Re-re-reconciling the epistemic and ontic views of explanation: a reply to Wright & van Eck

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Abstract

In a recent article published in *Ergo* and entitled "Ontic explanation is either ontic or explanatory, but not both," Cory Wright and Dingmar van Eck have sought to undermine any ontic approach to explanation, providing three arguments to show that an epistemic approach is "the only game in town."

I show that each of their arguments is straightforwardly question-begging.

For brevity, I make my counter-arguments by showing how the claims of Sheredos (2016) – whom Wright & van Eck cite as an ally – undermine each of their own arguments. The consumer update is: there is no new decisive argument against an ontic view, the epistemic view is not the only game in town, and reconciliation between the ontic and epistemic views remains possible.

NOTE: *This kind of short reply to an article is rarely publishable in a proper academic journal, so I am simply releasing it myself, for whatever it's worth.*

I originally wrote it in the third person in the hopes of getting past a blind review: I leave this as-is.

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1. Introduction

There has been a dispute in philosophy of science about how to understand "explanation." Roughly: construed from an ontic perspective, "explanation" is taken to refer to mind-independent ontic structures which cause, constitute, or are otherwise responsible for the production of *explananda*; construed from an epistemic perspective, "explanation" is taken to refer to the communicative and cognitive acts and representations whereby intentional agents account for, make intelligible, and understand the occurrence of *explananda*.

Sheredos (2016) argued that the epistemic and ontic views can be reconciled, after a fashion. In his view, briefly: (*i*) there are a plurality of ways scientists can succeed when they seek an explanation, (*ii*) some of those successes might be analyzed as locating an ontic explanation, whereas others can only be adequately analyzed from an epistemic perspective, so (*iii*) the ontic and epistemic views can help provide complementary (rather than rival) analyses of norms of distinct kinds of explanatory success. In particular, Sheredos claimed an ontic approach may provide relevant analyses of success involving singular explanation (e.g., an explanation of how a token neuron fires a token action potential), whereas only epistemic views provide suitable analyses of general explanation (e.g., an explanation of why, typically, typical neurons fire typical action potentials).

The first step on Sheredos' road to reconciliation is recognizing (*a*) that "explanation" is used to mean several different things by different parties to the epistemic-ontic debate, and (*b*) that there is no vantage point in this debate from which either party can acquire the authority to insist, *a priori*, that any of these uses of the term is somehow "illegitimate." Sheredos characterized recognition of these points as a Quinean "semantic ascent." Recent work by both ontic (Craver, 2014) and epistemic theorists (van Eck, 2015) shows both sides are sometimes willing to make the semantic ascent. The effect is to cease any argument over whether any party to the dispute is permitted to at least *try* to mean what they like by the term "explanation." I consider this an advance in the debate.[1] To amplify Sheredos' remarks, semantic ascent is glossed by Quine as "a shift from talk of objects to talk of words," for example "the shift from talk of miles to talk of 'mile'" (1960, p.250). He elaborated further:

> "The strategy of semantic ascent is that it carries the discussion into a domain where both parties are better agreed on the objects (viz., words) and on the main terms concerning them. Words, or their inscriptions, unlike points, miles, classes, and the rest, are tangible objects of the size so popular in the marketplace, where men of unlike conceptual schemes communicate at their best. The strategy is one of ascending to a common part of two fundamentally disparate conceptual schemes, the better to discuss the disparate foundations. No wonder it helps in philosophy" (1960, p.251).

Sheredos' "semantic ascent" is not meant to leave us arguing over words. Rather, it is a preliminary step that asks each side of the epistemic-ontic debate to recognize what the other

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[1] Wright & van Eck disparage this as a "Humpty Dumpty theory of language" in their *fn*.20. Charm aside, I do not see how one can hope to convince ontic theorists that they are not permitted to use the word to mean what they intend. My aim is to show that none of the arguments in the article under discussion fulfills this hope.

means to say, preventing merely verbal disputes and question-begging arguments. Its true value is that it clears the way for a second important development in the recent debate: what Sheredos called (following comments by Illari 2013) "the normative turn." Once clarity has been attained regarding what disputants might mean by "explanation," we can get to work on the true task for philosophy of explanation: articulating the norms which govern scientific success in pursuing explanations (in whatever sense one cares to employ). No sense of "explanation" is off-limits at the outset; each is permitted to pay its way in philosophical dividends as far as it can. The closest relevant thing we have to a test for the "legitimacy" of any sense of "explanation" is simply the extent to which it can do good philosophical work in helping us analyze scientific practice. We might eventually decide some sense of "explanation" does no relevant work and might discard it as not useful in our philosophical accounts. Until then, reconciliation is to be found (if at all) by determining a sensible division of philosophical labor between the two views.

In a recent article, Wright & van Eck encourage us to discard the ontic sense of "explanation," advancing three arguments to convince us that "the epistemic conception is more or less the only game in town" (2018, p.997). It seems to me that each of their three arguments fails to make the semantic ascent, fails to take the normative turn, and straightforwardly begs the question against the ontic theorist, in just the way Sheredos cautioned against. That is what I seek to show below.

2. WvE's First Argument: the "Master Argument"

In their first argument, Wright & van Eck (hereafter, "WvE") suppose the ontic theorists' "master argument" is as follows:

" (1) Speakers equivocate on the term *explanation*.

(2) Speakers equivocate over the term *explanation* only if the term *explanation* is ambiguous.

∴ (3) The term *explanation* is ambiguous.

∴ (4) The term *explanation* has multiple senses.

(5) Of these multiple senses, one philosophically legitimate sense of *explanation* is the ontic sense.

(6) All other non-ontic senses of *explanation* mean explanatory texts.

(7) Explanatory texts are not actual [i.e., 'philosophically legitimate'][2] explanations, but representations of them.

∴ (8) Actual [i.e., 'philosophically legitimate'] explanations are ontic " (2018, p.1010).

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[2]Insertions in square brackets clarify WvE's intended argument. If all that is meant by "actual explanation" in (7) and (8) is that ontic explanations have mind-independent existence (unlike epistemic explanations), then (7) and (8) would be true (if at all) by stipulation, and no argument would be required to derive them.

(7) and (8) are bold claims. I am not entirely certain who among ontic theorists is committed to them, but set that aside for now.[3] For WvE, the sticking point is the transition to (5)-(8):

> "...the core issue is whether, given (3) and (4) *explanation* is ambiguous in a way that would render (5) true. In recognizing this much, what one recognizes is something that has not been clear in the literature on explanation: the legitimacy of an ontic sense of *explanation* is not automatically secured by that term's ambiguity. Whether or not (5) is true, there is no valid inference from any of (1)-(4) to it. To make it valid, advocates of OC would need to add a further premise. But which suppressed premise is that?" (2018, p.1011).

I agree with WvE that the "philosophical legitimacy" of an ontic sense of "explanation" cannot be derived from its ambiguity. Making the semantic ascent grants the ambiguity but does not validate the utility of an ontic conception of explanation.

The problem is that WvE do not seem to recognize that there is *any* path ("suppressed premise") the ontic theorist can use to promote claims (5)-(8). The normative turn cautions precisely against trying to *derive* (5)-(8) from (1)-(4) and recommends an alternative: establish the "legitimacy" of the ontic sense (if at all) through its utility in analyses of scientific practice. WvE, by contrast, are fixated on pieces of language. To challenge the "master argument," they examine the statements that ontic theorists might use to identify an ontic explanation: e.g., "the operations of sodium and potassium channels explain the action potential." They sometimes call these "*IR*-expressions" to indicate that they are intended, by the ontic theorist, to refer to mind-independent ontic explanations ("things") *in re*. They seem to think that the following example, taken from Ruben (1990, p.162), provides a decisive argument against the ontic view:

> "(13) The hurricane explains the loss of life.
>
> (14) The hurricane is the event reported in *The Times* on Tuesday.
>
> _____
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> ∴ (15) The event reported in *The Times* on Tuesday explains the loss of life" (Wright & van Eck, 2018, p.1013).

It is supposed the ontic theorist maintains that (13) and (15) are literally true. Following Ruben, WvE assert that (15) is not literally true. Following Ruben, their diagnosis is that (13) also cannot be literally true. To them, this shows the ontic sense of explanation cannot be "philosophically legitimate." I offer three responses.

First, I cannot see why ontic theorists should be willing to follow WvE in thinking that (13) and (15) cannot be literally true. WvE seem to presume that (15) simply cannot be read as an *IR*-expression. Yet I do not see why one cannot refer to a mind-independent event *in re* using an expression like "the event described in The Times." The claim the ontic theorist would intend to

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[3]WvE believe that "explanatory text" is used by ontic theorists to evade recognition of any epistemic sense of "explanation" – see esp. their *fn*.21. I disagree: Craver (2014) is explicit in recognizing that explanatory texts *are explanations*, in an epistemic sense. By my lights, Craver rejects (7) and (8) and WvE misunderstand (6).

make with (15) is not that *the description of* the event, appearing in *The Times*, ontically explains the loss of life; the claim is that *the event* (which, incidentally, was described in *The Times*) ontically explains the loss of life. WvE seem not to understand (15) in this way, since they seem to think it is *in any way relevant* that the event was described in *The Times*. On an ontic view, how and when we describe an event is irrelevant to its status as an ontic explanation. It is not even relevant whether we describe it as "a hurricane" rather than as "a tropical storm." The claim is that *that ontic structure* (describe it however you like – or don't) ontically explains (causes, constitutes, or is otherwise responsible for) the loss of life.

Second, and relatedly, WvE's reading of (15) seems to presuppose an epistemic conception of "explanation," on which descriptions affect how some intentional subject *understands* what counts as explanatory *for that subject*. Ruben (1990), from whom WvE borrow both the hurricane-*Times* case and their diagnosis of it, explicitly presupposes an epistemic conception of explanation, on which explanation is always at least a "triadic relation" involving *explanans*, *explanandum*, and a person (1990, p.156). In defending his diagnosis of hurricane-*Times* cases, Ruben remarks: "I grant that the person who knows the identities might feel reluctant to count the conclusions as wholly literal falsehoods, since there is a sense in which he can see what the conclusions are trying to get at. The conclusions mention events which, *when differently described*, do explain" (1990, p.164, original emph.). This is far from the mark: the ontic theorist does not intend for any hearer's knowledge of an ontic explanation, or any particular manner of describing an ontic explanation, to influence, in any way, what is an ontic explanation. Ontic explanations are to be events *in re*, not events-under-a-description-as-understood-by-a-subject. WvE fail to make the semantic ascent, refusing to permit the ontic theorist to mean what they intend to mean by talk of ontic explanation, and their argument thus presupposes an epistemic conception, and begs the question.

Third, neither of my foregoing rejoinders "legitimates" talk of ontic explanations and *none of it could*. The relevant path to "legitimacy" is to take the normative turn and put the concept to work in analyses of scientific practice. I agree with WvE that the "master argument" is a bad route to securing an ontic view, but challenging this argument is an equally bad route to undermining an ontic view. The productive epistemic-ontic debate is a debate in philosophy of science, not philosophy of language. It is not entirely clear from WvE's remarks who among ontic theorists has pursued this master argument: perhaps the historical roots of the ontic view rest on bad arguments. But any ontic theorist *now* willing to abandon this argument and make the normative turn can proceed to try to secure the utility of an ontic conception of explanation on good grounds that WvE do not consider.

3. WvE's Second Argument: General Explanation

Sheredos (2016) argued that ontic views cannot account for general explanations at the level of types. He took this to secure the value of an epistemic conception of general explanations, but did not regard it as a landslide victory: he permitted the ontic view to retain its value in cases of singular explanation, and so sought reconciliation.

WvE nominally endorse Sheredos' line of thought, but they declare they are pursuing "a different, more penetrating criticism of [the ontic view]: the demand for generalized explanations lands [the ontic view] in a dilemma in which being ontic trades off against being explanatory" (2018, *fn*.22). Their argument relies on the supposition that "the explanations that matter most to the scientific community are those [general explanations] implicating classes of activities or events,

kinds of mechanisms, types of causal processes, and so forth" (2018, p.1019). On these grounds they attempt to pose a dilemma:

> "If explanations must generalize or abstract away from the details of singular causation to have genuine scientific import or interest, then, pace Salmon, explanations cannot be ontic. But if they are ontic and so cannot involve abstracta and genera, which have no causal powers, then those explanations will be without genuine scientific import and interest" (2018, p.1019).

WvE presume there can be *no* value to the ontic sense of explanation, simply because it (arguably) cannot be deployed to analyze norms of general explanation. Generality is treated as essential for all scientific explanation, so the failure of the ontic view to accommodate generality is treated as global failure.

I see no reason whatsoever for the ontic theorist to cede this to WvE. In one (epistemic) sense of "explanation," generality is constitutive of explanatory success, and (if arguments like Sheredos' are apt) an ontic view cannot accommodate this. But singular explanations do not involve generality, and there is genuine scientific work do be done in singular cases, and genuine philosophical work to be done in understanding it. Arguably, the ontic account can pull weight here: Craver (2007, ch.2) seems to analyze singular explanation in neuroscience from an ontic perspective. WvE's second argument simply demands that ontic explanations all be epistemically explanatory (in the specific way general explanations are). But ontic explanations aren't *intended* to be epistemically explanatory. Again, the semantic ascent is not made, the ontic sense of "explanation" is not recognized, and the argument begs the question by presuming that explanations must be epistemic.

4. WvE's Third Argument: Ontic Constraints

WvE's third argument tries to sketch an "inconsistent triad" in Craver's *Explaining the Brain*:

> "...Craver asserts that explanations are ontic, and that ontic explanations aren't good or bad, and that one of his main projects is to clarify the norms of good and bad explanations. But how can these three claims comport with one another? If actual explanations are ontic and ontic explanations aren't good or bad, then there seem to be no norms of good and bad explanations to clarify; if actual explanations are ontic and there are norms of good and bad explanations to clarify, then it appears that ontic explanations are good and bad after all; or, if ontic explanations aren't good or bad but there are norms of good and bad explanations to clarify, then it would seem that actual explanations aren't ontic" (2018, p.1022).

This whole attempted problematic neatly illustrates the utility of the semantic ascent.

Craver (2014) evades this "triad" by making the semantic ascent, recognizing four distinct senses of the term "explanation," including the ontic sense, plus several epistemic senses.[4] Craver makes no claim that only one of them is "actually" explanation, or that the others are somehow illegitimate ways to use the term "explanation." Craver asserts that *some* explanations are ontic,

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[4]See *fn*.3 above.

not that all are. Explanations *in an ontic sense* aren't good or bad, but explanations *in an epistemic sense* are. Craver maintains there is a kind of fundamentality associated with ontic explanations (what Sheredos 2016 called "normative priority"). In Craver's view, the good-making properties of any epistemic explanation are constrained by ontic explanations. This doesn't mean that epistemic explanations are somehow not (in one sense) explanations, nor that ontic explanation are themselves suddenly normatively evaluable. WvE's "inconsistent triad" is thus dissolved.

WvE consider allowing the ontic theorist to take this route. They claim that it amounts to abandoning the ontic view, and giving up the "master argument" for the ontic view:

> "To conceive of explanations as entities that can satisfy ontic constraints or norms as a measure of their goodness just is to conceive of explanations as representational entities. But any such conception will be inconsistent with premises (6) and (7) of the master argument... [T]he ontic constraints account is... a concession [to the epistemic view]" (2018, p.1024).

As noted, I think abandoning the "master argument" is a very good thing for ontic theorists to do. But I do not see how the ontic theorist risks inconsistency: conceiving of *some* explanations as representational is not inconsistent with conceiving of other (i.e., ontic) explanations as not representational.[5] WvE complain that if we take this route, we have traded in "ontic explanations" for only "ontic constraints" that must be satisfied by epistemic explanations. They claim this leaves us with only "the general platitude that the world co-determines truth value... consequently, ontic constraints on [epistemic] explanations are unmasked as being just a subset of the familiar alethic and epistemic constraints on world-directed representations" (2018, p.1024).

I offer three responses. First, I do not see why the ontic theorist is not permitted to say that "ontic constraints" amount to a demand that epistemic explanations track ontic explanations, so I do not see how talk of constraints requires abandoning an ontic conception of explanation. Only if one already presumes that epistemic explanations are more fundamental would one see reason here to abandon talk of ontic explanations; in this way the argument begs the question, by failing to let the ontic theorist mean one of the things they should like to mean by "explanation."

Second, if overlap between the two views is quite so clear, it is unclear why bragging rights go immediately to the epistemic view. The ontic theorist might just as aptly accuse the epistemic theorist of "conceding" if they recognize that discrete bits of the world (ontic explanations) play a role co-determining the success of epistemic explanations. Why aren't claims about epistemic explanations "unmasked" as claims about familiar psychological and pragmatic constraints on humans who seek (ontic) explanations (*cf.* Craver 2007, p.28)?

Third, however, arguments like Sheredos' (2016) suggest the overlap is not quite so clear, and that the idea of epistemic explanations involving "world-directed representations" is far from platitudinous. In his view, general explanations cannot be readily and unproblematically understood as "mapping" to ontic structures in the world. WvE appeared to endorse this line of thought in their second argument: their suggestion was that general explanations could at best correspond to "abstracta" that could not count as ontic explanations.[6] As Sheredos put it, in general explanations

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[5]See *fn.*3 above.

[6]Sheredos' core argument wasn't over whether abstracta could have causal powers, or whether they could count as ontic explanations, but rather about whether their existence (which one can posit, if one likes) can put unidirectional constraints on epistemic explanations.

"the truth about things in the world cannot independently matter in the way the ontic view requires" (2016, p.927). Now, Sheredos uses these claims to challenge ontic views' ability to accommodate general explanations – but they show just as well that WvE's third argument is in tension with their second: asserting the epistemic view's commitment to "world-directed representations" is far too glib if the epistemic explanations that allegedly "matter most to the scientific community" cannot readily be seen to correspond to entities in the world. Sheredos argues that it is in precisely cases like these – where things in the world are not clearly decisive for epistemic success – that the significance of epistemic approaches to explanation is most clear. I see ample room for significant debate between the epistemic and ontic views here, suggesting that the debate has not been "conceded."

5. Concluding Remarks

Wright & van Eck mis-characterize Sheredos' view as one in which we have "abandoned... the debate" between epistemic and ontic views (2018, p.1024). What we abandon instead are verbal disputes that distract from productive work. There remains ample room for productive debate as we pursue the normative turn, sorting out where and how the different conceptions of explanation are philosophically useful in analyzing scientific practice. The first step towards this productive debate is to abandon arguments like Wright & van Eck's, which fail to make the semantic ascent, beg the question against opponents, and accomplish little. Re-consider the title of their article in light of their actual arguments: "ontic explanation is either ontic, or it is [epistemically] explanatory, but not both." Well, yes, I suppose.

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