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Reinforcing a Modal Account of Luck

Introduction

This paper examines how we ought to define commonsense notions of luck. Scholarly debate over luck and luckiness has existed for decades, with accepted accounts generally falling in the category of either modal or “control” accounts (Carter and Peterson 2176). The archetypal modal account of luck was presented by Duncan Pritchard in his 2005 book *Epistemic Luck*, and his account stipulates that an event is “lucky” if (1) it occurs in the actual world, but not a “wide class of the nearest possible worlds where the relevant conditions for that event are the same as in the actual world,” and (2) is significant to the actor (Pritchard 128, 132, 133). Note that the modal “nearness” of worlds is determined by the degree of similarity which they share with the actual world. Control accounts, the other widely endorsed option for defining luck, say that “lucky” events can only be so in that they are significantly (definitions of “significantly” vary) beyond the agent’s control (Carter and Peterson 2176).

Previous scholarship has repeatedly shown serious flaws in control accounts. Control accounts are often far too liberal in designating events as lucky (e.g. the temperature today being 75 degrees is an event which is beyond my control, but one which does not seem to be particularly lucky or unlucky) (Carter and Peterson 2176). Resultantly, this paper will focus solely on the modal account of luck, which at least initially appears to be the most successful of the available options.

The modal account is not, however, without its flaws. The evaluation of such flaws and the search for responses to them will be the focus of this paper. Dr. J. Adam Carter and Dr.

Martin Peterson's 2016 article "The Modal Account of Luck Revisited" presents one of the most recent, strongest, and minimally explored modal accounts of luck, and will serve as the departure point for discussion in this paper. In Section One I will discuss objections to Pritchard's modal account of luck. In Section Two I will explain and examine Carter and Peterson's revisited modal account of luck, which considers more than just modally immediate worlds in determining luckiness. In Section Three I will present my original objections to the modal account of luck endorsed by Carter and Peterson, which is grounded in challenging their failure to dispute and revise the second condition of Pritchard's account. In Section Four I will present my proposal for the use of a modally weighted comparative desirability model in defining modal luck in order to resolve the identified problems with previous definitions. Finally, in Section Five I will present and respond to potential objections to my claims and proposals.

1. Objections to the Original Modal Account of Luck

In this section, I will review problems with the original modal account of luck highlighted in the literature which motivate the search for a more suitable account. Carter and Peterson take issue with Pritchard's original modal account of luck, which is composed of two conditions:

An event is lucky if and only if it:

(1) occurs in the actual world but does not occur in a wide class of the nearest possible worlds where the relevant conditions for that event are the same as in the actual world (Pritchard 128).

(2) is significant to the agent concerned (or would be significant, were the agent to be availed of the relevant facts) (Pritchard 132).

Carter and Peterson's objection to the first condition is rooted in two formulas for counterexamples. The first counterexample was proposed by Dr. Jennifer Lackey in her 2008 article "What Luck is Not," and the second proposed later by Carter and Peterson.

Lackey's counterexample, known as the "buried treasure" counterexample, imagines a world in which a terminally ill lady named Sophie lives on an island and searches for a spot to bury her treasure before she dies. The spot must be on the northwest of the island (her favorite area) and must be suitable for growing roses (her favorite flower). There is only one spot on the northwest corner which matches that description, and Sophie finds it, buries her treasure there, and plants rose bush seeds. One month later, a man named Vincent is looking for a place to plant rose bushes in memory of his mother on his favorite corner of the island (also the northwest). He also finds the only spot on the northwest corner capable of growing rose bushes (Sophie's plant has not yet grown), and digs down to find buried treasure! (Lackey 261).

Is Vincent's discovery a lucky event? Our commonsense notions of luck suggest that it is. Lackey, however, points out that Vincent would have discovered the treasure in all relevantly similar worlds as the outcome is guaranteed by the conditions of the search. This suggests that the original modal account of luck is flawed as it does not describe as lucky an event that seems to be paradigmatically so.

Carter and Peterson's objection similarly touches on the failure of Pritchard's first condition to consider modally distant worlds: Imagine an event which is lucky due to occurring in the actual world as well as a sufficiently few worlds in the "wide class of nearest possible worlds." Now imagine a second event that occurs in the actual world and an equally small number of worlds in the relevant class of nearest possible worlds. This second event, however,

occurs in *every* world outside the class of the nearest possible worlds (Carter and Peterson 2177). According to the original definition these worlds are equally lucky, which appears to be a flawed conclusion because one outcome occurs in far more worlds, which seems like it ought to make the event less lucky.

2. Carter and Peterson's Modal Weighted Likelihood Model

In order to produce a modal account of luck that does not fail in light of these counterexamples, Carter and Peterson propose a modal account of luck referred to as the *modal weighted likelihood model* (MWLM). The MWLM replaces the first condition in Pritchard's modal account of luck with one which stipulates "if an event is lucky, then it is an event that occurs in the actual world but whose modal weighted likelihood is above some appropriate threshold" (Carter and Peterson 2181). The exact threshold for luck is not specified by the authors. An event E's modal weighted likelihood is determined by the density of worlds in which E occurs, in which the contribution to the density of a world W in which E occurs is inversely proportional to the distance of W from the actual world @, and E is less lucky the more worlds it occurs in. Though there are potentially infinite possible worlds, the mathematical concept of density provides a means by which to compare frequencies of infinite numbers (Carter and Peterson 2181).

In the MWLM, the worlds most similar to @ still have the strongest weight in determining an event's luckiness, but this model resolves the problem presented by both Lackey involving events which are common in all modally immediate worlds, and Carter and Peterson's counterexample involving events that are common in modally nonimmediate worlds. For Lackey's counterexample, the MWLM allows the consideration of the many modally distant

worlds in which, for example, Sophie or Vincent's flower preferences are different, or Vincent prefers the southeastern corner of the island, allowing us to properly designate Vincent's discovery as lucky. Similarly for Carter and Peterson's example, since distant worlds are taken into account in this calculation, an event which occurs in a number N of modally immediate worlds, but every modally distant world, is less lucky than an event which occurs in N immediate worlds and no modally distant worlds. Note that due to the properties of calculus appealed to in caching the MWLM, the modally weighted likelihood score actually varies inversely with likelihood (a MWL of one being very unlikely, the event only occurring in @, and a MWL of zero meaning the event occurs in every possible world) (Carter and Peterson 2181-2182). Thus Carter and Peterson's final proposal for their most-defensible modal account of luck is that:

An event is lucky if and only if it:

- (1) is an event that occurs in the actual world but whose modal weighted likelihood is above some appropriate threshold (Carter and Peterson 2181).
- (2) is significant to the agent concerned (or would be significant, were the agent to be availed of the relevant facts) (Pritchard 132).

3. Objections to Carter and Peterson's Account

Despite Carter and Peterson's attempts to present a thoroughly defensible modal account of luck through their modally weighted likelihood model, objections to the account remain. My primary objection here is towards the second condition for luck, which Pritchard formulates as "If an event is lucky it is significant to the agent concerned (or would be significant, were the agent to be availed of the relevant facts)" (132). This condition has clear utility in that it allows

us to designate as luck neutral events which are unlikely but have no significance for the agents in the questions (e.g. a distant star collapsing tomorrow).

The second condition of the modal accounts presented above, however, considers only the actual event which occurred for purposes of significance evaluation. Pritchard's "relevant facts" caveat only refers to "certain features of the event" (Pritchard 133) of which the agent is not aware, rather than the range of alternate possible events which occur in non actual modal worlds. Even if Pritchard's relevant facts caveat is expanded to include facts about alternate possible events, it provides no means of comparison between various modal possibilities in order to evaluate luck. It seems integral to our commonsense understanding of luck that the luckiness of particular events is at least partially contingent on potential outcomes in other worlds. For example, being involved in a car accident and losing a limb seems to be by itself a particularly unlucky event. However, if the agent in question were to learn that due to the circumstances of the crash in the majority of modally nearby worlds he died in the accident rather than just losing a limb, the fact that the actual world is one in which the agent only lost a limb appears to be a (relatively) lucky event. An account of luck that only considers the singular event of being in a car crash and losing a limb for purposes of significance evaluation, rather than the range of related modal possibilities, thus fails to account for the important role which modally nearby worlds play in determining the luckiness of an event.

4. Modifying the Modal Account of Luck

We should not conclude from this objection that any modal account of luck is fundamentally flawed. Rather, a modal account appears to be uniquely able to fix this problem of the multiple-world-dependent nature of significance and desirability evaluation, given that

comparisons of multiple possible worlds is a task which modality appears to be uniquely well suited for. Furthermore, in looking to resolve this dilemma, we can view it as parallel to the problems which Carter and Peterson recognize in Pritchard's first criteria in that both highlight the need for a modal account of luck which involves a wide range of possible worlds, not just modally immediate ones or, in this case, only those which feature the specific event under evaluation.

Thus, I look towards Carter and Peterson's work in proposing a third condition for a modal account of luck: If an event is lucky, it has a desirability score greater than the modally weighted average desirability score for all other relevantly similar possible worlds.

Under this proposal, all possible worlds that are relevantly similar to the actual world @ with respect to the conditions of event E would have a desirability score between zero (not at all desirable to the agent) and 1 (most desirable to the agent). Note that this framework denies notions such as infinitely desirable and undesirable events (the most desirable and undesirable events would be scored as 1 and 0, respectively). The desirability of all non actual worlds would be averaged (to the closest precision possible with potentially infinite possible worlds), with greater weight being given to worlds closest to @. The greater the differential between the modally weighted desirability average of non actual worlds and the desirability of the actual world, the luckier or unluckier @ is with respect to event E.

This third condition for luck resolves the problems presented by the issue of the modally comparative nature of luck. Let us apply my model to the example modal universe in which an agent loses a limb in a car crash in the actual world, but dies in a majority of the modally nearby worlds. The agent would likely rate the desirability of death significantly lower than losing a

limb, and thus the most likely non actual worlds are the ones with this lower comparative desirability. Though there may be some modally very distant worlds in which the agent survives unscathed, these are less likely as stipulated by their modal distance from the actual world. Thus the desirability of the actual world is greater than the modally weighted desirability average of non actual worlds, and therefore we can say that the agent was lucky to have only lost a limb in the crash. My account succeeds where Pritchard's fails in that it properly designates the actual world as lucky whereas his does not (the success of this account assumes we are looking to parse and explain commonsense notions of luck rather than wholly redefine them). Note that my account works inversely for unlucky events. If in @ I win \$10 from playing a mandatory worldwide lottery, but every other ticket gives the bearer one million dollars, this event would be properly designated as unlucky, due to the high negative desirability differential between @ and other worlds (unless money is meaningless to me, in which case the event would be luck neutral).

Under my proposal, the full modal account of luck fuses Pritchard's, Carter and Peterson's, as well as my own criterion to produce the following account:

An event is lucky if and only if it:

- (1) is an event that occurs in the actual world but whose modal weighted likelihood is above some appropriate threshold (Carter and Peterson 2181).
- (2) is significant to the agent concerned (or would be significant, were the agent to be availed of the relevant facts) (Pritchard 132).
- (3) has a desirability score greater than the modally weighted average desirability score of all other worlds relevantly similar with respect to the event.

5. *Objections*

One potential objection to my account is that its reliance on desirability fails to capture events which are significant, but are neither particularly desirable or undesirable in that they do not make the agent's life significantly better or worse off than in alternative worlds. This objection fails in that commonsense notions of luck appear to track with notions of desirability in conjunction with significance, not with significance alone. Consider a modal universe in which my friend Phil is applying to universities. In @, Phil is admitted to and attends the University of South Carlsbad (Czechia), but in all other relevantly similar worlds he is admitted to and attends the University of Southern California (university attendance is mandatory across worlds in this hypothetical universe, and Phil astoundingly has no chance of a premature death or any other condition which would preclude him from attending university). The experience Phil has in all of the modal worlds is qualitatively comparable—neither USC is particularly better than the other—and Phil would have an equally good time attending either school. Though this event may be significant in that the location where Phil attends university is a significant component of his life and experience, it seems apparent that Phil would not be particularly *lucky* to attend one USC over the other. This consideration applies to all similar situations. If differences in outcome are significant but all possible outcomes are equally desirable, then it does not appear that the event is lucky in comparison to the alternatives.

Another potential objection to my third condition for luck is grounded in its consideration of modally distant worlds. On the surface, my account appears to work just as well and demands less knowledge of modally distant worlds when comparing only a group of modally nearest worlds to the actual world. In the car crash example, the limb-destroying car crash is still

designated as lucky under this model as the modally nearest worlds mostly involve the death of the agent.

Considering only modally nearby worlds, however, fails in that it does not properly account for relative differences in luckiness of events. Returning to the car crash example, imagine a modally sparse and distant world Q in which the agent miraculously survived the crash totally unscathed. The existence of world Q seems to make the actual world in which the agent lost a limb slightly less comparatively lucky, which is accounted for by considering all relevant worlds in calculating the desirability average of non actual worlds. Additionally, giving Q a lower weight in calculating the desirability of non actual worlds still allows for us to recognize that the limb-destroying car crash was nevertheless quite lucky given the significant likelihood of the agent's death in modally nearby worlds, and to not have this effect disproportionately minimized by the distant possibility of the agent surviving unscathed.

Conclusion

I began this paper by introducing control and modal accounts of luck, the two generally endorsed categories in recent scholarship. I explained this paper's focus on modal accounts and laid out Dr. Duncan Pritchard's archetypical modal account of luck. In Section One I introduced objections to Pritchard's account presented by Dr. Jennifer Lackey, Dr. J. Adam Carter, and Dr. Martin Peterson, which were grounded in Pritchard's failure to consider modally distant worlds in determining luckiness. In Section Two I presented Carter and Peterson's modally weighted likelihood model and its use in developing a stronger first criterion for a modal account of luck. In Section Three I then extended Carter and Peterson's line of reasoning to put forth my own objection to the shared second criterion of modal accounts of luck endorsed by Pritchard, Carter,

and Peterson which took issue with the criterion's focus on only the event which occurred in the actual world in determining an event's significance and desirability. In Section Four I introduced my modally weighted comparative desirability model and its use in a new third criterion for a modal account of luck in response to the apparent failure of previous accounts. Finally, in Section Five, I defended my modally weighted comparative desirability model against objections regarding the luckiness of significant events which are neither desirable or undesirable, and its consideration of modally distant worlds as opposed to just modally nearby worlds.

Works Cited

Carter, J. Adam, and Martin Peterson. "The Modal Account of Luck Revisited." *Synthese*, vol.

194, no. 6, 2016, pp. 2175–2184., doi:10.1007/s11229-016-1047-7.

Lackey, Jennifer. "What Luck Is Not." *Australasian Journal of Philosophy*, vol. 86, no. 2, 2008,

pp. 255–267., doi:10.1080/00048400801886207.

Pritchard, Duncan. *Epistemic Luck*. Clarendon Press, 2005.