ORIGINAL ARTICLE

Hardcore Actualism and Possible Non-Existence

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According to hardcore actualism (HA), all modal truths are grounded in the concrete constituents of the actual world. In this paper, I discuss some problems faced by HA when it comes to accounting for certain alleged possibilities of non-existence. I focus particular attention on Leech (2017)'s dilemma for HA, according to which HA must either sacrifice extensional correctness or admit mere possibilia. I propose a solution to Leech's dilemma, which relies on a distinction between weak and strong possibility. It remains the case, however, that HA cannot capture certain iterated de re possibilities of non-existence and that it is committed to a stock of necessary existents. But I still think that the virtues of the view outweigh these costs.

Recently, there has been some steady interest in a view about the metaphysics of modality that Contessa (2010) calls *hardcore actualism* (HA). HA grounds all modal truths in the *concrete* constituents of the actual world, which is an appealing alternative to a long tradition of using questionable ontological categories such as *abstracta* or *possibilia* to account for modality. Furthermore, HA can claim some continuity with science. Science is well placed to yield knowledge of ordinary concrete things and their properties and hence, given HA, to yield *modal* knowledge.

Barbara Vetter (2015) presents the most thoroughly developed hardcore actualist modal metaphysics (but see also Borghini and Williams 2008; Jacobs 2010). Vetter posits an ontology of irreducibly modal properties that she calls *potentialities*. Potentialities are similar to dispositions and the two are related as follows: potentialities admit of degrees such that to qualify as possessing some *disposition*, an individual must possess the relevant potentiality to a sufficiently high degree. Both a vase and a brick, for example, have the *potentiality* to break but only the vase possesses this potentiality to a high enough *degree* to count as being *disposed* to break. Potentialities (and dispositions) are individuated, not via some stimulus-manifestation pair, but via their manifestation alone; an individual's potentiality to break entails just that it *can* break. Hence, *possibility*, and not the counterfactual, is the modality with which potentialities are most closely allied (Vetter 2015, pp. 33–60).

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According to Vetter (roughly), a modal proposition <possibly *p*> is true iff something has the potentiality for it to be the case that *p*. Hence, <necessarily *p*> is true iff nothing has the potentiality for it to be the case that not-*p*. The account is realist about modality in that it takes facts about modality to be mind-independent and it does not seek to reduce the modal to the non-modal, rather it seeks to explain all metaphysical modality in terms of a single modal primitive: potentiality.

To account for the full range of modal truths, Vetter shows how *potentiality* can be extended in various ways. First, she introduces joint potentialities; Vetter does not herself have the potentiality to play a duet but she does have the relevant *joint* potentiality, with *Jess*, to play a duet. The truth of <possibly Vetter plays a duet> is then grounded in this *joint* potentiality. Joint potentialities ground *extrinsic* potentialities and allow for potentiality attributions of the form *x has the potentiality to be such that p*. Vetter's potentiality to play a duet is extrinsic because it concerns some individual external to her, namely Jess, and it is grounded in the relevant joint potentiality of Vetter and Jess to play a duet. But we might also attribute to Vetter the potentiality *to be such that Jess plays a duet*. This potentiality is also grounded in the joint potentiality of Vetter and Jess to play a duet, but is of the form *x has the potentiality to be such that p* as opposed to *x has the potentiality to F*. Finally, Vetter introduces iterated potentialities; Vetter does not now have the potentiality to have a piano-playing granddaughter but she does have the relevant *iterated* potentiality. Vetter has the potentiality to have a daughter who has the potentiality to have a daughter who has the potentiality to play the piano. The truth of <possibly Vetter has a piano-playing granddaughter> is then grounded in this iterated potentiality. Given that *potentiality* includes joint, extrinsic and iterated potentialities, the essence of Vetter's HA can be captured as follows:

POSSIBILITY: it is possible that P $=_{df}$ something has, had or will have a potentiality for it to be the case that P. (Vetter 2015, p. 199)

Cameron (2008) has argued that HA struggles to ground the (alleged) possibility that *none* of the actually existing contingent beings existed. For a *given* contingent being, for example Vetter, we might appeal to potentialities of things that existed *before* Vetter came into existence to ground her possible non-existence in accordance with POSSIBILITY (see Cameron 2008, p. 273) (though this is questioned later). Vetter's parents had the potentiality for her existence, which was realized; they also had the potentiality to have no children at all, which plausibly grounds Vetter's possible non-existence. But what about the possibility that *none* of the actual contingent beings existed? As Cameron puts it: 'what is the truthmaker for the truth that this situation is possible? It can't be any of the actual contingently existing beings, for none of these beings has the capacity to bring it about that it itself never existed' (Cameron 2008, p. 273).

Contessa (2010) canvasses some responses to Cameron's challenge including (1) that there exist some necessary beings which ground the possible non-existence of all of the contingent beings. And (2) that we reject truthmaker maximalism and concede that while it's possible that none of the actual contingent beings existed, there is no truthmaker

or *ground* for this fact. Contessa suggests that (2) is a non-starter because it would be antagonistic to the motivation for HA. But (1) also seems less than desirable because it is odd that HA should carry with it commitment to such a strong metaphysical thesis. Nevertheless, the upshot of Contessa's discussion is that perhaps (1) isn't so bad after all if HA can at least accommodate the possible non-existence of beings that we intuitively think of as contingent, including all the people, flora and fauna that we see around us. All (1) requires is *some* necessary existents, but these needn't be the sorts of familiar beings that we encounter daily and of whose mere contingent existence we can be relatively confident. Indeed, Vetter herself bites a similar bullet in the face of this kind of concern (Vetter 2015, p. 276). Note that this point certainly needn't be interpreted theologically; it is most plausibly read as a *cosmological* implication to the effect that whatever was present at the first instance of the universe, at the *big bang*, exists necessarily.

Leech (2017), however, has argued that the hardcore actualist struggles to account for de re possibilities of non-existence more generally. The concern can be put in terms of a dilemma for POSSIBILITY, which forces a choice between compromising extensional correctness and introducing *possibilia*. Taking the first horn would amount to admitting the necessary existence of individuals that we thought existed only contingently. The second horn would undermine the motivation for the view, which included the disavowal of *possibilia*. I'll now develop this dilemma in more detail. Consider the following:

i) Possibly Vetter does not (never has never will) exist.

According to POSSIBILITY, for i) to be true, something must have the potentiality for it to be the case that Vetter doesn't exist. As already mentioned, a plausible candidate would be whatever it is out of which Vetter *developed*. Some ancestor of Vetter, call it AV, had the potentiality for Vetter's existence, which was actually manifested, but before this potentiality was manifested AV also had a potentiality for Vetter not to exist.

Leech's concern is that if we must go back to a time before Vetter existed to locate the potentiality for Vetter's non-existence, we cannot be sure that the potentiality is really for the individual *Vetter* not to exist. It seems the potentiality could at best be a generic potentiality for, say, no author of a book called '*Potentiality*' to have existed. Vetter exists now and so potentialities can concern *her*. But, or so the concern goes, before she existed, no potentiality could concern *Vetter* in particular, so AV's potentiality could at best be purely *qualitative*. Put another way, AV's potentiality for it to be the case that Vetter never existed appears to be an *extrinsic* potentiality concerning the individual Vetter. But how can AV have an extrinsic potentiality concerning *Vetter* at a time at which Vetter herself does not exist to contribute to this extrinsic potentiality? Later I'll argue that Vetter faces a distinct problem of accounting for the intrinsic/extrinsic potentiality distinction that persists even given my proposed solution to Leech's dilemma.

Central to Leech's argument is the assumption that no sense can be made of potentialities whose manifestations concern entities that do not exist. If Vetter doesn't exist, for example, we can make no sense of potentialities concerning her, including a potentiality for her non-existence because there is 'nothing to contribute to or constitute what this potentiality is for' (Leech 2017, p. 461). However, it is perhaps unclear why one should

accept this assumption. An alternative might be to follow, for example, Heil in maintaining that 'the existence of a disposition does not in any way depend on the disposition's standing in a relation to its actual or possible manifestations' (Heil 2003, p. 80). Or, following Molnar (2006), we might maintain that dispositions are *quasi-intentional*, meaning they can be directed towards manifestations that do not exist. Heil elaborates with the claim that dispositional directedness is built into the properties such that they can 'point beyond' themselves purely in virtue of their intrinsic features (Heil 2003, p. 124). The concern, however, is that the 'pointing beyond' metaphor is left vague and perhaps smacks of Meinongianism (see Tugby 2013, p. 460). It would be beyond the scope of this article to attempt to properly defend the notion of *intrinsic directedness*. And there is something to be said for distancing HA from these kind of Meinongian concerns levelled at dispositional realism, which have some pedigree (e.g., Armstrong 1997; Handfield 2008), so I shall grant Leech's assumption and pursue an alternative response.

Perhaps, then, the potentiality theorist could appeal to *future* Vetter to provide content for AV's potentiality concerning Vetter, hence embracing a *strong eternalist* metaphysic of time. According to strong eternalism (*eternalism* from now on), if an individual exists at any time, it exists at all times, though not all individuals need be *present* at all times. Indeed, Vetter argues that the potentiality view is best twinned with eternalism in order to make sense of cross-temporal potentialities, such as the potentiality for Vetter to have been taller than Socrates, which bears witness to the *possibility* that Vetter was taller than Socrates (Vetter 2015, p. 293). So, although Vetter wasn't *present* when AV possessed the potentiality for her non-existence, given eternalism she nonetheless *existed*, and so was able to contribute to the content of AV's potentiality. Eternalism allows for all that exists, past, present and future to be laid out and available for de re reference *at any time*. This, however, leads to the second horn of the dilemma.

Leech argues that unless supplemented with other *merely possible* futures, the eternalist assumption risks undermining the possibility that Vetter never existed that we wanted to vindicate in the first place:

> [I]f we really want to accommodate the possibility that Vetter never existed, AV must have, at t_1 [before Vetter was present], the potentiality for Vetter to exist, and the potentiality for Vetter not to exist. There is no set future. How, then, to interpret the eternalist assumption at t_1? (Leech 2017, p. 463)

If *only* the actual future exists at t_1, we secure reference to Vetter because she exists, but the openness of the future is apparently undermined; Leech argues that the lack of alternative futures implies that the actual future is *necessary*. We seem compelled, then, to admit other *merely possible* futures to make sense of AV's potentiality for (and hence the possibility of) Vetter's non-existence, as well as other potentialities whose manifestation would contradict the actual future.

To emphasize the apparent need for possibilia, Leech shifts to considering *iterated* de re possibilities of *existence*:

In the event that actually Vetter never existed, it would be a merely possible Vetter, from a merely possible future, contributing content to AV's potentiality. (Leech 2017, p. 464)

This is a *different* argument for possibilia. The first said that if there is only the actual future, the one in which Vetter exists, there can be no genuine potentiality, and hence no possibility, for Vetter's non-existence. So, we should admit different possible futures too. The latter quote, on the other hand, reintroduces the problem of securing de re reference to Vetter by considering AV's potentiality for Vetter's existence in a counterfactual scenario in which Vetter does not exist. The thought is that to secure reference to Vetter at a world in which she is not actual we must admit a merely possible Vetter, otherwise AV's potentiality could at best be purely qualitative.

I propose a solution to the dilemma raised in the first argument, which invokes a distinction between strong and weak necessity (Vetter 2015, p. 200). The second argument is harder to resist, but less problematic given the scope of Vetter's project. It is only the *additional* requirement that we have genuine de re *iterated* modalities that forces the inclusion of possibilia. But Vetter can accept that the problematic iterated modalities are composed out of general properties and involve no *particular* individuals. I'll elaborate on these points in turn.

First, on the potentiality view, it is consistent with AV's having the potentiality for Vetter not to exist, and hence with the metaphysical *possibility* that Vetter does not exist, that only the actual future in which Vetter *does* exist is possible. This is because we can distinguish two types of possibility in the preceding sentence: weak and strong possibility, where only the former is relevant to the question of what's *metaphysically* possible (Vetter 2015, pp. 199–200, p. 291). It might be weakly possible that Vetter doesn't exist without it being strongly possible that the future be different in any respect. Strong possibility is possibility *all things considered*. In the language of potentiality, *p* is strongly possibly just in case the *totality* of things jointly has the potentiality for it to be the case that *p*. On the other hand, it is weakly possible that *p* just in case at least *something* has the potentiality for it to be the case that *p*.

AV has the potentiality for Vetter's non-existence and this suffices for the weak possibility that Vetter doesn't exist. It may also be the case that the *totality* of things considered jointly has no potentiality for Vetter not to exist because, all things considered, AV never has the opportunity to exercise its potentiality for Vetter not to exist. In this case, there would be a sense in which the future would be *closed* to Vetter's possible non-existence. But an *individual* potentiality for *p*, or a joint potentiality of objects falling short of the totality of things for *p*, suffices for the *metaphysical* possibility that *p*. In this way, the potentiality view implies that the metaphysical possibility of *p* is consistent with a closed future in which not-*p* is true. Metaphysical possibility and the openness of the future come apart on this account.

This suggests a resolution to the problem raised in Leech's first argument: we can concede that there is only one *strongly* possible future, the one in which Vetter exists, while maintaining that it is still weakly possible that Vetter doesn't exist. This way, we can be sure

that before Vetter was *present*, AV's potentiality concerned Vetter, because she exists in the only future that there is, *and* maintain the *weak* and hence *metaphysical* possibility that Vetter failed to exist, which is grounded in the potentiality of AV. Another way Leech puts the concern is in terms of a tension between three claims to which Vetter's potentiality view is committed: (1) there are things that might not have existed, (2) eternalism and (3) the open future (2017, p. 464). My claim is that there is a strong and a weak sense in which the future might be open, where only the weak sense is required for metaphysical possibility. The tension is thus defused, without the need for possibilia, because it can be weakly possible that Vetter failed to exist without it being strongly possible that the future were different in any respect. *Contra* Leech's dilemma, extensional correctness with respect to Vetter's possible non-existence is retained *without* introducing possibilia.

Leech proceeds to argue that cross-temporal potentialities in general are problematic:

> Any potentiality concerning a future but not yet present object will be affected. For example, we can no longer explain how Socrates could have an iterated potentiality concerning *Vetter* herself, even if this concerns only her height, not her existence. Back then, when Socrates was present but Vetter was not, the future was open. It was not yet fixed which possible future would become actual, and so merely future objects were not yet available to contribute to the content of any potentiality then (Leech 2017, p. 464).

But I have shown that the assumption of a single (strongly) possible, 'fixed', future does not undermine individual or joint potentialities, and hence metaphysical possibilities, for the future to be different in various respects. So, we are safe to assume that Vetter existed, though she was not present, when Socrates was present and hence that Socrates' iterated potentiality really concerned *her*.

The cross-temporal potentiality for Vetter to have been taller than Socrates is best understood as a *joint* potentiality between the two individuals, Socrates and Vetter (Vetter 2015, p. 298). By contrast, AV's potentiality for Vetter not to exist cannot be understood in terms of a joint potentiality between AV and Vetter since, paradoxically, for this potentiality to be manifested Vetter would have to not exist. Extrinsic potentialities, according to Vetter, are extrinsic precisely because they depend on joint potentialities: 'Whenever an object, *x*, possesses an extrinsic potentiality, that potentiality is fully grounded in a joint potentiality … '(Vetter 2015, p. 130). By this standard, AV's potentiality would appear to be *intrinsic* because Vetter cannot participate in a joint potentiality for her own non-existence, and surely nothing *besides* Vetter could contribute to this potentiality. However, Vetter also endorses the following claims: *intrinsic properties* are those the possession of which in no way depends on factors external to the possessor and a property is extrinsic iff it is not intrinsic (2015, pp. 122–23). But, matters *external* to AV, namely, Vetter's existence, or lack thereof, *do* have a bearing on AV's potentiality for Vetter's non-existence. AV's potentiality for Vetter's non-existence must be *either* intrinsic or extrinsic, but given Vetter's characterization of intrinsic and extrinsic potentialities, it can

be neither. This presents a *further* challenge for Vetter's view even given the strong/weak possibility distinction as a way out of Leech's dilemma.

Perhaps, however, it is the fact that the potentiality in question — AV's potentiality for Vetter's non-existence — is a potentiality for *non-existence* that is causing the difficulty. In which case, Vetter's account of the difference between intrinsic and extrinsic potentialities could be restricted so as not to apply to potentialities for non-existence. This suggestion may strike the reader as objectionably ad hoc; admittedly, there would seem to be no independent motivation for this restriction. But what the present debate highlights is that possibilities of non-existence pose a serious challenge for HA. Perhaps Vetter's actual view of the intrinsic/extrinsic potentiality distinction cannot be upheld, or perhaps it can, but only with an ad hoc restriction in place. This, however, seems a small price to pay for a hardcore actualist metaphysic of modality that deals with the tricky puzzle posed by de re possibilities of non-existence.

Leech makes a second case for possibilia. It will help to recite (and name) the relevant sentence:

ITERATE: In the event that actually Vetter never existed, it would be a merely possible Vetter, from a merely possible future, contributing content to AV's potentiality. (Leech 2017, p. 464)

So, *if* Vetter hadn't existed and we wanted to talk about AV's potentiality for Vetter to have existed, we would need to introduce a merely possible Vetter to ensure that AV's potentiality really concerns Vetter. This seems correct. If Vetter didn't exist, there would be no future Vetter to contribute content to AV's potentiality for Vetter to have existed. And in the absence of a merely *possible* Vetter to which we might refer, AV could at best have a generic potentiality for the existence of *someone*.

But the problem identified here is far less severe than the original concern with accounting for first-order possibilities of non-existence. Indeed, the problem is reminiscent of the familiar problem of iterated modality raised by McMichael (1983) which affects more traditional versions of actualism. Actualists, like Vetter, want to account for the truth of modal statements without committing themselves to any mere possibilia and so they must use no more than the resources of the *actual* world in doing so. Vetter, as we have seen, appeals to potentialities of actually existing concrete individuals to account for modal truths and this works well for various first-order modalities and allows us to retain a common-sense ontology. In ITERATE, however, Leech moves from the first-order possibility that Vetter never existed, to the iterated possibility that Vetter existed *if she hadn't existed*.[1] We can make sense of the first-order claim that possibly Vetter doesn't exist. As a matter of fact, Vetter does exist so we can refer to her and ensure that the possibility concerns her. But from the perspective of the hardcore actualist in a world *absent* Vetter, no sense can be made of the de re possibility that *Vetter* exists, because there is no Vetter to contribute to the content of the proposition. Inhabitants of the world absent, Vetter could at best make sense of a general possibility that *someone* exists who, say, wrote a book called *'Potentiality'*.

The problem of iterated modalities led McMichael (1983) to conclude that, given actualist possible worlds semantics, 'the possible worlds which exist from the point of view of one world are distinct from those which exist from the point of view of another' (1983, p. 55). Now let's take McMichael's intended interpretation of actualist possible worlds semantics to be a specific metaphysical basis for modal truth.[2] In this case, the problem of iterated modalities shows that, for actualists, what is metaphysically possible is intimately tied up with how the actual world is, with the result that we have to deny the truth of, for example, certain iterated de re possibilities, despite their prima facie plausibility, because the actual world just lacks the resources to make them true. Similarly, the *hardcore* actualist admits that the actual world *is privileged* in the sense that facts about what is metaphysically possible are intimately tied up with facts about the actual world — namely, the potentialities of actual concrete individuals. As it happens, we can make sense of possibilities concerning *Vetter*, among other actual individuals, including the possibility that Vetter failed to exist. What we cannot do is make sense of any de re possibilities concerning non-actual individuals. The point, then, is that the problem of iterated modalities is not peculiar to Vetter's HA, similar issues arise for actualists of other stripes.

S5 modal logic, which is characterized by the following axiom

(S5) $\Diamond\phi \rightarrow \Box\Diamond\phi$

seems to have been invalidated. While it is possible that Vetter exists because she actually exists, it is not necessarily possible that Vetter exists because if she didn't exist, nothing would have a potentiality for *her* to exist specifically, so it would not be possible that Vetter exists.

However, Vetter suggests that the minimal requirement on an account of *metaphysical* (as opposed to, say, deontic) modality is that it validates system T (2015, p. 196, p. 213), which may be characterized by the following axiom[3]:

(T) $\phi \rightarrow \Diamond\phi$

The possibility (implied by my response to Leech) that it is not possible that Vetter exists does nothing to invalidate the inference from actuality to possibility. And indeed, Vetter takes care to demonstrate that the potentiality metaphysic validates system T (2015, ch. 5). Nor does my response to Leech invalidate system S4, which is characterized by:

(S4) $\Diamond\Diamond\phi \rightarrow \Diamond\phi$

A potentiality translation of (S4) says that iterating iterated potentialities just yields iterated potentialities (Vetter 2015, pp. 212–13), which seems plausible. And again, the possibility (implied by my response to Leech) that it is not possible that Vetter exists, is independent of the claim that iterating iterated potentialities simply yields iterated potentialities, which is what's needed to validate (S4). Perhaps the invalidity of (S5) is a cost. But so long as the potentiality view can validate system T and the option remains to validate (S4), the potentiality theorist can still claim to be talking about *metaphysical* modality.[4]

In conclusion, Leech shows that Cameron and Contessa were perhaps too quick to claim the ease with which HA can account for de re possibilities of non-existence. Leech's critique can be separated into two arguments. The first can be put as a dilemma: either we admit just a single future and deny that AV (or anything else) really has the potentiality for Vetter not to exist, or we admit merely possible futures and individuals, thus undermining Vetter's common-sense ontology. I proposed a solution to the dilemma, which appealed to a distinction between strong and weak possibility, where the former is relevant to the openness of the future, all things considered, but only the latter is required for *metaphysical* possibility. The dilemma is thus defused because HA can remain extensionally correct with respect to possibilities of non-existence without introducing any mere possibilia. The second argument shifts to considering *iterated* modalities. I suggested that this problem was far less severe and that it would be no great cost to admit that the offending iterated modalities are purely *qualitative*. But this takes nothing away from the fact that HA requires a stock of necessary existents to ground these de re possibilities of non-existence. One might get the sense, then, that the costs of HA are stacking up. However, I for one feel that the costs are far short of threatening to outweigh HA's benefits chief among which are its common-sense ontology and its promise to achieve continuity with science.

Acknowledgements

Notes

1 If we let 'v' name the individual *Vetter* we might formalize the possibility that Leech considers thusly: $\Diamond[\sim\exists x(x = v) \,\&\, \Diamond\exists x(x = v)]$. The modality is iterated because the first possibility operator takes scope over the second.

2 That this is a plausible way of understanding McMichael is perhaps evidenced by his saying that 'We don't just want a modal semantics that "works". We also want one that isolates the invariant features of *modal reality*'.(1983, pp. 63–4, my emphasis).

3 Vetter opts for this characterization in terms of the possibility operator instead of the more standard $\Box\phi \to \phi$.

4 Salmon (1989) and Wedgwood (2007) have disputed S4 and S5, respectively, as logics for metaphysical modality.

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