

▼ Chapter 7: Objections

- Main issue: ‘extensional correctness’
- POSSIBILITY: It is possible that $p =_{df}$ something has* an iterated potentiality for it to be the case that p

▼ Problems with POSS:

- *Possibilities of existence: different things could have existed*
- *Possibilities of non-existence: things that exist could have not existed*
- *Abstract objects: what is bearer the potentiality that grounds $2+2=4$?*
- *Metaphysical possibility: how can potentialities capture metaphysical possibility when they are contained by the laws?*

▼ Potentiality without possibility (failure of sufficiency)

- *Unmanifestable dispositions of agents: Heidi the mathematician is disposed to produce a proof of conjecture X on the condition that there is one*
- *Unmanifestable dispositions without agents: Some apparatus has the disposition to indicate P' if it were true (which it isn't)*
- *Scientific idealizations: rabbit population is disposed to increase by .1 rabbit*

▼ Replies

- a general solution would be question-begging
- 1 and 2 rely on the stimulus/manifestation picture, they aren't problems on the manifestation only view
Heidi does not have the disposition to prove conjecture X if it is false.
- Idealization (3) can't be taken as literally true, so the same holds for disposition ascriptions

▼ The “powerful world”

▼ Idea: the world itself is the bearer of potentialities

▼ But what is “the world”?

▼ world as *whole*: the world is everything

- mereological sum: no dispositions over and above those of its parts
- structured object (Sider): no potentiality to have different physical laws or contain objects with alien properties

▼ world as *container*: it contains everything

▼ substantialist spacetime = the world

- problem: the world is contained by GRistic spacetime, so metaphysical possibility collapses into nomic

▼ Possible worlds

▼ idea: possible worlds as potentialities of the actual world

- Stalnaker: possible worlds as uninstantiated properties of this world
- ▼ Analogous suggestion: possible worlds are a maximal class of unmanifested potentialities

- worry: the potentialities of individual objects are unnecessary
- reply: “The potentialities of the individual objects in the world will provide the metaphysical grounds for an important class of the potentialities of the world: those potentialities that concern any particular object at all.”

▼ Possibilities of existence

- *Intuitively, there are unactualized possibilities of existence*
e.g. there could have been 9 planets instead of 8, unicorns, a sibling, etc.
- *One possibility: something is F because there is something which is possibly F*
e.g., it is possible that there is a woman President of the US because Hillary Clinton is possibly a woman President of the US
- ▼ *harder cases: nothing is possibly (or has a potentiality to be) a sibling of mine, or a unicorn, or the monster of Loch Ness*
 - Barcan formula: whenever it is possible that something is F, then something is possibly F; and that something will then be, for the potentiality-based account, the bearer of the relevant potentiality.
- ▼ Replies
 - **Production:** sometimes there are objects that have a potentiality to *produce* an object of the relevant kind
e.g., evolutionary ancestors to produce the Loch Ness
 - **Constitution:** sometimes there are objects that have potentialities to constitute other objects
e.g., two knives have the potential to compose a third knife
- ▼ What about objects with completely alien properties?
 - “If an alien natural property is simply a natural property that is never actually instantiated, then there is at least the epistemic possibility that some things—the matter at the beginning of the universe, if nothing else—have or had the potentiality to produce or constitute objects with some such properties.”
 - Otherwise (“super alien properties”), NO

▼ Possibilities of non-existence

- ▼ *Cameron: maybe my parents ground the possibility that I could have not existed, but what can ground the possibility that **none** of the actual contingently existing being existed?*
 - Whatever entities existed at the beginning of the universe are necessary existents (gasp!)
this follows from the triviality thesis and the temporal asymmetry of potentiality/possibility
 - “Whatever the entities at the beginning of time were, they had potentialities to develop in the way they did, yielding the universe as we know it; and presumably they had potentialities to develop differently, yielding a different kind of universe.”

▼ Abstract objects

- ▼ *what has the iterated potentiality that $2+2=4$?*
 - Platonists: the numbers themselves, qua abstracta bear the potentialities.
 - Nominalists: the bearers of the potentialities are precisely those unobjectionably concrete objects which are to provide for the truth of the apparently abstract statements quite generally

▼ Nomic possibility and metaphysical possibility

- ▼ *Tension between two views:*
 - I. the metaphysically possible outruns the nomically possible: that it is metaphysically possible for (some or all of) the actual laws of nature not to hold

- 2. dispositions and abilities are constrained by what is nomically possible: that nothing has a disposition or an ability to violate the laws of nature

▼ *We could follow Bird and hold the laws of nature to be metaphysically necessary*

- ▼ Crucial difference with Bird/dispositional essentialism: “saying, as we must on my conception, only that the fundamental nomological potentialities are possessed to maximal degree leaves open the key question of why things behave in accordance with the laws.”

- Electric charge = the maximal potentiality to exert a force F whose value stands to other charges q and their distance r in the relation C .

▼ there are ways we can say the laws aren't necessary:

- Cartwrightian: not all nomological dispositions need to be possessed to the maximal degree (“capacities”)

▼ Humean view of laws (BSA): potentialities are part of the best system

- on this view, the laws could have been different, because they don't constrain anything

▼ **Metaphysical possibility in time**

▼ *triviality thesis: past-concerning potentialities are possessed if and only if their manifestation properties are, and hence are possessed to maximal degree, if they are possessed at all (p.189)*

- ▼ problem: this means its impossible that there were never any of the actual existing objects; the very first objects have necessary existence

- biting the bullet isn't so bad

▼ but if the laws a necessary and deterministic, then it looks like everything that occurs is necessary

- but that's false: individual objects will have the (unmanifested) potentiality to do otherwise

▼ *problem cases:*

- 1. It is possible that Jack admires Socrates
- 2. It is possible that I should be taller than Socrates
- 3. It is possible that I meet my great-grandmother

▼ Assume all are counterfactual, who or what possesses the relevant potentialities? and when?

- problem: These are all joint dispositions, but in order to bear any relation to any other thing, and hence in order to be the co-possessor of a joint potentiality, an object must exist.

▼ *depends on one's view of time:*

▼ presentism: we can rephrase cross-temporal relations to make sense of them

▼ can Vetter do this?

- ▼ no: “In cases where it is seemingly possible that p and q but at no time are there relevant witnesses for the possibilities of both p and q , we will be able only to account only for the conjunction that it is possible that p and possible that q , but not for the possibility of the conjunction that p and q .”

▼ e.g., case 2: there is a height n such that it was the case that Socrates had a potentiality to be no taller than n , and it is the case that I have a potentiality to be taller than n .

- yields: for some height n , it is possible that Socrates was no taller than n and it is possible that I am taller than n .

- we want there to be a height n such that it is possible that Socrates was no taller than n and I am taller than n

▼ externalism: there is no problem, I can stand in cross-temporal relations

▼ but when are cross-temporal potentialities possessed?

- 1. When Jack is admiring (2014)
- 2. Today, when my height is able to make its contribution (S already made his)
- 3. Great-grandma may have had the iterated potentiality. But maybe no one has such an interested potentiality to live that long, or be born that much later, in which case it is impossible.