

Against the Status Response to the Argument from Vagueness

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Abstract: The Argument from Vagueness for Universalism contends that any non-arbitrary restriction on composition must be vague, but that vague composition leads to unacceptable count indeterminacy. One common response to the argument is that borderline cases of composition don't necessarily lead to count indeterminacy because a determinately existing thing may be a borderline case of a presently existing concrete composite object. We can collectively refer to such views as versions of the *Status Response*. This paper argues that the Status Response cannot handle count indeterminacy about various categories of things, such as events, states of affairs, tropes, holes, shadows, and created abstracta, when these are understood in the right way. This makes the Status Response objectionably *ad hoc*, which should lead us to look for alternative ways of resisting the Argument from Vagueness.

Keywords: Abstract Artifacts; Composition; Events; Holes; States of Affairs; Tropes; Universalism; Vagueness

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Universalism is the thesis that necessarily, for any material objects the x s, there is another material object y that the x s compose. The Argument from Vagueness for Universalism, first proposed by Lewis (1986a) and later refined and generalized to diachronic composition by Sider (2001), goes roughly as follows. If Universalism is false, then any restriction on composition would have to be either sharp or vague. It cannot be sharp, since no acceptable constraint on composition could result in a sharp cut-off; and it cannot be vague, since then it would be vague whether certain concrete things exist, which is absurd. Thus, Universalism is true. There are many ways to formulate the argument more precisely. For my purposes, the following will be suitable:

Argument from Vagueness

(V1) If Universalism is false, then either there are borderline cases of composition or a sharp cut-off with respect to composition.

(V2) If there are borderline cases of composition, then it's possible for it to be indeterminate how many concrete objects there are at a certain time, t.

(V3) If it's possible for it to be indeterminate how many concrete objects there are at t, then at least one expression in a sentence of the form 'There are n concrete objects at t' can have precisifications.

(V4) Quantifier expressions have no precisifications.

(V5) No other constituent expression in 'There are n concrete objects at t' can have precisifications.

(V6) There are no sharp cut-offs with respect to composition.

(C) Universalism is true.

Readers familiar with the literature will notice that my formulation loosely follows Sider's but in some respect departs from it. This will streamline the forthcoming discussion, since some of the responses to the argument that I'm about to discuss explicitly focus on concepts (e.g. temporal indexes) that don't occur in Sider's original version. Many will also notice that my formulation is somewhat coarse-grained (e.g. I didn't provide a sub-argument for the ban on sharp cut-offs; nor did I explain the basis on which we can rule out Nihilism, the view that composition never takes place).¹ However, these complexities don't matter for the present paper, as I will exclusively focus on a style of response that rejects V5.

But let's say a few words first about the other premises. V1 relies on the idea that is composition doesn't occur no matter what, then we can construct a sorites series of

¹ See Korman 2010 for a helpful overview. To keep things simple, I will stipulate that Nihilism is a limiting case of a sharp cut-off in composition (as it were, the series is cut off right at the outset, at a determinate case of non-composition) and thus runs afoul of V6.

composition ranging from a clear case of composition to a clear case of non-composition. Either there is a determinate point at which the last case of composition is followed by the first case of non-composition, in which case the consequent's second disjunct is true, or the transition is gradual, with intermediate cases in the middle, in which case the first disjunct is true.

The idea behind V2 is that once we grant borderline cases of composition it will be easy to construct possible cases in which the existence of an object depends on whether composition occurs. Some of these possible cases occur in worlds with finitely many objects in them, and in these worlds, if the existence of some concrete objects is indeterminate then it's also indeterminate how many concrete objects there are in those worlds.²

V3 encapsulates two assumptions. The first, which both Lewis and Sider explicitly make, is that the linguistic theory of vagueness is correct: vagueness results from semantic indecision rather than from the world itself or our ignorance about it. Such indecision can be settled via precisifications, i.e. ways of sharpening the extension of vague expressions. (For example Joe Biden, who is 6 feet tall, is tall on some precisifications of 'tall' and not tall on others.) The premise contends that if it's indeterminate how many concrete objects there are, this must be amenable to such a precisificational account of vagueness as well. V3's second assumption is that the vagueness in "There are n concrete objects at t" cannot be "holistic"; if the sentence is vague, this must have its source in one or more of the sentence's constituent expressions.

V4 claims that quantifier expressions have no precisifications. The idea is that if the universal quantifier had precisifications, they would differ in their domains; but then the

² In worlds with infinitely many concrete objects, there are determinately (the same order of) infinite number of objects even if for some xs it is indeterminate if there is an object that they compose.

domain of some quantifier wouldn't contain everything, in which case it couldn't be the domain of a *universal* quantifier. Finally, V6 relies on the intuition that a sharp cut-off in a composition series would be arbitrary. For sharp cut-offs would mean that arbitrarily small differences could make the difference between a definite case of composition and definite case of non-composition.

Let's turn to V5, which is the main topic of this paper. Why can't a sentence of the form 'There are n concrete objects at t ' be indeterminate in truth value, and specifically, why can't its (non-quantificational) constituent expressions have precisifications? Count sentences with indeterminate truth values aren't problematic in themselves. For example, it may be indeterminate whether you had three burgers last month if you had two Angus burgers and a turkey patty in burger buns, and it's indeterminate whether 'burger' includes turkey patties in burger buns in its extension. But, Sider argues, no expression in 'There are n concrete objects' is like that. For 'concrete' can be given a perfectly sharp meaning (Sider stipulates that the extension of 'concrete' includes everything that is not a set, class, number, property, relation, universal, trope, possible world, or situation). And once we grant that 'concrete' is precise, only logical terms remain, which cannot be vague either. But claims about the number of concrete things can be stated using only the predicate 'is concrete' (C) and the resources of first-order predicate logic with identity. For example, 'There are two concreta' is regimented as follows:

$$\exists x \exists y [Cx \& Cy \& \sim x=y \& \forall z (Cz \rightarrow [x=z \vee y=z])]$$

Since neither the logical constants nor the predicate ‘is concrete’ is vague, numerical sentences that use no other ideology cannot be indeterminate in their truth value (2001: 127). Sider doesn’t specifically discuss temporal indexes in this context, but we can plausibly assume for the time being that they, too, are precise. If so, then no expression in a sentence of the form ‘There are n concrete objects at t ’ has precisifications – just as V5 says.

In the present paper, I will focus on a certain style of response to the Argument from Vagueness that rejects V5 and contends that at least one of the expressions mentioned in it does have precisifications. The general shape of the response is as follows. Whenever it’s indeterminate whether there is at some time t a y that some x s compose, y determinately exists, but it’s indeterminate whether y at t is a concrete object. This is because there is some broader category of things to which y determinately belongs, and some members of that category are borderline-members of the extension of ‘concrete object at t ’. So one or more words in this expression does have precisifications, after all. According to every version of this response, borderline cases of composition are cases in which a determinately existing thing indeterminately has the status of being a concrete object at t – perhaps because it’s indeterminately concrete, or because it’s indeterminately present-at- t , or in virtue of some other feature that indeterminately characterizes it and which makes it a borderline case of a concrete object at a certain time (see below for various possibilities). Henceforth, I will refer to this strategy as the *Status Response* to the Argument from Vagueness and to its proponents as *statusticians*.³

The various versions of the Status Response are rarely discussed together. Moreover, since different statusticians react to different versions of the Argument from Vagueness, their formulations don’t always follow the template I laid out above. For this reason, some

³ I owe this ingenious moniker to Nathan Wildman.

versions of the Status Response need to be revamped slightly in order to count as responses to the Argument from Vagueness as I formulated it. But I'm confident that in doing so, we do no injustice to proponents of the strategy but merely help bring out more clearly what they have in common.

One version of the Status Response is due to Baker (2007: 130–2). Baker presupposes eternalism, the view that past and future objects exist and are just as real as present objects. Suppose the water molecules that form a cloud begin to come apart. At t_1 , they determinately compose a cloud, at t_2 , they borderline-compose a cloud, and at t_3 they determinately don't compose a cloud. An eternalist can say that since there is a time at which the cloud determinately exists (t_1), it determinately exists *simpliciter*. However, it's indeterminate whether the cloud exists *at* t_2 . So, while the cloud determinately and timelessly exists, it's indeterminate if it has the status of being present at t_2 .⁴

A second version of the Status Response locates indeterminacy in the status of a borderline-composed object as a concrete thing. There are different ways to go about this. One is to adopt a supersubstantialist account of space, according to which material objects are identical to the regions they occupy. Effingham (2009) adopts a version of this view, according to which every material object is identical to the region of space it occupies, but there also are regions of space that aren't occupied by a material object. Moreover, he suggests that while material objects are concrete things, regions of space not occupied by a

⁴ I'm taking some liberty in interpreting Baker here. She doesn't mention precisifications and is happy to speak of "vague objects"; however, she emphasizes that vague objects in her sense determinately exist but indeterminately have the property of existing-at-a-certain-time. (She also argues that constitution is vague, but as far as I can tell this ultimately plays little role in her view.) See also Gallois 2004: 652–3 for a similar (albeit less worked out) view.

material object aren't (cf. Wake 2011 and Nolan 2014). This allows him to claim that in borderline cases of composition there are determinately some x s and some y such that it's indeterminate whether y is a concrete object (and so, incidentally, also whether the relation between the x s and y is composition, since composition according to Effingham is a relation between concrete objects – however, this doesn't matter for my formulation of the Argument from Vagueness.⁵) Another variant presupposes an ontology of mere possibilia and argues that for any objects in any arrangement there is a possible fusion, but that it's a contingent matter whether this possible fusion is a concrete object. Moreover, while existence itself is not subject to vagueness (all possible fusions determinately exist), it can be vague whether a given possible fusion is concrete (Smith 2005, Woodward 2011).⁶

A related view has been defended by Chad Carmichael. According to him, it can be indeterminate whether there is a y that the x s compose even if y determinately exists in so far as y is within “the *outer penumbral boundary* for composition” (2011: 317–318, emphasis in the original): for y to exist it's enough that it's *not* the case that the x s super-definitely don't compose anything (i.e. it's not true that determinately (...) determinately, for arbitrarily many iterations of determinacy, the x s don't compose anything). For example, when it's indeterminate whether the x s compose a cloud, there is definitely an object (a “proto-cloud”) that is borderline-composed by the x s and is a borderline case of a cloud. Now, Carmichael

⁵ Effingham is in fact less committal than this and mentions the possibility of borderline concreta as part of a dilemma for supporters of the Argument from Vagueness. But the other options he discusses are not relevant to the Status Response.

⁶ Smith's and Woodward's views also have elements of the other responses to the Argument from Vagueness. Both of them reject Sider's linguistic approach to vagueness, and Smith also argues that “concrete parthood” is subject to vagueness.

primarily formulates his view with Lewis's rather than Sider's version of the Argument from Vagueness in mind, which makes certain details of his view orthogonal to my goals.⁷ Moreover, Carmichael can be read as denying either V2 and V5. This is because he doesn't explicitly generalize the strategy beyond clouds, which makes it possible to read him as claiming either that in every case of borderline composition there determinately is a concrete object that is borderline-composed, or instead that in every such case there is a determinately existing object that isn't determinately concrete. In my view, the second interpretation is more plausible. For one, Carmichael's characterization of proto-clouds is too thin to make it plausible that these things belong to any salient category of concreta. For another, the view that every borderline case of composition entails a determinately existing but borderline-composed concrete object still saddles us with an abundant ontology of concreta. This is at best a pyrrhic victory over the Universalist, which supports the second interpretation. In any case, whether or not Carmichael himself holds it, this is an additional version of the status response.

In what follows I will develop a general objection to the Status Response. I will argue that the strategy doesn't neatly generalize to entities that aren't material objects and therefore gives a problematically disunified treatment of count indeterminacy. I will build up my case gradually. First, I will presuppose a specific view of events and show that the Status

⁷ Lewis's version assumes that 'is a part of' is also a precise expression, something that Carmichael explicitly denies. Sider, however, discharges this premise and replaces it with the claim that it cannot be indeterminate how many concrete objects there are. I think Carmichael could reasonably generalize the "proto-K" strategy by saying that a proto-cloud is also a proto-concrete-object, which would turn his view into a response to Sider's version of the argument, too. (See also Hawley 2004: 390 and Donnelly 2009 for views on which the predicate 'is a part of' has multiple precisifications. For the reason just mentioned, it's not clear that this move addresses Sider's version of the argument.)

Response doesn't help us do away with count indeterminacy about events so construed. Then I will identify the criteria that a kind of entity needs to meet in order to pose a credible threat to the Status Response. Finally, I will show that various entities (for example states of affairs, tropes, holes, shadows, and words) are strong candidates for meeting these criteria. While it's possible to resist each particular case, together they pose a serious challenge to the Status Response.

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Suppose some x s at t_1 determinately compose a cloud, y , and at t_2 borderline-compose y . Suppose, moreover, that y determinately exists but it's indeterminate whether at t_2 it is a cloud composed by the x s (for example, perhaps y is borderline-concrete at t_2 , and/or a proto-cloud that isn't determinately a cloud). Instead of the cloud itself, focus this time on the *event* that we would naturally describe as the dispersion of a cloud. Between t_1 and t_2 , the x s go from determinately composing a cloud to borderline-composing one. Is there, during the interval between t_1 and t_2 , an *event of cloud dispersion*? Note that "cloud dispersion" as I understand it doesn't presuppose that a cloud goes out of existence; it could just as well consist in a cloud's turning from existing at present to existing merely in the past or in its ceasing to be concrete (or whatever the statistician wants to say about it).⁸

⁸ Perhaps cloud dispersions are "temporally maximal" and cannot be temporal parts of other cloud dispersions. Suppose, therefore, that the process doesn't continue beyond t_2 : between t_1 and t_2 the x s go from determinately composing a cloud to borderline-composing one, and by t_3 they again condense enough to determinately compose a cloud. Or perhaps the relevant part of the universe freezes and the x s keep borderline-composing a cloud 'til the end of times. What matters is that we conceive of the cloud's borderline-dispersion between t_1 and t_2 as maximal in the relevant sense.

The most salient answer seems to be that it's indeterminate whether there is a cloud dispersion between t_1 and t_2 . Intuitively there is one if the x s don't compose a cloud at t_2 , there isn't if they do, and it's indeterminate whether there is if the x s borderline-compose a cloud at t_2 . However, it can be argued that if indeterminacy about whether some x s stop composing a cloud implies indeterminacy about whether there is a cloud dispersion, then it can be indeterminate how many events there are. (There are ways to block this inference; I will look at some of them in the next few paragraphs.) The result is one version of what we can call the *Problem of Vague Non-objects*: even if the Status Response successfully eliminates count indeterminacy about *concrete material objects*, the problem resurfaces in the form of count indeterminacy about *events*.

Recall that the intuition behind V5 was that 'There are n concrete objects at t ' cannot be indeterminate in truth value because neither the words 'concrete', nor the logical constants, nor 'exists at t ' have precisifications. Now compare the sentence 'There are m events'. The only relevant difference is that we replaced 'concrete object' with 'event' (arguably, temporal indexes are redundant when counting events). Does 'event' have precisifications?

One might worry that it does, since there are so many rival metaphysics of events.⁹ Therefore, to show that 'event' is precise, I should say a bit more about how I conceive of events. I rely on the familiar view of Jaegwon Kim (1976) that events are individuated in terms of ordered triples of an n -tuple of objects $O_1 \dots O_n$, an n -place relation R that they instantiate (with $n=1$ being the limiting case when one object instantiates a monadic property), and a time t (either an instant or an interval) at which $O_1 \dots O_n$ instantiate R . Kimian events are fine-grained, and several events could occur in the same place at the same time (for example, John's walking is not the same event as John's walking fast). However,

⁹ See Goswick 2018 for a concise and helpful overview.

despite this fine level or grain, I interpret Kim as requiring that the relational constituent of an event be *minimally sparse* (where not every predicate expresses a sparse relation). A minimally sparse relation doesn't have to be fundamental; it just needs to meet a certain threshold of naturalness.¹⁰ Take, for example, Lewis's (1983) view that the degree of a property's or relation's naturalness is a function of its length of definition in terms of fundamental properties and relations. Then, a minimally sparse relation is one with no more than a certain length of definition in terms of fundamental properties and relations. The constraint of minimal sparseness suggests that there are such events as cloud dispersions, cloud formations, precipitation (etc.), but no such thing as the event that is a cloud's acquiring the property of being either closer to London than to Rome or being seen by Napoleon. While Kim doesn't explicitly specify a minimal sparseness constraint, I take this to be a plausible interpretation of his view. According to Kim, events are mind-independent things that serve as the relata of causation; and since not just any arbitrarily gerrymandered predicate corresponds to something causally relevant in the world, it's plausible to understand this theoretical role as requiring a minimal sparseness constraint on the properties and relations that can be event constituents.¹¹

¹⁰ A restriction of event-constituent properties to fundamental ones would have a reasonably good chance of eliminating event vagueness; for example, it's intuitive that electronhood doesn't have borderline instances (cf. Barnes 2005). However, we cannot escape vagueness so easily with merely minimally sparse properties. Moreover, this looser restriction sits better with some of the theoretical roles commonly assigned to events. For instance, causation doesn't take place only at the fundamental level (and perhaps of all places that's where it especially doesn't take place). If so, Kimian events *qua* causal relata require non-fundamental property constituents.

¹¹ Perhaps 'minimally sparse' is subject to vagueness, but this doesn't undermine the example. For on the sparse Kimian conception, if $O_1 \dots O_n$ instantiate R at t and R is merely an abundant relation, then there is no

The minimal sparseness constraint is important because if events involve the instantiation of minimally sparse properties and relations, it should be possible for there to be finitely many events. Imagine, for example, a very simple world w whose only inhabitants are some water droplets that pop into existence at t_1 already forming a cloud, come to borderline-forming a cloud at t_2 , and then immediately pop out of existence. There are many events even in a world as simple as w , but I see no reason to deny that there are only finitely many of them. But if there can be finitely many events, then indeterminacy about whether a certain event exists leads to indeterminacy about how many events there are.

I contend that when events are understood along these lines, ‘event’ is sharp and lacks precisifications. For what could count as a “proto-event”, or a “merely possible event”, of the sort that is only contingently (and perhaps indeterminately) an event? It cannot *be* an ordered triple of an n -tuple of individuals, an n -place relation and a time, since the triple is just an abstract object even if the event that it individuates determinately occurs.¹² Rather, it seems to be a distinctive feature of events that for an event to occur *just is* for that event to exist. This is especially clear on the Kimian view, which identifies events with instantiations of properties or relations by objects at a certain time: if the objects in question don’t instantiate the property or relation, then the event doesn’t exist, and if it’s indeterminate whether the objects in question instantiate the property or relation then it’s also

such thing as $O_1 \dots O_n$ ’s R -ing at t . It’s not as if there is an event-like category of entities some of which are events and some of which are non-event instantiations. Rather, there are no property instantiations other than events.

¹² While Kim’s theory is often informally put as the view that events “are” ordered triples of tuples of individuals, relations and times, this clearly gets wrong the conditions under which an event occurs. See Bennett 1988: 89–91 and Steward 1997: 21–23 for further discussion.

indeterminate whether the event exists. An example should bring out this idea more clearly. Suppose I saw Jim's firing a pistol. It follows that there was an event *e*, Jim's firing a pistol. And intuitively, it follows from this that Jim fired the pistol. Therefore, if Jim didn't fire the pistol then there was no such event as *e*. Now, I'm not claiming that this line of reasoning is incontrovertible (see below). But I find it intuitively compelling, and it has no analogue for concrete objects.

One could, of course, develop an alternative ontology in which events are only contingently events and could exist as non-occurrents. Williamson (2013) suggests a similar treatment of events in his necessitist framework.¹³ Necessitism is the view that necessarily, everything necessarily exists, and the view's application to compositional vagueness can be seen as a version of the Status Response.¹⁴ Williamson's systematic defense of necessitism is beyond the scope of this paper; presently, I'm only interested in how plausible necessitism is as a solution to the problem of borderline-occurring events.¹⁵

Not very, it seems to me. For one, it's not entirely clear why we should accept that if *x* is a borderline case of an event, then *x* is borderline-concrete iff *x* borderline-occurs. In this

¹³ Williamson (2013: 13) extends his necessitism to events and suggests that when an event occurs it merely becomes concrete but is nonconcrete before and after its occurrence; see also his subsequent discussion of impossible possibles (2013: 337–40).

¹⁴ Specifically, as an answer to the Argument from Vagueness it is most similar to the possibilist accounts of Smith (2005) and Woodward (2011).

¹⁵ In his book-length defense of necessitism, Williamson only makes passing reference to the view's potential to answer the Argument from Vagueness (2013: 9). Obviously, necessitism could be true even if it isn't promising as a version of the Status to this argument; it's just that in that case, the necessitist needs a different response to the Argument from Vagueness. Williamson himself is an epistemicist about vagueness (Williams 1994), so he would presumably reject V6.

context, it is important to note that Williamson uses the word ‘concrete’ differently from me. I used it the same way as Sider in his reconstruction of the Argument from Vagueness: for everything that is not a set, class, number, property, relation, universal, trope, possible world, or situation. The exact list is negotiable, but it is important that it be stipulative, cooked up precisely in order to ensure that the term ‘concrete’ isn’t susceptible to vagueness. But Williamson explicitly denies that the abstract/concrete distinction is exhaustive, and not being a member of this stipulated list clearly isn’t sufficient for something’s being concrete in his sense: many nonconcrete things (for example a necessarily existing, merely possibly concrete donkey) aren’t on the list either. So even if something can be borderline-concrete in *Williamson’s* sense, it doesn’t follow that something can be borderline-concrete *in the sense at issue in the Argument from Vagueness*; nor does it follow that it’s possible for an event to borderline-occur.

Another possible statistician strategy is to argue that the indeterminacy is located not in an entity’s status as an event but in an event’s being a cloud dispersion. According to this view there is determinately an event that takes place between t_1 and t_2 (for example a cloud thinning), but it’s indeterminate whether that event is a cloud dispersion. However, this response is problematic in light of a Kimian (fine-grained) account of events. Note that in order for the response to work, it needs to be generalizable to any event kind that has borderline cases. That is, for any event kind K , the statistician needs to be able to show that every borderline case of a K -event is a determinate case of some K^* -event. For example, every borderline cloud-dispersion is a determinate cloud thinning; every borderline explosion is a determinate oxidation; and so on. Call this the *Identification Strategy*.

One problem with the Identification Strategy is that it looks too optimistic: it’s unclear that we can account for every intuitive borderline case of every event kind as a determinate

case of some broader event kind. A single case in which no plausible broader event kind is available suffices to doom the Identification Strategy, and with it, the Status Response. But let this pass. The more serious problem is that when applied consistently, the strategy doesn't sit well with a fine-grained account of events. To see why, let's take another look at the cloud dispersion case. Suppose every borderline case of cloud dispersion is a determinate case of a cloud thinning. But cloud thinning admits of borderline cases, too. So we need to subsume it under a yet broader event kind. What might that event kind be? The worry is that any event type K^* of which cloud thinning is a subtype will be too broad in the sense that it won't be plausible, on a fine-grained account of events, that whenever there is a cloud dispersion and an event of type K^* at the same place at the same time, the cloud dispersion is identical to the K^* -event.

Take, for example, the event type "cloud internal rearrangement". The Identification Strategy requires us to say that every event of cloud dispersion is an event of cloud thinning, which in turn is identical to an event of cloud internal rearrangement. But even if it's somewhat plausible that for a cloud to disperse is for it to thin and that for a cloud to thin is for it to become internally rearranged, it's much less plausible that for a cloud to disperse is for it to become internally rearranged. It is especially implausible to say this if we assume a fine-grained theory of events. After all, the cloud dispersion and the cloud rearrangement appear to have different causes, effects, and modal properties. Note that I'm not saying that the Kimian view along with the Identification Strategy *rules out* such event identities. A fine-grained view of events is consistent with event descriptions that pick out the same event. Still, I find it implausible that 'cloud dispersion', 'cloud thinning' and 'cloud internal arrangement' refer to the same event. More generally, the problem is this. The Identification Strategy requires that for every borderline case of a K -event we find a determinate case of a

K*-event. And while this we can plausibly do, in many cases the most specific K* that subsumes every K-event makes it highly implausible, on a fine-grained account of events, that every determinate and borderline K-event is *numerically identical* to a K*-event. Which is to say, if events are fine-grained then the Identification Strategy isn't a promising way to save the Status Response.¹⁶

At this point, you might think that statisticians aren't unreasonably dogmatic if they simply reject the minimally sparse Kimian view of events. And you wouldn't be too wrong: there are alternative conceptions of events that don't give rise to this problem. For example, Lewis (1986b) identifies every event with the set of minimal spatiotemporal regions (drawn from different possible worlds) in which the event occurs. A Lewisian theorist could contend that a version of the Status Response can deal with event indeterminacy: whenever it's indeterminate whether there is an event, there determinately is a set of spatiotemporal regions, *s*, such that it's indeterminate whether *s* is an event. 'Event' then has precisifications, and there can also be borderline-events.

Now, I won't argue for the superiority of Kim's view over Lewis's, since the example merely serves illustrative purposes: there is at least one way (controversial as it is) to construct the Problem of Vague Non-objects for statisticians. Instead, in the next section I will take a step back and ask what an entity needs to be like in order to cause trouble for the

¹⁶ For the same reason, it's implausible to subsume borderline cases of event types under much broader event types that don't admit of borderline cases. For instance, it's implausible to claim that each borderline cloud dispersion is a determinate case of an event of increasing distance between some water molecules. It's true, of course, that whenever a cloud borderline-disperses, the distance between its composing water molecules increase. What's implausible is that the increase of the distance between the water molecules just is the borderline-dispersion of the cloud; these don't seem to be two descriptions for numerically the same event. (Thanks to an anonymous referee.)

Status Response. Then I will show that the kind of argument I gave above has a number of variants that don't hang on the Kimian metaphysics of events. None of these variants is conclusive; all hang on controversial metaphysical assumptions. Still, together I regard them as quite forceful. The more disjuncts a disjunction of controversial metaphysical views contains, the costlier it is for a response to the Argument from Vagueness to contradict that disjunction. That is, the strategy I pursue against the Status Response is "death by a thousand cuts" rather than one knockdown argument.

3

In order for a type of entity, K, to serve as a problem case for the Status Response, it needs to satisfy three criteria.

Possibility of borderline cases. The Status Response doesn't deny the phenomenon of compositional vagueness. It accepts not only indeterminate composition but also indeterminate cases of concrete material objects, but it attempts to classify the latter as determinate cases of some broader category. Similarly, for a K to be problematic for the Status Response, it needs to be the sort of entity that intuitively admits of borderline cases.

Categorial Precision. The Status Response contends that one of the constituent expressions in "There are n concrete objects at t" has precisifications and therefore V5 is false. Or so I interpret various authors who subscribe to the general strategy; sometimes the focus is on specific kind terms (e.g. 'cloud'), but I have argued that this too can be understood as a variant of the Status Response. Note, however, that Sider's choice of 'concrete' was dispensable in his argument. What matters is to find a precise predicate, K, and argue that certain sentences about the number of Ks that vague composition would force us to treat as indeterminate cannot be understood in terms of precisifications.

Statisticians can resist this line of reasoning by finding a broader category, K^* , and arguing that every indeterminate instance of K is a determinate instance of K^* . There are no formal restrictions on what K^* could be, given a certain K . But plausibly, not just anything goes. It won't do to simply insist that a borderline-event is a "proto-event" and refuse to say anything further.¹⁷

Generalizing a bit, then, in constructing problem cases for the Status Response we need to find things that fall under kind terms without precisifications. And one way to convince ourselves that a kind term K lacks precisifications is to argue that there isn't a broader kind term, K^* , which we can coherently conceive of as containing borderline cases of K . While I cannot conclusively prove a negative claim like this, I think I made a reasonably good case that 'event' (understood as minimally sparse and Kimian) is such a term. In the sections to follow, I will argue that there are several others, too.

Possible finiteness. For there to be indeterminacy about the number of K s, there should be finitely many K s. This is why my interpretation of Kimian events as instantiations of minimally sparse properties and relations mattered: once we allow abundant properties and relations, no world can be simple enough to contain only finitely many events (since there will be infinitely many arbitrarily complex Boolean operations on properties and instantiations thereof). Kimian events are fine-grained and can spatiotemporally coincide, but as long as not every assignment of predicate and time to a tuple of individuals corresponds to an event, there is no reason to assume that there must be infinitely many events in very simple worlds, even if perhaps there are in the actual world.

In short, then, to generate problem cases for the Status Response we need entities that fall under a kind predicate, K , which lacks precisifications, has finitely many members in at

¹⁷ Here I agree with Wake (2011: 30-31), who warns against "quietist" versions of the Status Response.

least some possible worlds, and plausibly has borderline instances. It's worth saying explicitly why such cases pose a problem for the Status Response. The claim is *not* that there is an analogue of the Argument for Vagueness for permissive ontologies of Ks other than material objects; perhaps this is the case for some Ks (for example abstract artifacts according to Korman 2014; cf. section 6), but my argument doesn't presuppose that. Instead, the claim is that if it cannot be indeterminate how many concrete material objects there are (assuming that borderline cases of concrete material objects aren't determinate cases of some broader category), then this is due to general considerations about existence, identity, and number, and not due to any special feature of concrete objects *per se*. If indeterminacy about the existence, identity and number of concrete objects is unacceptable, then it is equally unacceptable when it arises in other ontological categories; but with some of those categories the strategy of explaining away count indeterminacy that the Status Response recommends is not available. If it can't be indeterminate how many concrete material objects there are, then for any K that is categorially precise and possibly has finitely many instances, it can't be indeterminate how many Ks there are.

Minimally sparse Kimian events serve as a useful example of things that meet these criteria, but they are by no means the only such example. As we will see in the sections to follow, there are at least three broad groups of entities with similar characteristics: 1) entities that exist when an individual instantiates a property (structured states of affairs and tropes are natural examples, but Kimian events also belong here); 2) "negative" entities, for example holes and shadows, whose existence is understood in terms of the non-existence of something else; and 3) certain created abstracta, for example words.

Let's begin with the first group of entities, which we could collectively call "instantiations". Like many Latin-rooted words that end with '-tion', this word is notoriously ambiguous: it could refer to the *instantiating* of a property (an event, a fact or a state of affairs), something that *does* the instantiating (an object), or a particular *case* of the property that is being instantiated (a trope). The kind of argument I gave in the previous section could be repeated with all of these entities. Here, I will briefly go over states of affairs and tropes.¹⁸

States of affairs. Suppose there are structured states of affairs of the sort Armstrong (1997) posited, which are made up of some individuals and some properties or relations that they instantiate. Similarly to Kimian events (as I conceive of them), the property constituents of structured states of affairs are sparse. On Armstrong's view, this simply means that there really is a state of affairs corresponding to a sentence of the form 'R (a1...an)', and that there is a universal that answers the predicate 'R'. Whenever some individuals a1...an instantiate an n-place relational universal R, there is a state of affairs [R(a1...an)] (where the concatenation of '[', 'S' and ']' are to be read as 'the fact that S'). Plausibly, then, when a1...an borderline-instantiate R, it's indeterminate whether there is such a thing as [R(a1...an)]. Thus, it's indeterminate how many states of affairs there are.

The thought experiment I used in section 2 can do double duty in also showing that there could be finitely many Armstrongian states of affairs (the only difference from the original case is the absence of times from states of affairs, which makes no difference to the main point). Moreover, 'state of affairs' (in Armstrong's sense) doesn't seem to have precisifications. After all, states of affairs are structured compounds made up from

¹⁸ For vagueness in sparse tropes and in re universals (which will be discussed in the context of states of affairs), see Barnes 2005.

individuals and relations. When the individuals instantiate the relation, there is a state of affairs; when they don't, there isn't. And when it's indeterminate whether there is such a state of affairs as $[x_1 \dots x_n \text{ form a cloud}]$, it's indeterminate whether there is *anything* states-of-affairs-like that $x_1 \dots x_n$ and the relation of forming a cloud combine into. Here's an argument to buttress this point. Armstrongian states of affairs involve *in re* universals, i.e. universals that cannot exist uninstantiated. Suppose $x_1 \dots x_n$ borderline-instantiate R, and determinately no individuals other than $x_1 \dots x_n$ instantiate R. Then $[R(x_1 \dots x_n)]$ cannot exist unless R does. So, when R has no other instance and $x_1 \dots x_n$ borderline-instantiate R, it's indeterminate whether $[R(x_1 \dots x_n)]$ exists.

Tropes. Essentially the same line of reasoning can be run with tropes. Suppose it's indeterminate (in our imagined simple world) whether the water droplets compose a cloud. Then it's indeterminate whether there is an instance of cloudiness in the location of the water droplets. On a trope ontology, this amounts to indeterminacy with respect to the existence of a cloudiness trope. Most trope theorists adopt a sparse theory of tropes, on which there is unlikely to be such a thing as a "cloudiness trope".¹⁹ But even on such views we can forge problem cases for the Status Response with bona fide sparse tropes, for example dispositional ones. Suppose all there is in some world, w' , are some finite number of mereological simples, the x s, borderline-arranged-vasely, plus whatever they compose, and that it's indeterminate whether there is a fragile vase composed by the x s. Then it's indeterminate whether a fragility trope exists in w' .²⁰ Moreover, 'trope' doesn't have

¹⁹ See, e.g., Campbell 1990 and Ehring 2011. Some, e.g. Giberman (2014), are open to a more abundant conception of tropes.

²⁰ Couldn't the x s *taken together* be fragile? My answer is twofold. First: intuitively, no. Our pre-theoretical conception of fragility implies the propensity of something to break into pieces, and a plurality doesn't seem

precisifications. There are different accounts of tropes, but on any theory, tropes are particular, non-repeatable qualities. I can't think of any broader type of thing that can have instances which are borderline cases of being a particular, non-repeatable quality. Thus, if it's indeterminate whether the *xs* compose a fragile vase, then it's indeterminate how many sparse tropes there are.²¹

like the sort of thing (or more precisely, things) that can break into pieces. In other words, fragility on the face of it can only characterize things with mereological structure. Second: the strategy of insisting that fragility is a plurally instantiable property doesn't generalize well. For either some minimally sparse property isn't plurally instantiable or all are. If the former, we can just run our example with that property. But if the latter, then we get some indirect evidence against restricted composition, for in that case no composite object is needed to account for the instantiation of sparse properties. If every sparse property is plurally instantiable then composite objects are explanatorily redundant and (one may think) should all be treated as metaphysically on a par: either none exists, or they exist abundantly, albeit without any explanatory value (as "ontological free lunch", to use Armstrong's phrase). Now, I'm not saying that it's incoherent for a restrictivist about composition to claim that all tropes are plurally instantiated. My claim is only that this is a dialectically awkward move, and that it's fair to assume as our default hypothesis that some sparse tropes aren't plural.

²¹ The possibilist strategy, which *prima facie* seems to have the best chance of being generalizable across different ontological categories, is unpromising when applied either to states of affairs or tropes. In the case of states of affairs that involve an *in re* universal with at most one instance, the strategy requires an ontology of possible universals that are merely contingently *in re* universals. But this is simply Platonism (the ontology of *ante rem* universals) by another name! A similar remark applies to possibilism about tropes. A Platonist would understand the property of being Socrates' snub-nosedness as an *ante rem* universal that is contingently instantiated by Socrates and necessarily not instantiated by anything else. However, an entity that is merely contingently a trope but could have been a non-trope doesn't seem any different from a certain kind of Platonic universal. Or, to put it a bit more cautiously, talk of possible tropes that may be tropes contingently (call them "proto-tropes") could be interpreted as talk of haecceitistic Platonic universals without any problem; the two posits play the same theoretical roles in the same way. When a proto-tropist says that a proto-trope

A second group of examples concerns “negative ontology”. Negative ontological posits exist just in case some other (more familiar) kind of thing doesn’t exist. I will mention two such examples here.

Holes. The metaphysical status of holes is a matter of controversy, but to make my point I only need to make two weak assumptions here: first, that some form of realism about holes is true; and second, that there are borderline cases of perforatedness. My case will be similar to the one involving clouds, but this time imagine instead a sorites series of worlds that contain a lonely piece of fabric with a blunt needle pushed through it increasingly deeply.²² That is, world w_1 contains the fabric barely touched by the needle, w_2 contains the fabric slightly pressed by the needle, w_3 contains a the fabric with the needle further pressed into it, etc., and w_n contains the fabric completely perforated by the needle. The first few members of the series are definitely not perforated, while the last few definitely are. Take a world whose only inhabitants are a piece of fabric determinately perforated by a needle and a piece of fabric borderline-perforated by a needle. It’s indeterminate whether the borderline-perforated object hosts a hole. So it’s indeterminate whether there are two holes in this world or only one. Moreover, on most plausible views of holes, they aren’t a special case of a

isn’t a trope in the actual world, the Platonist will say that a universal is uninstantiated. When a proto-tropist says that tropes cannot be shared, the Platonist reminds us that the universals at issue are haecceitistic. And when the proto-tropist claims that a proto-trope becomes a trope and then stops being a trope, the Platonist can say that an uninstantiated haecceitistic universal becomes instantiated and then stops being instantiated.

²² I thank an anonymous reviewer for suggesting this example, which is superior to the one with which I first came up.

broader category with possibly finitely many instances.²³ So borderline cases of fabric perforation can lead to genuine count indeterminacy.

We can construct a similar problem case with *shadows*. As in the case of holes, this is not the place to try to give a precise metaphysical account of shadows. But it's fairly uncontroversial that a shadow is a relatively well-demarcated absence of light on a lit surface. Sorensen (2008: 188) even goes as far as claiming, following 18th century French surgeon Claude Nicholas Lecat, that shadows are "holes in the light". This would encourage a treatment of shadow indeterminacy analogous to that of hole indeterminacy. Whatever we think of the actual world, we can easily conceive of a possible world in which there are finitely many shadows but it's indeterminate just how many there are. Take a world with a bright source of light (say, a star) and a barren planet lit by the star. On the planet there is an intact rock, a rock that is entirely split into two halves, and a rock that is on its way to split into two halves that are only connected by a narrow corridor. It's indeterminate whether the

²³ This is true on Casati and Varzi's (1994) immaterialist view as well as on Meadows' (2015) more recent theory, according to which holes are special kinds of properties. It's less clear whether the classic view of Lewis and Lewis (1970) implies indeterminacy about the number of holes that cannot be treated as indeterminacy about the hole status of some broader category of determinately existing things. As Casati and Varzi (1994: 44–54; 2004) point out, Lewis and Lewis's identification of holes with hole linings leads to a kind of ambiguity about which entity in the world a hole is, since for every hole there is a multitude of candidate hole linings that it could be identified with. However, this is a problem about there being too many holes rather than indeterminately many. The crux of the issue, as far as I can see, is what exactly a hole-lining is. As Casati and Varzi (1994: 30) point out, hole-linings are ontologically mysterious since they are neither identical to their hosts nor parts of their hosts (since holes themselves aren't parts of their hosts). This raises questions about whether hole-linings can be subsumed under a broader category of entities whose members may be indeterminate cases of hole-lining.

almost-split rock casts two shadows or only one: the corridor between the two halves is so narrow that it barely shows in the shadow cast by the rock. So it's indeterminate how many shadows there are in this simple world. Moreover, if shadows are sui generis "negative entities" (as Sorensen somewhat reluctantly concedes), then there is no broader category of things that determinately exist and can count as borderline cases of shadows. Thus shadows provide us with yet another source of count indeterminacy that the Status Response cannot handle.

6

The third group of cases revolves around human-made abstract objects: words, novels, musical works, and the like. Korman (2014) has recently argued that an argument analogous to the Argument from Vagueness can be used to support eliminativism about created abstract artifacts. My reasoning will be similar to his, but the point I wish to make is more modest: I only want to show that the Status Response to the Argument from Vagueness doesn't help us avoid count indeterminacy about abstract artifacts, not that the argument stands or falls with Korman's analogous argument against creationism about abstract artifacts.

I will assume that words (in the sense of word type rather than word token) are abstract artifacts.²⁴ I'm going to use the example of words instead of more highbrow cultural objects because they drive my main point home more simply.²⁵ Intuitively, sometimes it's indeterminate whether some sequence of Latin characters makes up a word. For example, it's indeterminate whether there is such a word as 'irregardless', with roughly equal shares of

²⁴ See Irmak 2019 for a defense of this view and Miller 2020 for a helpful survey of the metaphysics of words.

²⁵ For an argument that musical works also raise a problem about vague existence, see Friedell 2017.

native English speakers using and shunning it. Although natural languages have the resources to coin infinitely many words, actually spoken languages have finite vocabularies. But then, given that it's indeterminate whether there is such a word as 'irregardless', it's indeterminate how many words there are. Since the actual vocabulary of every language is finite and there are finitely many languages, it's likewise indeterminate how many words there are, period. Moreover, 'word' is unlikely to have precisifications on the "created artifact" view. For given this view, it's hard to see what could be the broader category K such that 'irregardless' is determinately a K but not determinately a word. The most natural candidate for K would be something like *string of letters*. But on the creationist view words aren't strings of letters, since a string of letters S can exist before a word whose tokens are indistinguishable from those of S comes into existence.²⁶ So, the indeterminate existence of a word cannot be explained away as the determinate existence of a string of letters that is a borderline-word. Once again, then, indeterminacy about whether 'irregardless' is a word leads to indeterminacy about how many words there are – a kind of indeterminacy that cannot be explained by appealing to precisifications.²⁷

²⁶ Indeed, this is perhaps the most crucial difference between Platonist accounts of words (e.g. Wetzel 2009) and the "created artifact" view.

²⁷ It's worth observing that the case of abstract artifacts is especially challenging for necessitists who seek to explain away indeterminately existing objects as determinately existing borderline-concreta, because abstract artifacts are determinately nonconcrete even in the paradigmatic cases and even in Williamson's more demanding sense of 'concrete'. Perhaps the necessitist could try to argue that 'irregardless' is determinately nonconcrete but only a borderline-word; however, I'm not sure what to make of this view. If there is determinately such a thing as 'irregardless' then it seems to be the *same sort of thing* as 'regardless': constitutively dependent (even though not identical to) a string of symbols, used for communication, created by language users, believed by its users to have a meaning, etc. If 'regardless' is determinately a word and 'irregardless'

In the preceding sections I offered several salient examples that pose a problem for the Status Response. But as readers will undoubtedly notice, none of these cases is conclusive. One could resist each one of them by denying that the respective category of things exists. Alternatively, one might accept the relevant category but deny that it satisfies the criteria (laid down in section 4) that a kind of entity needs to meet in order to pose a challenge to the Status Response. I take it that this is the more desirable option, since plain eliminativism about all of the entities discussed above is a fairly implausible position.²⁸

To give a taste of what the more modest response would look like, let's take another look at the first criterion: that a kind predicate K lacks precisifications. The best way to show this is to point out that no entities look like good candidates to *be* the relevant precisifications of K because there is no broader kind, K^* , such that borderline- K s could be plausibly classified as determinately existing K^* s. I already mentioned an account of events (Lewis's) on which events would violate this criterion. But there are other examples, too. For instance, one could replace Armstrong's worldly states of affairs with the abstract conception of Chisholm (1970: 20) and Plantinga (1974: 44). On this sort of view, a state of affairs of the form $[R(a_1 \dots a_n)]$ can exist even if $a_1 \dots a_n$ don't instantiate relation R . It's just that in

determinately exists, I cannot see how 'irregardless' could fail to be determinately the same type of thing, i.e. a word, as well.

²⁸ Perhaps a kind of radical austere nominalist would want to deny the existence of all of these entities. However, first, this kind of view is also in tension with most forms of the Status Response (e.g. with an ontology of possibilia or proto-objects); and second, if the Status Response forced us to adopt such an austere form of nominalism, that would be an interesting result in itself.

that case the state of affairs in question will merely exist but not *obtain*. For a state of affairs to be the case, it also has to obtain. Armed with this view, one could argue that borderline cases composition at best lead to indeterminately obtaining states of affairs, but that these states of affairs nonetheless determinately exist. Perhaps a similar strategy could also take care of some of the other examples.

Now, to be sure, statisticians are within their right to reject each particular problem case that I raised for the Status Response. But all we need is one genuine counterexample to frustrate the general strategy. It doesn't matter if statisticians can adopt eliminativism about words or an abstract conception of events (etc.) so long as there is even one category of things that resists treatment along the statistician's lines. Moreover, some types of entities are more likely to cause headache than others. The main reason to believe in holes and shadows is our apparent ontological commitment to them; explain away talk that appears to confer commitment to them and you have explained away the need for a negative ontology. Things are much less straightforward with the group of entities I collectively referred to as "instantiations": particulars whose existence seem to be entailed by true predicative sentences. Our reasons to believe instantiations of some sort (either events, or tropes, or states of affairs, or perhaps other types that I have not discussed, such as states and processes) is that certain theoretical roles are most naturally assigned to them. I think that most philosophers make use of instantiations of some sort in their accounts of causation, perception, mental content, or predication (etc.), and that at least some instantiations will be of the sort that is susceptible to borderline cases and resists treatment along the statisticians' lines.

Still, even though some groups of cases are more difficult to avoid than others, I don't want to pretend that any of them is knockdown. As far as I can tell it is plausible to adopt a

set of views about instantiations, negative entities and abstract objects that entirely avoids these problem cases. But in my view, the combined force of these cases is greater than that of the sum of each of them taken separately. For the statisticians' need to even appeal to such piecemeal responses suggests a systemic limitation of the view. One aspect of this limitation is simply that the Status response to the Argument from Vagueness gives us no insight into how vagueness should be treated in other ontological categories. Thus, statisticians are forced to take on substantive theoretical commitments about a seemingly disparate array of issues (such as the metaphysics of events, holes, and words) with no apparent relation to the metaphysics of material objects. The sheer number of these commitments makes them all the riskier: surely it would be preferable, other things equal, if we could adopt a restricted account of composition without having to reject Kimian events, Armstrongian states of affairs, and irreducible holes. Another aspect of the piecemeal strategy is that it yields a far less theoretically unified treatment of vagueness across ontological categories than alternative strategies.

Let me explain this latter point. Not every treatment of compositional vagueness faces a "revenge problem" in the way that the Status Response does. For example, those who deny V3 are willing to countenance "ontic vagueness" that resides in the world rather than our representations of it, and are ready to make peace with worldly vagueness about whether a given composite object exists.²⁹ Whatever one thinks of such views, it seems clear that they don't exploit any special feature of material objects: if ontic vagueness and indeterminate identity are acceptable in objects, they are also acceptable in events, states of affairs, and words. *Mutatis mutandis* with the denial of V6. Most find it implausible that there is a sharp cut-off in a sorites series of putative composition cases, but if we accept such a cut-off, I see

²⁹ See van Inwagen 1990: 271–83 and Hawley 2002.

no special problem with also positing one in sorites series of events or words.³⁰ As far as I can see, the acceptance of sharp cut-offs as a way to address the Argument from Vagueness easily generalizes to borderline cases of entities other than material objects.

It's only the Status Response that is vulnerable to the challenge I raised in the preceding sections. In effect, every version of the Status Response creates room for precisifications by assimilating presently existing material objects to a broader category whose members can determinately exist without determinately being presently existing concrete objects. But this strategy won't work once we move away from material objects and inquire about borderline cases of other entities.

What this means is that the Status Response also comes with a second disadvantage. Even a statistician who finds an account of each type of entity mentioned in sections 4–6 that is either eliminativist or is amenable to an analogue of the Status Response will ultimately end up with a far less unified set of commitments than (for example) a fan of sharp cut-offs. It seems, for example, that someone who wants to address the Argument from Vagueness by adopting Effingham-style supersubstantivalism still needs a separate treatment of indeterminacy in Armstrongian states of affairs and yet another completely different account for borderline-words. This doesn't undermine supersubstantivalism *per se*, since there are reasons to adopt it that are independent of considerations about vagueness; similarly, it doesn't by itself undermine any of the views that other versions of the Status Response rely on. But it shows that statisticians cannot reconcile compositional vagueness with the precisificational view of indeterminacy by using the same strategy across the board. Instead, they need to adopt a patchwork of local, category-specific treatments. This makes

³⁰ See Merricks 2005 and Smith 2006.

the Status Response significantly less appealing, other things equal, than alternative responses to the Argument from Vagueness.

8

The Status Response to the Argument from Vagueness promises the best of both worlds: on the one hand, it leaves room for vagueness in composition, which is intuitive, but on the other hand it's supposed to allow us to treat indeterminacy in terms of precisifications. However, this second alleged advantage of the Status Response relies on an unduly narrow focus on vagueness in concrete material objects. Once we broaden our view to also take into consideration other types of entities with the same relevant features (categorially maximal, possibly finite in number, and intuitively admits of borderline cases), such as events, states of affairs, tropes, and words, we soon find ourselves with similar sorites series that resist treatment along these lines. And while statisticians might find ways to make room for precisifications in these cases, too, the Status Response doesn't by itself provide the means to do so. Since the desire to reconcile compositional vagueness with a precisificational approach to indeterminacy is the primary motivation for the Status Response, this is a good reason to look for alternative ways of resisting the Argument from Vagueness.

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