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BOOK REVIEW

Potentiality: From Dispositions to Modality

Barbara Vetter

Oxford University Press, 2015, 352 pp, £52.00 (hardcover)

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REVIEWED BY

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In recent years, there have been several books written about dispositions. Barbara Vetter's *Potentiality: From Dispositions to Modality* is another, but it is not *just* another. Vetter's book stands out as an ambitious, original, and systematic attempt to develop a new account of metaphysical modality in terms of dispositional properties she calls 'potentialities.' According to Vetter, saying that something has a disposition, like fragility or flammability, is to say something about what it can do, such as break or burn. Dispositional concepts are members of a broader class of modal concepts, which also includes necessity, possibility, causation, laws, and essence. Vetter's basic idea is that potentialities are fundamental, and other modal notions should be understood in terms of them. While she is not the first to suggest that modality can be grounded in dispositional properties, Vetter moves beyond the mere suggestion to present a detailed potentiality-based account of modality and provides arguments that it is extensionally correct, formally adequate, and semantically useful. Vetter spends

relatively little time engaging with adversaries or critiquing alternatives, but instead focuses on clearly and methodically articulating her positive view.

The first chapter introduces the reader to the project and provides some background. Vetter motivates her project by explaining her dissatisfaction with leading accounts of modality. Major rivals appeal to “possible worlds,” but disagree as to whether these worlds are other concrete universes, sets of propositions, uninstantiated properties, or some other type of abstract objects. While Vetter grants that the possible-worlds semantics for modality is useful and heuristically valuable, she claims that possible worlds are not apt for providing a plausible account of what is going on in reality that makes it the case that something is possible or necessary. Furthermore, Vetter raises doubts about a major motivating assumption of possible-worlds approaches—the idea that modality reduces to something that is non-modal. If there are some irreducible modalities, such as potentialities, then perhaps we can account for other modalities without looking to other possible worlds.

Chapters 2 and 3 begin developing the account of potentiality by clarifying the more familiar concept of a disposition. Vetter argues against the “standard conception” of dispositions which associates them with conditional statements. On a standard conception, ‘x is fragile’ is defined as something like ‘if x were struck, x would break.’ But even fragile things don’t break when struck very softly, and some non-fragile things break when they are struck very hard. A challenge for such an analysis is to formulate the antecedent of the conditional so that it specifies circumstances in which all and only fragile things break. Vetter explores a number of strategies for doing this and argues that they all fail, due to the qualitative and quantitative diversity of the stimulus conditions of virtually all dispositions. Having dispatched the standard conception, Vetter goes on to offer an alternative account of dispositions according to which they are most closely associated not with conditionals, but with possibility. On her account ‘x is fragile’ means roughly ‘x can break (easily)’ with no stimulus specified. Vetter justifies this move with careful consideration of ordinary disposition concepts. Vetter also notes that ordinary disposition ascriptions are highly context-sensitive. Whether something counts as fragile can vary by context, but whether or not an object instantiates

a mind-independent property is not relative to such factors. So, Vetter posits a metaphysical background in virtue of which a disposition ascription can be true in a context. That background is constituted by potentialities—a term adopted by Vetter to refer to disposition-like properties that constitute a broader class of properties individuated by their manifestations.

These considerations motivate the move from dispositions to potentiality, further developed in Chapter 4. Potentialities differ from dispositions in a number of ways. The truth of potentiality ascriptions is not context-dependent. Furthermore, while ordinary disposition ascriptions typically suggest that the occurrence of the manifestation is highly likely, the likelihood of a potentiality manifesting ranges from barely possible to necessary. Potentialities come in a wide spectrum of degrees (21). Vetter further expands the notion of potentiality to include: joint potentialities (potentialities that two or more things jointly possess); extrinsic potentialities (potentialities that a thing possesses at least partially in virtue of other distinct objects); and iterated potentialities (potentialities for further potentialities). This substantial expansion of the potentiality concept results in its extension including Cambridge properties, such as the potentiality of the Eiffel tower to be such that my nose is tanned (116). Vetter assures us that such bizarre-sounding properties are not problematic, since they are ultimately grounded in the natural, intrinsic properties of particular objects.

Once Vetter has explained the notion of potentiality, she proceeds to her main objective, to give an account of metaphysical modality in terms of it. In Chapter 5, she develops a formal language and introduces a logic for potentiality. By Chapter 6, she is in position to define ‘possibility’ in terms of potentiality: ‘It is possible that P’ is defined as: ‘Something has an iterated potentiality for it to be the case that P’ (197). Vetter provides a demonstration that the account is formally adequate, then spends the balance of Chapter 6 showing how the account can be used to interpret various modal statements. In Chapter 7, she defends her claim that the account yields intuitively correct truth-values for modal statements. In doing so, she address questions such as: Do any potentialities have impossible manifestations? What potentialities ground the possibility that some things that do not exist could have existed? Can the potentialities of actual concrete objects

ground the possibility that the laws of nature could have been otherwise? Are there any potentialities regarding things in the past? Vetter does not claim to have conclusively answered all of these questions, but she does claim to have presented a serious candidate for a theory of the metaphysics of modality, which makes such questions matters for further consideration and debate (214).

Obviously, questions about this potentiality account of modality remain. Here I will press two more. Vetter claims that potentialities can ground possibilities and make sense of our comparative and context-sensitive disposition ascriptions, because they come in degrees. But what does it mean for a property to come in degrees? The view of properties that Vetter assumes in this book is best described as immanent realism: properties are the kind of entities that different particulars can share (29) and a property does not exist unless some object (at least potentially) has it (272). According to immanent realism, properties do not exist in some other realm, but are wholly present in particulars that instantiate them. But if a universal is wholly present wherever it is instantiated, it cannot possibly differ across instantiations. Immanent realism has trouble accounting for imperfect resemblance, since, if two things are similar because they literally share one thing, they must be perfectly similar in that respect. So if something is highly breakable and something else is less breakable, it is hard to see how that is explained in terms of their literally sharing one and the same 'breakability.'

To account for the idea that potentialities come in degrees, Vetter suggests that a potentiality is a determinable, all of the specific degrees to which it can be possessed are its determinates (95). So, consider a fragile glass and a barely breakable crowbar. They have different determinates of the determinable 'breakability.' Is the determinable 'breakability' wholly present in each of them? If it were, it would have to be the same in each instance, but it's not. So, where is the determinable 'breakability' located? Perhaps, instead of being present in its instances, it is a higher-order universal had by the determinate 'breakabilities.' This suggestion amounts to positing a hierarchy of universals, the higher-level ones being universals had by lower-level universals. Higher-order determinable universals are not instantiated by particulars directly by being present in them, but indirectly, in virtue of their lower-order determinate universals being

instantiated. Since this hierarchical account posits universals that are not present in any particulars, it is friendlier to *transcendent* realism, according to which universals can exist without being present in objects. But such a Platonic view is in tension with Vetter's motivation to ultimately ground modality in the ways that actual, concrete objects are (270). So, perhaps a different account of properties would better suit her purposes. Vetter seems open to trope-nominalism—the idea that sharable “properties” are classes of resembling particular property instances (29). But trope-nominalism notoriously has no account of resemblance, let alone imperfect resemblance. So, it is not obvious what it would mean for a class of tropes to come in degrees. If Vetter's account is to be an adequate *metaphysical* account of modality, questions about the metaphysics of potentialities need answers: Are they universals? Are they tropes? How are we to interpret the claim that they “come in degrees”?

My second question is: Do potentialities adequately explain necessity? On Vetter's account, ‘Necessarily P’ is true if and only if ‘Nothing has, had, or will have a potentiality that not P’ (203). Now, consider the claim ‘triangles have three sides.’ True, nothing had or has the potentiality to make it the case that triangles do not have three sides. But why not? And are we sure that nothing ever will have the potentiality to be such that a triangle has four sides? Must we rely on induction here? Consider the claim ‘Nothing has, had, or will have a potentiality to be such that a gold sphere is a mile in diameter.’ If that is true, it follows by Vetter's definitions that necessarily, all gold spheres are smaller than a mile in diameter. But a mile-diameter gold sphere seems metaphysically possible. So Vetter must insist that something does or will have the potential to be such that a mile-diameter gold sphere exists, even though none have existed yet. But why should we have a different assessment of the prospects for a mile-diameter gold sphere than we do for a four-sided triangle?

The text gives some indication of how Vetter might answer. With respect to the necessity of identity, she appeals to an axiom in her logic of potentiality: “NON-CONTRADICTION, Nothing has a potentiality to be such that a contradiction holds” (180). That seems hard to deny, assuming contradictions are impossible. But it is not clear that this gets the order of explanation right. Are contradictions impossible *because* nothing has the potential to be such that they hold? Or does

nothing have the potentiality to be such that a contradiction holds because they are impossible? If it is the latter, even if necessity statements can be translated into potentiality statements in the way Vetter suggests, potentiality does not serve as the metaphysical ground or explanation of metaphysical necessity. If this is right, it need not be fatal to Vetter's project, but it would warrant scaling back its ambitions. One possible revision would be to maintain that the bi-conditionals in the potentiality account of modality are true, but to withdraw claims about the direction of grounding and explanation. A different revision would be to use potentiality just to account for *physical* possibility and related notions. This would not be as ambitious as accounting for all of modality, but if successful, it would be quite an accomplishment none the less.