wrong* about an organism's fishdom. There is nothing else they could possibly know to help them provide a definitive answer to the question of the specimen's fishth, so to classify the organism as a fish or to refuse to do so is simply to provide one's opinion on what it means to be a fish, which phenotypic traits are "more significant," or—in our case—which gene sequences should be deemed "more important." The term *fish* is simply vague; it works reasonably well for synchronic taxonomists, but not so well for the diachronic (i.e. time-traversing) ones. All in all, the difference between *thin* and *fish* lies in the height of the bar for the epistemic conditions to be classified as *ideal*. Once those conditions are achieved, both terms fail on the borderline cases in remarkably similar ways.

To recap, the above examples are intended to show that in ideal epistemic conditions, we cannot be wrong about other people's thinness, at least not systematically and not as a community. Similar reasoning applies to scientific terms whose extensions are decided by theory-internal considerations and require an expertise to sort out—what differs are the epistemic conditions required to accomplish the tasks; the logic of adjudication is virtually identical.

We might now see how Williamson (1994)'s epistemic theory of vagueness falters. It provides an account based on an unrealistic picture of language and makes predictions about language use which one can reasonably challenge. But while the edifice of Williamson (1994)'s argument stands on solid foundations, the ruins of his opponents' arguments buttress it from all sides. To point out inadequacies in Williamson (1994)'s theory is therefore only a part of the task; the other half is to provide a theory more convincing than his.

With this goal in mind, we turn to the picture of language presented in Ludwig Wittgenstein's *Philosophical Investigations* (1953). A notion central to his view, one of great influence beyond academic philosophy, and at once of most utility in pursuing my goal, is that of a *language game*. *Language game* is for Wittgenstein a multi-level concept, one he first introduces to bind together (i) the "game" (the activity) of repeating words children take part in as they acquire their first language, (ii) children's "word games" such as ring-a-ring-o'-roses wherein formulaic language is an inextricable part of the activity itself, and (iii) "the whole, consisting of language and the activities into which it is woven" (Wittgenstein, 1953, § 7).

The game metaphor plays at least a double role. First, it brings attention to the game-like, rule-governed, mutually-consensual, goal-oriented nature of language. In a game there are rules; so are there in language. These rules are occasionally violated; so are they in language. Game rules might fail to cover all possible situations; so can language. In a game you can make moves; so can you in a conversation. Games

can differ; and so can language games. Chess is about winning. Ring-a-ring-o'-roses is about fun. Debates are about winning. Anecdotes are about fun.

Second, it allows Wittgenstein to draw a parallel between how the two categories do and do not cohere. To characterize both, Wittgenstein uses the term *family resemblance*. This type of resemblance might be best characterized as a collection of overlapping sets without any members in common. Members of a family might be characterized by family resemblance: some of them might have the same shape of nose, others the same eye color and posture, others chin, and ears, and curly hair, all of them similar, but without any one train in common (Wittgenstein, 1953, § 67). That is, according to Wittgenstein, the type of resemblance that all games share: some of them are about winning, some of them about fun, some involve chance, some — vivid imagination. The family resembles extends then to language games. Some of them will involve a dialogue; others only monologue. Some will be public; others only private. Some of them will require specific vocabulary; others — everyday parlance. (Perhaps all language games will involve the use of language, but any old incoherent rambling will not do.)

Crucially, for Wittgenstein, the meaning of a word consists of that word's use. Not only that; the word's use is conceptualized within a particular language game. It makes therefore no sense to make excursions into Platonic-like realms where word meanings dwell to inquire about the *true meanings* of words or the *unknowable lines* drawn by vague predicates. All that must be done is that which can be done, i.e. to look around and see how language *is* used. This connects to the Wittgensteinian concept of a language game: the meaning of the *king* in chess is the sum total of how it functions in the game; the meaning of a *word* is how it functions in language games.

When my omniscient speaker said that "vague predicates […] are primarily pragmatic," he foreshadowed this Wittgensteinian line of inquiry. Let us then follow his path and apply the Wittgensteinian thinking to the question of vagueness.

One presumably uncontroversial claim that stems from our hitherto ruminations is that language is always used with an intent, mediated or explicit. The *sorites* paradox is typically exemplified with the concept of *heap*. Let us then take it and see what uses it has or, in a more Wittgensteinian lingo, what language games it can be a part of. Examples includes (a) teaching someone how to use the word *heap*, (b) a reference to certain salient features of the environment, (c) instructing someone to construct something for a particular purpose, (d) comparing something to something else, (e) constructing a hypothetical scenario.

In scenario (a), i.e. teaching someone how to use the word *heap*, or ostensive teaching, the heap at hand will hopefully be paradigmatic enough to avoid any confusion as to the nature of its heapness. We assume the instructor is competent enough in picking heap exemplars and the question of "is it a heap?" is then felicitously avoided.

In scenario (b), i.e. a reference to salient features of the environment, a heap might be identified as *the heap*, *this heap* or *a heap*. If the definite article is used, then very likely there is only one even vaguely heap-like object at hand, which should forestall all confusion. If an indexical is used, then probably there is a proximal heap to which one can, at least in principle, point. If an indefinite is used, there might be multiple heaps at hand, but the selection is unimportant (were there "borderline" heap cases, and an error too costly, one would be typically more specific). In none of these cases, however, a questions of the heap's

heapness ever arises. For example, if you are told to "clean that heap of plates!" you need not wonder how many plates you have to clean before you can stop because that heap of plates just ceased being a heap.

In scenario (c), i.e. an instruction to construct something for a purpose, the size of the heap is typically determined by the availability of the heap resource. For example, if only 400 grains of sand are at hand, then the instruction "make a heap" resolves to "make a 400-grain heap." Hence, the question of how many grains count as a heap is again perfectly avoided. In other cases, i.e. when not all 400 grains are to be used, one might specify their intention explicitly by saying "make a *n*-grain heap," and the other person makes an *n*-grain heap. "But is an *n*-grain heap a heap?" you might ask. The answer is: "most surely so; for the purposes of this scenario."

In scenario (d), i.e. a comparison, only one or two relevant dimensions of a heap usually matter. A comparison to a heap generally involves, I presume, typical heap-like topology, and the size of the heap is entirely neglected. Again, if the nature of the comparison were unclear, one would not use such a comparison or one's interlocutor would end up asking a clarificatory question.

In scenario (e), i.e. a hypothetical involving a heap, the limitations on what can constitute a heap will be placed by the scenario's very character. For example, if one says "if there is a heap in your way, go around it on the left side!," the hypothetical object qualifies as heap only if walking around it is an option one would normally consider. If the heap consists of 200 grains of sand, then one will likely step over it, and possibly not even notice it, without wondering on which side to go around it. Effectively, it will not be a heap in the light of the above advice.

All these more-or-less naturalistic scenarios are to demonstrate one thing: The word *heap* can be used in various scenarios driven by different intents: a lesson, a reference, a command, a comparison, etc. The particularities of all these scenarios give rise to different restrictions on the word's appropriateness. Whereas the word heap may be used perfectly well to achieve one communicative goal, it might be entirely insufficient to achieve another. "Jump over the heap when you see it" might be a perfectly intelligible instruction given to someone obstacle racing, but "order a heap of sand" is not if given to a construction worker. *Heap* is simply not a measure of sand precise enough to be useful on a construction site. That is, to consider heapness a function of the number of sand grains is fundamentally mistaken. We may say then that the *sorites* paradox arises from a misapplication of language or, as Wittgenstein so pithily put it, that "philosophical problems arise when language goes on holiday" (Wittgenstein, 1953, § 39).

Under this view, vagueness is not a philosophical problem, but a linguistic solution. Human language is full of imprecise terms because human cognition is full of imprecise thinking which takes a like form.

Consider one more short parable about language use. Sarah is attracted to tall men. Her friend Anna tells her that John is tall to signal to her that she might be interested in him. Anna continues to do so with other men, and with time, Anna's descriptions of other men as tall end up serving less as descriptions of height, and more as information about the attractiveness of Sarah's potential partners. Eventually, she might end up calling men tall even if they are not, but she has independent reasons to believe that Sarah will like them anyway.

"At this point, she uses the word incorrectly," you may say. But could you not say likewise when she first called a man tall to signal his attractiveness to Sarah?

"Well, then at least the truth-functional content of the sentence she uttered matched the objective reality," you may reply.

But this line of reasoning inordinately confines language to its truth-functional content or, one might say, takes language at face value. The use of such a language is restricted to reporting facts only; there is no place in it for cracking jokes, giving moral advice, threatening, flirting, singing songs, weaving a tale, or speaking in vague terms.

Language is, in Wittgenstein's terms, particular to the human *form of life*, as swimming is to fish or howling to wolves. It is intricately bound up in action and context, molded by speakers to help them achieve whatever they desire to. In the *Philosophical Investigations*, Wittgenstein observes: "If a lion could talk, we wouldn't be able to understand it" (1953, § 327). The self-evidence of the truth contained in this insight beclouds its profundity: language does not function in a vacuum; it is a medium embedded in a rich world of biological, psychological, and cultural facts. If a lion tells you "you smell nice," you cannot know if the lion is jealous of your scent, is threatening to eat you to make you back off from his territory, or wants to fornicate with you—there are various intentions the lion might have, and thus various responses that might be appropriate. If you ever found yourself in a situation like that, you can be sure the truth-functional content of the lion's utterance would interest you the least.

In essence, Williamson (1994)'s masterfully argued epistemic theory of vagueness suffers from one fatal flaw: it ignores the nature of language. Caught up in dealing with vague predicates—the ones so recalcitrant to truth value assignment—Williamson (1994) overlooks the fact that they cause us trouble only if we indeed consider their recalcitrance troublesome. A Wittgensteinian approach, which consists in paying closer attention to language in all of its manifestations, positions vagueness among a plethora of language uses. This allows us to see vagueness for what it truly is: a communicative strategy of imprecise humans for whose purposes imprecise talk is all that can be. In essence, the Wittgensteinian approach does not *resolve* the problem, but makes it go away, like a doctor makes go away an illness.

In summary, we identified what vagueness is and what light is shed on it by the *sorites* paradox. We have seen the inadequacies of the three most obvious ways to deal with the paradox. We have considered Williamson (1994)'s epistemic theory of vagueness and rejected it due to its unrealistic take on language, counterintuitive entailments, and an excessive metaphysical overhead. We considered the ideal epistemic conditions for every-day language terms such as *thin*, and what they can tell about the philosophical question of vagueness. We also showed that scientific vocabulary behaves in the relevant respects just like the common-sense informal terms such as *thin*. Finally, we turned to Wittgenstein for a theory of meaning as use. We concluded that the *sorites* paradox arises from a misapplication of language and can be avoided if real-life linguistic practices are granted a privilege in our philosophical investigations.

Endnote

1. It is worthy of note that even with numerical criteria, the definition is not fully rid of vagueness. There surely are borderline cases of "recurrent, intense sexually arousing fantasies," both "distress" and "interpersonal difficulty" are exceedingly opaque terms, and the quantifier "generally" seems to purposefully reintroduce vagueness where the much less vague "age 13 years" must have seemed uncomfortably precise.

Works Cited

American Psychiatric Association (2013). *Diagnostic and Statistical Manual of Mental Disorders (5th ed.).* Washington, DC: Author.

Graff, D. (2000). Shifting Sands: An Interest-Relative Theory of Vagueness. *Philosophical Topics, 28*(1), 45-81. Retrieved from http://www.jstor.org/stable/43154331

Horwich, P. (1997). The Nature of Vagueness. *Philosophy and Phenomenological Research, 57*(4), 929-935. doi:10.2307/2953811

"pedophilia" (2017). In *Merriam-Webster.com*. Merriam-Webster. Web. 18 December 2017.

Raffman, D. (1994). Vagueness Without Paradox. *The Philosophical Review, 103*(1), 41-74. doi:10.2307/2185872

Rayo, A. (2008). Vague representation. *Mind, 117*(466), 329-373. doi:10.1093/mind/fzn029

Sainsbury, R. M. (1995). *Paradoxes*. Cambridge University Press.

Schiffer, S. (1997). Williamson on Our Ignorance in Borderline Cases. *Philosophy and Phenome-nological Research, 57*(4), 937-943. doi:10.2307/2953812

Williamson, Timothy (1994). *Vagueness.* Problems of Philosophy. Taylor & Francis.

Williamson, Timothy (1997). Précis of Vagueness. *Philosophy and Phenomenological Re-search, 57*(4), 921-928. doi:10.2307/2953810

Williamson, Timothy (1997). Reply to Commentators. *Philosophy and Phenomenological Re-search, 57*(4), 945-953. doi:10.2307/2953813

Wittgenstein, Ludwig (1953). *Philosophical Investigations*. G.E.M. Anscombe and R. Rhees (eds.), G.E.M. Anscombe (trans.), Oxford: Blackwell.