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THE MODAL ACCOUNT OF LUCK

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ABSTRACT. This paper offers a rearticulation and defence of the modal account of luck that I developed in earlier work (e.g., Pritchard 2005). In particular, the proposal is situated within a certain methodology, a component of which is paying due attention to the cognitive science literature on luck (and risk) ascriptions. It is shown that with the modal account of luck properly articulated it can adequately deal with some of the problems that have recently been offered against it, and that the view has a number of attractions over competing proposals, such as the lack of control account.

KEYWORDS: Epistemic Luck; Epistemology; Knowledge; Luck; Risk.

1. ANTI-LUCK EPISTEMOLOGY AND THE MODAL ACCOUNT OF LUCK IN OUTLINE

The aim of this paper is to revisit the modal account of luck that I set out in previous work—especially Pritchard (2005)—and defend it against objections that have recently arisen in the literature. As we will see, key to my defence of this proposal is the claim that objections to this account often ignore key features of the view. With that in mind, I want to take some time to restate the position.

The backdrop to my interest in offering a theory of luck is that I wanted to develop a way of approaching the theory of knowledge that I call *anti-luck epistemology*. It is a widely held platitude in epistemology that knowledge is in some fundamental sense incompatible with luck. Call this the *anti-luck platitude*. Until quite recently this platitude was taken largely at face value, as something

that did not require further elucidation. The guiding thought behind anti-luck epistemology is precisely that one should *not* take the anti-luck platitude at face value but rather carefully unpack it.

In particular, anti-luck epistemology urges a three-stage approach to the theory of knowledge which takes the anti-luck platitude as central to the project. First, one offers a theory of luck. Second, one delineates the specific sense in which knowledge is incompatible with luck. Finally, third, one puts these two component parts together and formulates an *anti-luck condition* on knowledge that captures the specific sense in which knowledge is incompatible with luck. If the anti-luck platitude does reveal something deep and important about knowledge, then by undertaking the anti-luck epistemological project one should determine a core epistemic condition on knowledge. Indeed, one might even determine an epistemic condition which is, with true belief, sufficient, or close to being sufficient anyway, for knowledge. That would be quite a result.

One of the attractions of this theoretical project is that it might offer a principled way of dealing with the Gettier problem—*viz.*, the problem of explaining what it takes to avoid the specific kind of epistemic luck which undermines knowledge in Gettier-style cases. On standard epistemological proposals one tries to deal with the Gettier problem by working out which condition or conditions one needs to add to one's favoured non-Gettier-proof account of knowledge in order to make it Gettier-proof. This way of approaching the problem has been notoriously unsuccessful, and tends to lead to analyses of knowledge that strike one as *ad hoc* and unmotivated. Indeed, the general lack of success of this way of dealing with the Gettier problem has given rise to the widespread view that knowledge is not the kind of thing that is susceptible to an analysis.¹

Anti-luck epistemology promises to be a better way of approaching this issue since rather than focussing specifically on the kind of epistemic luck in play in Gettier cases, one instead attends to the general question of the nature of knowledge-undermining epistemic luck, whether it is found in Gettier-style cases or elsewhere. The anti-luck condition which results from a successfully conducted anti-luck epistemology will thus not be a mere anti-Gettier condition, even though it will exclude Gettier-style cases just as it excludes other cases of knowledge-undermining epistemic luck. Moreover, rather than taking the notion of luck as a primitive, anti-luck epistemology incorporates a theory of luck as a means of outlining the anti-luck condition on knowledge.

The difficulty that faced anti-luck epistemology when I first tried to develop it, however, was that I found to my surprise that there was next to nothing in the philosophical literature on the nature of luck. Indeed, I think it is fair to say that luck was at this time largely treated as an undefined primitive.² This is surprising, particularly given the tendency of analytical philosophers to offer theories of just about any term of philosophical interest. After all, luck is not just a core

notion in epistemology, but also in a number of other philosophical domains too, such as ethics (moral responsibility), political philosophy (just deserts), and metaphysics (causation). In any case, since there was no existing literature on the philosophy of luck to engage with, I was faced with the task of trying to offer my own account, largely *ex nihilo*.

But why offer a modal account of luck? Here I was guided—and I am still guided—by an insight from epistemology that I think is crucial for our understanding of luck. Consider the famous lottery example. Imagine a subject who holds a lottery ticket for a fair lottery with astronomically long odds, where the draw has been made. The ticket is a loser, but the subject has not yet heard the result and so has no inkling of this. We can add to this story in two interesting ways. In the first scenario, the subject becomes aware of the astronomical odds involved and hence on this basis forms the true belief that her ticket is a loser. In the second scenario, the subject hasn't paid any attention at all to the odds involved in this lottery. Instead, she reads the result in a reliable newspaper and so on this basis forms the true belief that her ticket is a loser.

Here is the puzzle. It seems that the subject in the first scenario doesn't know that her ticket is a loser, and yet the subject in the second scenario does.³ Moreover, the natural explanation of why this is so is that in the first scenario the subject's true belief is a matter of luck, while in the second scenario it is not a matter of luck. The reason why this is puzzling is that if we consider the subject's bases for belief then, from a probabilistic point of view anyway, the odds in the second case are nothing like as massively in support of the truth of the subject's belief as they are in the first case. How then can it be that knowledge is present in the second case and not the first? Is knowledge not a straightforward function of the strength of one's evidence, probabilistically conceived?

What the lottery case reminds us is that an event can be modally close even when probabilistically unlikely. That is, the possible world in which one wins a lottery, while probabilistically far-fetched, is in fact modally close. The possible world in which one is leaping about with joy in one's room because one is a lottery winner is very alike to the possible world in which one is tearing one's ticket up in disgust—all that needs to change is that a few coloured balls fall in a slightly different configuration.⁴

In contrast, the possible world in which a reliable newspaper misprints the lottery result, while not so probabilistically far-fetched, is not modally close. Newspapers have a morbid fear of printing erroneous lottery results—just think of the problems that this could cause—and so have elaborate systems in place in order to ensure the accuracy of what they print in this regard. It follows that one needs to change quite a lot about the actual world in order to get to the possible world where a reliable newspaper (*The Times*, say) prints an incorrect lottery result. The moral is

that modal closeness comes apart from probabilistic closeness.⁵ In particular, one cannot infer from the fact that an event is probabilistically unlikely (such as a lottery win) that it is therefore also modally far-off.

Indeed, this is why people play lotteries, and yet do not place bets on modally far-fetched events with similarly massive odds. The odds of me winning the 100m gold medal at the next Olympics may well be in the region of your average lottery win, but you'd be crazy to bet the same amount you'd spend on a lottery ticket on this event obtaining. This is because not only is this event probabilistically far-fetched, but it is also modally far-fetched—an awful lot would need to change about the actual world to make it such that I am an Olympic sprint champion (indeed, I suspect it would take some sort of global conspiracy).⁶

This distinction between modal and probabilistic closeness of events may seem highly theoretical, but it is nonetheless rooted in our ordinary judgements. The lottery example is a case in point, since we are surely sensitive to fact that the lottery win scenario is modally close even while being probabilistically far-fetched (even if we wouldn't articulate this distinction in these terms of course). Indeed, that we recognise this point is revealed by our behaviour, in that we are not at all inclined to bet on modally far-fetched events with similar odds to the lottery.

Why is knowledge lacking in the first scenario where the subject's true belief is based solely on the odds, but present in the second scenario where it is based on reading the result in a reliable newspaper? Here is a perfectly natural explanation. In the first scenario the subject's true belief is just down to luck, since she could so very easily have formed a false belief (i.e., had the balls fallen in a slightly different configuration, such that she owned the winning lottery ticket). In the latter case, in contrast, the subject's true belief doesn't seem lucky at all. Given how she formed her true belief, she couldn't have easily formed a false belief, since reliable newspapers tend to publish the right result in worlds like the actual world. We can also think of this in terms of the notion of risk. Given how the former agent forms her belief in the first case it seems subject to an undue degree of epistemic risk, since she could have easily got things wrong. Not so in the second case, where the degree of epistemic risk is far lower.

Our judgements about knowledge are thus sensitive to the modal closeness of error as opposed to its probabilistic closeness. That is, the moral of the lottery example is that a true belief can fail to be knowledge even despite the odds being massively in its favour so long as the possibility of error is nonetheless modally close. In such cases we judge the agent's cognitive success to be too risky to count as knowledge.

This point about this distinction between modal and probabilistic closeness being rooted in our everyday judgements is borne out by the empirical research on luck and risk ascriptions. For while I found, back when I first started working on anti-luck epistemology, that philosophers

hadn't said much about luck, I discovered that psychologists had said a great deal about this topic. Moreover—and this is a key point—when it comes to judgements about luck and risk, it is the modal closeness of the target event that has the whip hand.

For example, in a series of studies conducted by the psychologist Karl Teigen (1995; 1996; 1997; 1998*a*; 1998*b*; 2003) it was found that when a success was perceived as being physically close to a failure (i.e., when a wheel of fortune stopped in a winning sector, but was physically close to stopping in a losing sector) the success was perceived as more lucky than when the failure was not perceived as physically close. Moreover, he also found that this counterfactual closeness could not be understood simply in terms of the probabilities involved. Subjects were willing to treat events as being different as regards the degree of luck involved even whilst granting that the probabilities of each of the two events occurring was the same. Subjects would, for example, recognise that the probability of one's ball landing in a losing sector on a roulette wheel was constant wherever the ball landed in that losing sector, while also regarding an event in which one's ball landed near to the winning sector as involving bad luck, unlike other events where the ball landed further away (which, depending on where the ball landed, were either not regarded as unlucky at all, or else regarded as involving less bad luck).⁷

With these kinds of considerations in mind, we are thus closing in not just on the idea that luck is a distinctively modal notion, but also what kind of modal notion it is. That is, roughly, what makes an event lucky is that while it obtains in the actual world, there are—keeping the initial conditions for that event fixed—close possible worlds in which this event does not obtain. So, for example, a lottery win is a lucky event because there are close possible worlds where the initial conditions for this event are the same but where one does not win the lottery (i.e., where the coloured balls fall in a slightly different configuration).

What is meant here by the 'initial conditions for the event'? The point of this restriction is that we need to keep certain features of the actual world fixed in our evaluation of the close worlds. In particular cases, it is usually pretty clear what needs to remain fixed. In the lottery case, for example, we obviously need to keep fixed that the subject buys a lottery ticket and that the lottery retains much of its salient features (i.e., remains free and fair, with long odds, and so on). If, say, one were *guaranteed* to win the lottery (e.g., it is rigged in one's favour), then clearly this isn't a lucky event even if, as it happens, there are close possible worlds in which one does not win the lottery (e.g., because one is prevented from buying a lottery ticket in such worlds).⁸

Is there a general specification that one can offer of these 'initial conditions'? Well, we can say this much: they need to be specific enough to pick-out a particular kind of event which we want to assess for luckiness, but not so specific as to guarantee that this event obtains (e.g., we

don't want the purchase of a *winning* lottery ticket to be part of the initial conditions for the lottery win). That's quite vague, of course, but my suspicion is that we shouldn't expect anything more detailed, in that we shouldn't require a theory to be any more precise than the phenomena about which we are theorizing. For our purposes it is enough that we can pick-out such initial conditions on a case-by-case basis (which I believe we usually can).

Note that this conception of luck can accommodate the idea that luck comes in degrees. Consider the lucky event of not being shot by a sniper's bullet. With everything else kept fixed, imagine that in scenario A the bullet misses one by millimeters, whereas in scenario B the bullet misses one by a metre. We would naturally judge that both events are lucky, and our account of luck confirms this judgement, for in both cases there are close possible worlds in which the initial conditions for this event are the same and one is hit by the bullet. We would also naturally judge that scenario A is luckier than scenario B, and our account of luck again confirms this judgement. For the possible worlds in which one is hit by the bullet are clearly closer in scenario A than they are in scenario B, since less needs to be changed about the actual world in order to get to these possible worlds.

More generally, we can say that the degree of luck involved varies in line with the modal closeness of the world in which the target event doesn't obtain (but where the initial conditions for that event are kept fixed). We would thus have a *continuum* picture of the luckiness of an event, from very lucky to not (or hardly) lucky at all. Once the degree of luck falls below a certain level—i.e., once there is no modally close world where the target event doesn't obtain—then we would naturally classify the event as *not* lucky, since it does not involve a significant degree of luck. This conception of luck also allows us to compare events in terms of their luckiness, so even when considering two events which we don't think are lucky we can nonetheless ask the question whether the one is luckier than the other (e.g., not being shot by a sniper is presumably luckier if the actual world is one where gun ownership is common than if, all other things being equal, gun ownership is rare—even when neither event involves a significant degree of luck).⁹

Another way of thinking about luck is in terms of the related notion of risk. There is a lot of empirical support for the idea that subjects' judgements about risk and luck tend to go hand-in-hand. In particular, just like luck, subjects' judgements about risk track the modal closeness of the target event rather than its probabilistic likelihood. So subjects might grant that the probabilistic likelihood of two events is broadly the same, and yet nonetheless characterize one of them as being riskier than the other because they regard this event as modally closer.

A good example of this is subjects' judgements about the risks involved in various kinds of transport. While subjects will grant that the probability of sustaining serious injury when, say,

driving a car is much, much higher than alternative forms of transport, such as taking the train, they nonetheless tend to judge that car driving is not an especially risky activity (i.e., no more risky, or at least not especially riskier, than taking the train). There are various explanations for this. It is certainly true, for example, that various cognitive biases have a role to play in leading subjects to make these assessments of risk. The fact that one is driving one's car, as opposed to being a passenger (as on a train), makes the 'illusion of control' bias relevant, for example.¹⁰ This leads subjects to overestimate their control over events associated with car driving, such as their propensity to have accidents. This bias, coupled with the fact that subjects tend to overestimate their expertise (most people think that they are above-average drivers),¹¹ leads them to regard driving a car as a not especially risky activity, even taking the relatively high probability of car accidents (when compared with some other forms of transport) into account.¹²

We can explain what is going on here in terms of our account of luck. The car driver in the grip of these cognitive biases has a conception of the actual world such that the possible world in which they incur serious injury while driving is not especially close, and hence not a serious risk (even despite the relatively high probabilities in play). That is, keeping fixed salient initial conditions (the subject's above average driving skill, for example), it is not a matter of luck that they avoid serious accident on a given car journey. Judgements about luck thus dovetail with judgements about risk. To say that a target event is risky is to say that (keeping relevant initial conditions for that event fixed) it obtains in close possible worlds. As the modal distance between the actual world and the possible world where the target event obtains becomes more remote, so the riskiness of the event lessens. At some point, the target event is so modally remote as to not be significantly risky, and hence we tend to judge that there is no risk involved.

Of course, there are some differences between our judgements about luck and about risk. The latter specifically concerns 'negative' events, such as hazards (e.g., the risk of being in a car accident), while we can quite comfortably think of the former in terms of positive events like lottery wins. But at least insofar as we are concerned to eliminate luck from an event—which usually means eliminate *bad* luck—the two terms will tend to coincide.¹³ This is certainly true in the epistemic case, where our concern is to find a condition on knowledge which excludes the negative event of bad (i.e., knowledge-undermining) epistemic luck.¹⁴

Let us now return to anti-luck epistemology. We now have the theory of luck that we are looking for, in the form of the modal account of luck. In terms of the specific sense in which knowledge excludes luck, let us gloss over the dialectical twists and turns, of which there are many, and cut to the chase: we are interested in the event of the subject being cognitively successful (i.e., having a true belief), and we want this event to be non-lucky.¹⁵ With our modal account in mind

we can flesh this out by saying that a lucky cognitive success is a cognitive success where—keeping the relevant initial conditions fixed as usual—cognitive failure (i.e., false belief) is modally close.¹⁶ A non-lucky cognitive success is thus one where, keeping the initial conditions fixed, cognitive failure is not modally close. A bit more carefully, we can say that there is a continuum of epistemic luck in play here. Where the cognitive failure in question is modally very close, then the cognitive success is very lucky and hence knowledge is excluded. Where the cognitive failure is modally far-off, then the cognitive success is not significantly lucky and hence is compatible with knowledge. In between, there is spectrum of degrees of epistemic luck (and hence we would expect our judgements about knowledge possession to be more secure as the degree of epistemic luck lessens).

As before, we can also express this idea in terms of the language of risk, in this case *epistemic risk*. Where cognitive failure is modally close, then there is a great deal of epistemic risk, enough to undermine knowledge. As the cognitive failure moves further out, modally speaking, however, then we become more tolerant of it, to the point where eventually it becomes compatible with knowledge. In particular, where the cognitive failure is modally far-off, then the degree of epistemic risk is low enough to be discounted, and hence it isn't incompatible with knowledge.

Anti-luck epistemology generates a number of interesting theoretical consequences. One of the overarching morals of anti-luck epistemology is that we should endorse the so-called *safety principle*, which is a modal condition on knowledge (and in particular, we should endorse it over competing modal conditions on knowledge, such as the *sensitivity principle*).¹⁷ Moreover, anti-luck epistemology motivates a particular rendering of this principle. The safety principle in outline demands a cognitive success that could not very easily be a failure. So put, the general fit with our anti-luck epistemology is obvious.

But once we opt for an anti-luck epistemology we also get a very specific rendering of the safety principle. Rather than the general claim that a safe cognitive success is one that could not very easily have been a failure, we get instead a continuum picture of epistemic risk involved, with modally very close epistemic risks incompatible with knowledge at the one end of the continuum, shading off along this continuum towards modally far-off epistemic risks that are compatible with knowledge. The result is a much more nuanced conception of the safety principle. As I've argued elsewhere, with the safety principle so understood we can deal with a range of problems that have been leveled against it.¹⁸

It's not my goal here to defend anti-luck epistemology, however. I mention it only to offer a sense of how the modal account of luck can be put to work within a particular philosophical project. What I want to do instead is further outline the modal account of luck, and in doing so

deal with some of the objections that have been raised against it in the recent literature.

2. LUCK, SIGNIFICANCE AND SUBJECTIVITY

First off, we should note that the modal account of luck as just presented might be thought to be missing an important component. In particular, in earlier work I supplemented the modal condition on luck outlined above with a further condition which I referred to as a “significance condition”.¹⁹ The thinking behind this condition is that there are all kinds of events that satisfy the modal condition which don’t thereby seem to qualify as lucky—such as a ‘lucky’ small avalanche in a distant and unoccupied region of the South Pole, one which will never be of any interest (or ought to be of any interest) to anyone. In short, it seems that it is only *significant* events that are in the market for luck.

The question then becomes how best to formulate this condition, and this poses various challenges. Does it suffice to meet the significance condition that a subject (*any* subject?) merely regards the target event as significant (whether rightly or wrongly), or should we opt for a more objective treatment of significance whereby we focus on those events which the subject *ought* to find significant? Do we allow for subject-relative luck, such that an event can be lucky for subject A and yet not for subject B? Do we allow purely pragmatic factors—such as what kinds of things are being discussed in a given conversational context—to determine whether an event is significant? And so on.

In earlier work I tried to steer a course through these issues—see especially Pritchard (2005, ch. 6)—but I have now come to the conclusion that the very idea of adding a significance condition to the modal account of luck is wrongheaded. Think again about the small avalanche on the South Pole that was just mentioned. Of course, no one will regard it as lucky since no one cares about it, and it makes no difference to anyone. But why should that prevent this event from being a genuinely lucky event? The point I am getting at is that we shouldn’t expect an account of the metaphysics of lucky events to be responsive to such subjective factors as whether an event is the kind of thing that people care about enough *to regard as* lucky. That’s just not part of the load that a metaphysical account of luck should be expected to carry.²⁰

There is a related issue in the vicinity regarding the distinction between good and bad luck. Our practices of luck ascription obviously distinguish between the two, and so one might antecedently expect a theory of luck to incorporate an account of this distinction. But as with the significance condition, I think it would be a mistake to try to build a distinction between good and

bad luck into a metaphysical account of the nature of a lucky event. This distinction instead concerns our subjective responses to lucky events, and is not an inherent feature of lucky events themselves. More generally, our interest ought to be in luck as an objective feature of events, which means that we should be wary about drawing too many conclusions from agents' subjective judgements about luck.

With this point in mind, consider again the way in which we appealed to the cognitive science literature regarding luck and risk ascriptions above. One interesting feature of this literature is that it can lend support to the modal account of luck even when the judgements in question are manifestly false (e.g., where those judgements are due to cognitive bias). Consider an agent who judges that plane travel is very risky because they have a faulty conception of the actual world such that very little would need to occur for one's plane to crash. That the agent makes judgements about luck and risk in this way lends support to the modal account of luck even though, since the agent has false beliefs about the nature of the actual world, the event in question (surviving a given plane journey) is not in fact lucky at all.

We thus find the cognitive science literature motivating a conception of lucky events which generates an extension for such events which is very different to the extension implied by our everyday judgements about luck and risk (insofar as those judgements are taken completely at face value at any rate). I don't think this should surprise us at all, any more than it should surprise us that one's judgements about when an event is lucky could prove to be undermined when we are apprised of more information about the event. For example, one might regard one's lottery win as lucky so long as one takes oneself to be playing a standard lottery game, but then discover otherwise. If one subsequently discovered that one was guaranteed to win, for instance—that the game has been rigged in one's favour, say—then one would surely no longer regard it as a lucky win.

The point is that as philosophers our interest is ultimately not in our subjective judgements about luck as such (which may be made while in possession of incomplete information), but rather in luck as an objective phenomenon. More precisely, we are interested in our subjective judgements about luck only because of what they reveal about our folk concept of luck, but it is consistent with this approach that our subjective judgements about lucky events are regularly mistaken. Indeed, if the cognitive science literature in this regard is correct, then this is more than just a theoretical possibility, in that this literature reveals that we often misclassify events as lucky or not lucky.²¹ As we will see below, this observation that our subjective judgements about luck are not to be taken at face value, but rather evaluated relative to an objective standard for lucky events, is important to understanding how the modal account of luck can deal with certain cases

that have been leveled against it.

Could it turn out that there is no such thing as lucky events? Well, this is certainly not ruled out by the modal account of luck any more than it is ruled out by other theories of luck. If metaphysical determinism is true, for example, then one could argue that there is never any close possible world where the target event failed to obtain. But notice that it is not part of the task of offering a theory of luck that one thereby shows that there are lucky events. Indeed, it is no more a constitutive part of the task of offering a theory of luck that one demonstrates that there are lucky events than it is a constitutive part of the task of offering a theory of knowledge that one demonstrates that radical scepticism about our knowledge of the external world is false. What offering a theory of luck does entail, however, is that conditions are laid down relative to which the question of whether there are lucky events potentially has an answer.

3. MODALITY AND LUCK

A concern one might have about the modal account of luck relates to modality itself, especially where possible worlds are ordered in terms of similarity to the actual world in the way that is crucial to this proposal. After all, there are various problems that notoriously afflict this approach. Even setting aside concerns about the metaphysics of possible worlds, there are problems with the ordering itself. For example, it has been argued that there is no unique closest possible world to the actual world and also that there need be no fact of the matter regarding which of any two given possible worlds is closer to the actual world.²² Should problems like these regarding possible worlds concern us?

The first point to make about this worry is to remind ourselves that the modal closeness of an event, as opposed to the probabilistic likelihood of an event, is rooted in our ordinary ways of thinking. We can glean this much from the psychological literature on luck and risk ascriptions, as noted earlier, but equally one could dip into the writings of a number of disciplines (e.g., economics, history, geography) and find examples of the very kind of counterfactual thinking and reasoning that trades on this way of thinking about modality. The point is that we *need* a similarity conception of possible worlds in order to capture what is going on in these domains, and not just in order to make sense of the notion of luck. Whatever problems such a conception faces should thus be met head-on.

The second point to make is that it's unclear whether any of the difficulties that face the similarity conception of possible worlds pose problems which are specific to the modal account of luck. Take the problem just noted that there is potentially no fact of the matter as to which of any

two possible worlds is closer to the actual world, for example. Why would this problem undermine the modal theory of luck, specifically? The only way I could see it as posing a serious difficulty for this theory would be if we expected the modal account of luck to offer us a very fine-grained way of distinguishing between lucky and non-lucky events, as if there is some kind of sharp cut-off between the two. But why would we expect that (or even actively seek that in a theory of luck)? We noted earlier that luck comes in degrees, with very lucky events shading off along a continuum of luck into events that aren't significantly lucky. Such a picture is compatible with a broad penumbral range of cases where it's hard to say whether an event counts as lucky or not. Indeed, such a coarse-grained conception of luck seems entirely in keeping with our normal ways of thinking about luck. In general, there seems no reason why we would seek to appeal to possible worlds to make any fine-grained distinctions regarding lucky and non-lucky events.

So while it is undoubtedly the case that there are general concerns that one can raise about the particular appeal to possible worlds made by the modal account of luck, it doesn't seem to me that these concerns are in any way specific to this account, at least insofar as we understand this proposal, as I suggest we ought, as offering a coarse-grained way of individuating lucky and non-lucky events.

4. LUCK AND NEIGHBOURING NOTIONS

There is still one more feature of the modal account of luck that we need to consider before we can consider putative counterexamples to the view and rival proposals. This is that a key element of the modal account of luck is the way that it distinguishes luck from neighbouring notions like chance, fortune, lack of control, and so on. Here I will focus on the differences between luck and the neighbouring notions of chance, fortune and accident. In the next section we will look at the relationship between luck and lack of control.

The empirical work on luck ascriptions is helpful to the modal account on more than one front here. For instance, this work shows that subjects' judgements about luck come apart from their judgements about chance. In particular, in games of chance not all 'chancy' outcomes are described as lucky. That one's number doesn't come up is down to chance. But if one's number very nearly came up, then this is attributed to (bad) luck.²³ This accords with the modal account of luck, in that our judgements about luck, but not about chance, are tracking what is going on in relevant regions of the modal environment. Moreover, given the point made earlier about how our judgements about luck are tracking the modal closeness of certain possibilities, rather than the probabilities associated with the target event, this is just what we should expect. 'Chanciness'

relates to the latter, luck to the former.

The empirical literature also marks a distinction between luck and fortune. While the former tends to be associated with particular events, the latter tends to be concerned with relatively long-standing and significant aspects of one's life, such as one's good health or financial security.²⁴ While subjects have little tendency to characterize particular lucky events in terms the language of fortune,²⁵ there is a tendency to characterize long-standing and significant features of one's life, which are most often described in terms of fortune, in terms of the language of luck—e.g., 'I am lucky/fortunate to have such a wonderful family'. Even despite this overlap in usage, the empirical literature reveals that they are distinct notions, and hence we need to keep them apart.²⁶

Indeed, notice that where one is concerned with long-standing features of one's life the language of luck is not nearly as natural than that of fortune, particularly once one makes it explicit that these features lack the characteristics at issue in the modal account of luck. Take the 'luck' that one has good health, for example, and bear in mind the point made in §2 above that we are ultimately interested in luck as an objective phenomenon (i.e., rather than our subjective judgements about luck). If one has good genes (from a health point of view) and one takes good care of oneself (one exercises, eats the right things, receives regular medical check-ups, and so on), then is it really a matter of *luck* that one has good health? Surely not. We are here making it explicit that there are no close possible worlds where one's health is poor, but in doing so we are also undermining the idea that one's good health is to be characterized in terms luck. This lends support to the modal account.²⁷

A third notion that is sometimes equated with luck is that of an accident.²⁸ But here too we should resist the equivalence. I may take great care in choosing my numbers for the lottery and in ensuring that I purchase my ticket in time. If I win, this will be a matter of luck, but it won't be an accident. After all, I was trying to win, and took the relevant steps to make such a win possible. That precludes this event from being an accident.

Carefully distinguishing luck from neighbouring notions is crucial both to explaining how the modal account of luck is not subject to certain kinds of counterexamples, and also to explaining why competing accounts of luck are problematic, as will now see.

5. THE MODAL ACCOUNT OF LUCK AND ITS RIVALS

We can finally now consider some rival accounts of luck and some putative counterexamples that have been leveled against the modal account of luck. Consider first Nicholas Rescher's (1995)

claim that lucky events are events that the subject cannot rationally expect to occur.²⁹ For a wide range of cases, events which satisfy the modal account of luck will also satisfy Rescher's account, and *vice versa*. After all, a lucky event according to the modal account of luck is an event that could very easily have not occurred. One would thus expect it to be the kind of event that one couldn't rationally expect to occur. And it is at least often the case that events that one can't rationally expect to occur, such as lottery wins, are also events that could very easily have not occurred. Crucially, however, these two accounts do come apart in terms of what they predict about particular cases, and where they do our judgements tend to go with the modal account.

For example, Rescher (1995, 35) gives the example of someone who receives a lot of money unexpectedly from a benefactor. Rescher argues that this constitutes good luck on the agent's part even if this bequest has been a long time in the planning. But I think we need to be careful here. Perhaps our agent might well be inclined to put this event down to luck, but it is not this judgement that should concern us (as it is almost certainly made while not being in possession of full information), but rather what we should say about the case given that we make all the relevant facts clear. As noted above, we are interested in whether an event is objectively lucky, which may not be the same thing as whether agents under certain conditions (e.g., where they are lacking relevant information) would judge this event as lucky.

Crucially, however, once one makes it clear that the agent knows that this bequest had been planned for a long time and was effectively guaranteed to occur, then the temptation to regard this as a lucky event subsides. Interestingly, there is a natural inclination to regard this as an example of good fortune, and I think this reflects the fact that it is (albeit unbeknownst to the agent) a long-standing and important feature of the agent's life that he will receive this money.

A related kind of example that might be thought to present problems for the modal account of luck is offered by Jennifer Lackey:

“BURIED TREASURE: Sophie, knowing that she had very little time left to live, wanted to bury a chest filled with all of her earthly treasures on the island she inhabited. As she walked around trying to determine the best site for proper burial, her central criteria were, first, that a suitable location must be on the northwest corner of the island—where she had spent many of her fondest moments in life—and, second, that it had to be a spot where rose bushes could flourish—since these were her favorite flowers. As it happens, there was only one particular patch of land on the northwest corner of the island where the soil was rich enough for roses to thrive. Sophie, being excellent at detecting such soil, immediately located this patch of land and buried her treasure, along with seeds for future roses to bloom, in the one and only spot that fulfilled her two criteria.

One month later, Vincent, a distant neighbor of Sophie's, was driving in the northwest corner of the island—which was also his most beloved place to visit—and was looking for a place to plant a rose bush in memory of his mother who had died ten years earlier—since these were her favorite flowers. Being excellent at detecting the proper soil for rose bushes to thrive, he immediately located the same patch of land that Sophie had found one month earlier. As he began digging a hole for the bush, he was astonished to discover a buried treasure in the ground.” (Lackey 2008, §2)

Lackey describes Vincent's discovery of the buried treasure in this case as a "paradigmatic" instance of a lucky event, even though it is clearly not lucky by the lights of the modal account of luck given that Vincent was effectively guaranteed to be successful in finding the treasure given how the case is described. As with Rescher's example of bequest, however, I think we need to look a little more closely at the details of this case.

First off, the example is rather ambiguous in certain respects. For example, how large is this "patch of land" that Sophie locates? The example only functions as Lackey wants it to if this patch is roughly the same size as the treasure, since it is only then that Vincent is guaranteed to find the treasure in this spot. Otherwise, he could have easily planted the rose bush on this patch of land and yet not found the treasure, and that would be consistent with the event being classed as lucky according to the modal account. Moreover, how deep was the treasure buried? Presumably a treasure chest would need to be buried fairly deep to prevent it from becoming exposed accidentally (e.g., from the effects of the weather), but if that's right then it's possible that one could plant a shrub on this ground without coming across the treasure (remember, after all, that our agent is not looking for treasure). Hence there is again no obvious inconsistency between this example and the modal account of luck. And so on.

In order to remove these ambiguities, suppose we stipulated that the areas on the island where one might bury treasure all come in distinct patches not much bigger than the treasure itself, and that the soil on these patches becomes too hard to turn very quickly, so that the treasure cannot be buried very deep. Basically, we are stipulating the details of the case such that if anyone chose the patch of land in which the treasure was buried to dig (for whatever reason, including to plant a shrub), they would find the treasure. Now we further stipulate that there is only one patch of land on the island which is suitable for planting rose bushes, and that it is obvious that this is so to anyone who knows about these things.

With the case so redescribed, such that Vincent is guaranteed to find the treasure, are we now inclined to judge that this discovery is lucky? In particular, remember that, just as with the case that Rescher offers, we need to set aside the fact that Vincent himself might well describe this discovery as lucky, since he is not availed of all the pertinent facts. The relevant judgement for us concerns someone who (like ourselves) knows everything salient to the case, and in particular knows that Vincent is guaranteed to find this treasure. I take it that once we make clear that Vincent is guaranteed to find the treasure, however, and so form our judgement about whether the event is lucky while being fully aware of this fact, then the temptation to characterize the event as lucky disappears. The discovery is *accidental*, since Vincent wasn't aiming to find the treasure, but it is not a matter of luck that he finds treasure in this spot, as he was bound to make this discovery

in this case.

Indeed, this case is in many ways akin to Rescher's example of the long-planned bequest. Although it is not an accident that the agent in Rescher's case receives the bequest (as it was planned that he should receive it), just like Lackey's case this pleasant turn of events can seem lucky at first glance simply in virtue of it being unexpected and surprising. But once one recognizes that the target event was bound to happen then, just like Vincent's discovery of the treasure, it no longer strikes one as lucky.³⁰

This brings me to the relationship between luck and control. A recurring idea in the literature on luck, particularly moral luck, is that lucky events are events that the agent lacks control over.³¹ Construed as a rough necessary condition on luck, the claim is quite plausible, but so construed it is also not in any obvious tension with the modal account of luck. For if an event is within one's control to bring about, and one does bring it about, then how could it not obtain in close possible worlds where the initial conditions for that event are the same (e.g., where one continues to try to bring it about)? (Indeed, it would be a very fishy sense of 'control' if it didn't generate this consequence). It's unsurprising then that events that are lucky on the modal account also tend to be outside of one's control. Hence there's no need for the proponent of the modal account to object to the idea that lucky events are events that are not in the agent's control (at least in some suitable sense of 'control').³²

The idea that lack of control is a sufficient condition for a lucky event is, however, highly dubious. To take a familiar example from the literature, the sun rose this morning, but that does not make it lucky that the sun rose—indeed, it was inevitable that it would rise.³³ It is thus incumbent upon proponents of the view that lack of control is sufficient for luck to propose a more nuanced rendering of this idea.

Here, for example, is Wayne Riggs' recent statement of this view (where 'E' stands for the target event):

"E is lucky for *S* iff;
 (a) E is (too far) out of *S*'s control, and
 (b) *S* did not successfully exploit E for some purpose, and
 (c) E is significant to *S* (or would be significant, were *S* to be availed of the relevant facts)." (Riggs 2009, 220)

Before we start to unpack this account of luck, we should note from the outset two features of it which are controversial given our previous discussion.

The first point to note is that, following earlier work by myself, Riggs opts for a significance condition on lucky events. As I explained above, however, it now strikes me as mistaken to include such a subjective factor in one's account of luck. Remember that our interest

is in what makes an event lucky, and not merely on what prompts subjects to judge that an event is lucky (even though the latter can obviously be a guide to the former). With this in mind, I propose that we set condition (c) in Riggs' account of luck to one side.

The second point is related to the first, and concerns the fact that Riggs isn't defining lucky events *per se*, but rather the different notion of events which are lucky *for a subject*. With the significance condition included in the account of luck this might well make sense, in that the relevant notion of significance will probably be an agent-relative one, and hence the resulting account of luck will be agent-relative too. But insofar as we reject this condition on lucky events, then is there any reason treat an account of luck as being relativized to agents in this way? I think not, though as we will see it may well be crucial to Riggs' account that he continues to conceive of luck in this fashion.

With these two *caveats* in mind, let us turn our attention to conditions (a) and (b) in Riggs' account of luck. Whereas (a) is relatively clear, (b) is more opaque. In particular, what does it mean to "exploit" an event for a purpose? We can get a handle on what Riggs has in mind in this regard by considering an example that he uses.³⁴

Recall that we noted a moment ago that an obvious problem facing lack of control views concerns events like the rising of the sun that are completely out of anyone's control but which are not classed as lucky. Riggs claims that our verdict in this regard is too quick. He asks us to imagine a case where two explorers—called Smith and Jones—are about to be executed by a local tribe, only for a total eclipse to come along and for this to lead to the tribesmen abandoning their plan to kill the explorers. Riggs now imagines that while one of the explorers—Smith—had no inkling that the eclipse was going to happen, the other explorer—Jones—knew full well that this event would occur. In particular, Jones was counting on the eclipse occurring as a means of avoiding possible execution by the natives.

Riggs concludes that while the event was not lucky for Jones, it was lucky for Smith. And note that this is even despite the fact that an eclipse is a nomically necessary event that is beyond anyone's control just as much as the sun's rising in the morning. In terms of the account of luck that Riggs offers, the difference between Smith and Jones relates to condition (b). For while (in line with (a)) the event in question is equally completely beyond the control of either of them, it is only Smith who didn't successfully exploit this event for his purposes (because he didn't know it was going to occur).

That Riggs is here talking about an event which is lucky for one agent but not for another should give us pause for further reflection. For while it is undeniable that the event will seem lucky to Smith, since he was lacking crucial information about this event, we have already noted that we

should not conclude from the mere fact that an event seems lucky to a certain individual that therefore it is lucky (still less that it is lucky *for that person*). Indeed, once we set aside purely subjective factors, such as one person's limited informational state, there seems no obvious reason why we would regard the eclipse happening when it did as being lucky at all—after all, it was *bound* to happen when it did. The relevant judgement to follow in this regard is thus not Smith's but ours, which (since we are in full possession of the facts) would surely accord with Jones' judgement that this event wasn't lucky at all. Furthermore, notice that once we know the facts of the situation then it matters not one jot whether we failed to “successfully exploit” the event in question, since even when it is stipulated that condition (b) is met we nevertheless do not regard the event as lucky.³⁵

In any case, this is all by-the-by since Riggs' account still fails to explain why paradigm cases of events which are outwith an agent's control don't thereby count as lucky. At best, with the example of the eclipse Riggs is offering us an example of an event that is out of the control of the agent and which doesn't satisfy the modal account of luck, but which is nonetheless (he claims) lucky for a certain agent. We have disputed this contention. The interesting question, however, is what Riggs would say about the standard case of the sun rising in the morning. Doesn't this event satisfy the conditions on luck that Riggs lays down and therefore count as lucky? Indeed, it is hard to see how adding the condition regarding the subject's failure to exploit this event for some purpose makes any difference to this perennial problem for the lack of control account of luck, given that it is *normally* the case that nomically necessary events such as this are not exploited in this way. It follows that the account of luck which Riggs is offering is untenable, at least unless one wishes to treat whole swathes of nomically necessary events as lucky. Even on a more nuanced reading, then, the lack of control account of luck is still implausible.³⁶

6. CONCLUDING REMARKS

I conclude that the modal account of luck, at least when properly formulated, is still the best theory of luck available. In particular, it does not succumb to the counterexamples that have been levelled against it, and it is superior to rival proposals in the literature, such as that lucky events are events which cannot be rationally expected to occur, or that lucky events are events which are outwith one's control.³⁷

REFERENCES

- Ballantyne, N. (2011). 'Anti-Luck Epistemology, Pragmatic Encroachment, and True Belief', *Canadian Journal of Philosophy* 41, 485-504.
- (2012). 'Luck and Interests', *Synthese* 185, 319-34.
- Becker, K. (2007). *Epistemology Modalized*, London: Routledge.
- Black, T. (2002). 'A Moorean Response to Brain-in-a-Vat Scepticism', *Australasian Journal of Philosophy* 80, 148-63.
- (2008). 'Defending a Sensitive Neo-Moorean Invariantism', *New Waves in Epistemology*, (eds.) V. F. Hendricks & D. H. Pritchard, 8-27, Basingstoke: Palgrave Macmillan.
- (2011). 'Modal and Anti-Luck Epistemology', *Routledge Companion to Epistemology*, (eds.) S. Bernecker & D. H. Pritchard, 187-98, London: Routledge.
- Black, T., & Murphy, P. (2007). 'In Defense of Sensitivity', *Synthese* 154, 53-71.
- Coffman, E. J. (2007). 'Thinking About Luck', *Synthese* 158, 385-98.
- (2009). 'Does Luck Exclude Control?', *Australasian Journal of Philosophy* 87, 499-504.
- Domsky, D. (2004). 'There is No Door: Finally Solving the Problem of Moral Luck', *Journal of Philosophy* 101, 445-64.
- Dretske, F. (1970). 'Epistemic Operators', *Journal of Philosophy* 67, 1007-23.
- (1971). 'Conclusive Reasons', *Australasian Journal of Philosophy* 49, 1-22.
- Driver, J. (2012). 'Luck and Fortune in Moral Evaluation', *Contrastivism in Philosophy*, (ed.) M. Blaauw, ch. 8, London: Routledge.
- Enoch, D., & Guttel, E. (2010). 'Cognitive Biases and Moral Luck', *Journal of Moral Philosophy* 7, 372-86.
- Fantl, J., & McGrath, M. (2007). 'On Pragmatic Encroachment in Epistemology', *Philosophy and Phenomenological Research* 75, 558-89.
- (2011). 'Pragmatic Encroachment', *Routledge Companion to Epistemology*, (eds.) S. Bernecker & D. H. Pritchard, 558-68, London: Routledge.
- Greco, J. (1995). 'A Second Paradox Concerning Responsibility and Luck', *Metaphilosophy* 26, 81-96.
- (2007). 'Worries About Pritchard's Safety', *Synthese* 158, 299-302.
- Hawthorne, J. (2004). *Knowledge and Lotteries*, Oxford: Clarendon Press.
- Hurley, S. (2003). *Justice, Luck and Knowledge*, Cambridge, MA: Harvard University Press.
- Kahneman, D., & Varey, C. A. (1990). 'Propensities and Counterfactuals: The Loser That Almost Won', *Journal of Personality and Social Psychology* 59, 1101-10.
- Kruger, J., & Dunning, D. (1999). 'Unskilled and Unaware of It: How Difficulties in Recognizing One's Own Incompetence Lead to Inflated Self-Assessments', *Journal of Personality and Social Psychology* 77, 1121-34.
- Lackey, J. (2008). 'What Luck is Not', *Australasian Journal of Philosophy* 86, 255-67.
- Langer, E. J. (1975). 'The Illusion of Control', *Journal of Personality and Social Psychology* 32, 311-28.
- Levy, N. (2009). 'What, and Where, Luck is: A Response to Jennifer Lackey', *Australasian Journal of Philosophy*, 87, 489-97.
- (2011). *Hard Luck: How Luck Undermines Free Will and Moral Responsibility*, Oxford: Oxford University Press.
- Lewis, D. (1973). *Counterfactuals*, Oxford: Blackwell.
- (1987). *On the Plurality of Worlds*, Oxford: Blackwell.
- Luper, S. (1984). 'The Epistemic Predicament', *Australasian Journal of Philosophy* 62, 26-50.
- (2003). 'Indiscernability Skepticism', *The Sceptics: Contemporary Essays*, (ed.) S. Luper, 183-202, Aldershot: Ashgate.
- McKenna, F. P. (1993). 'It Won't Happen To Me: Unrealistic Optimism or Illusion of Control?', *British Journal of Psychology* 84, 39-50.
- Mele, A. (2006). *Free Will and Luck*, Oxford: Oxford University Press.

- Nagel, T. (1976). 'Moral Luck', *Proceedings of the Aristotelian Society* 50 (suppl. vol.), 137-52.
- Nozick, R. (1981). *Philosophical Explanations*, Oxford: Oxford University Press.
- Pritchard, D. H. (2002). 'Resurrecting the Moorean Response to the Sceptic', *International Journal of Philosophical Studies* 10, 283-307.
- (2004). 'Epistemic Luck', *Journal of Philosophical Research* 29, 193-222.
- (2005). *Epistemic Luck*, Oxford: Oxford University Press.
- (2006). 'Moral and Epistemic Luck', *Metaphilosophy* 37, 1-25.
- (2007a). 'Anti-Luck Epistemology', *Synthese* 158, 277-97.
- (2007b). 'Knowledge, Luck, and Lotteries', *New Waves in Epistemology*, (eds.) D. H. Pritchard & V. Hendricks, London: Palgrave Macmillan.
- (2008). 'Sensitivity, Safety, and Anti-Luck Epistemology', *Oxford Handbook of Scepticism*, (ed.) J. Greco, 437-55, Oxford: Oxford University Press.
- (2009). 'Safety-Based Epistemology: Whither Now?', *Journal of Philosophical Research* 34, 33-45.
- (2012a). 'Anti-Luck Virtue Epistemology', *Journal of Philosophy* 109, 247-79.
- (2012b). 'In Defence of Modest Anti-Luck Epistemology', *The Sensitivity Principle in Epistemology*, (eds.) T. Black & K. Becker, 173-92, Cambridge UK: Cambridge University Press.
- (2012c). 'The Methodology of Epistemology', *Harvard Review of Philosophy* 18, 91-108.
- (2013). 'There Cannot be Lucky Knowledge', *Contemporary Debates in Epistemology* (2nd Ed.), (eds.) M. Steup, J. Turri & E. Sosa, 152-64, Oxford: Blackwell.
- (2014a). 'Risk', *unpublished manuscript*.
- (2014b). 'Sceptical Intuitions', *Intuitions*, (eds.) D. Rowbottom & T. Booth, 213-31, Oxford: Oxford University Press.
- (Forthcominga). 'Anti-Luck Epistemology and the Gettier Problem', *Philosophical Studies*.
- (Forthcomingb). 'Engel on Pragmatic Encroachment and Epistemic Value', *Festschrift for Pascal Engel*, (eds.) J. Dutant, D. Fassio & A. Meylan, Dordrecht, Holland: Springer.
- (Forthcomingc). 'Knowledge, Luck and Virtue: Resolving the Gettier Problem', *The Gettier Problem*, (eds.) C. Almeida, P. Klein & R. Borges, Oxford: Oxford University Press.
- Pritchard, D. H., & Smith, M. (2004). 'The Psychology and Philosophy of Luck', *New Ideas in Psychology* 22, 1-28.
- Rescher, N. (1990). 'Luck', *Proceedings and Addresses of the American Philosophical Association* 64, 5-19.
- (1995). *Luck: The Brilliant Randomness of Everyday Life*, New York: Farrar, Straus & Giroux.
- Riggs, W. (2007). 'Why Epistemologists Are So Down on Their Luck', *Synthese* 158, 329-44.
- (2009). 'Luck, Knowledge, and Control', *Epistemic Value*, (eds.) A. Haddock, A. Millar & D. H. Pritchard, 205-21, Oxford: Oxford University Press.
- Roush, S. (2005). *Tracking Truth: Knowledge, Evidence and Science*, Oxford: Oxford University Press.
- Royzman, E., & Kumar, R. (2004). 'Is Consequential Luck Morally Inconsequential?: Empirical Psychology and the Reassessment of Moral Luck', *Ratio* 17, 329-44.
- Sainsbury, R. M. (1997). 'Easy Possibilities', *Philosophy and Phenomenological Research* 57, 907-19.
- Sosa, E. (1999). 'How to Defeat Opposition to Moore', *Philosophical Perspectives* 13, 141-54.
- Statman, D. (1991). 'Moral and Epistemic Luck', *Ratio* 4, 146-56.
- Steglich-Peterson, A. (2010). 'Luck as an Epistemic Notion', *Synthese* 176, 361-77.
- Svenson, O. (1981). 'Are We Less Risky and More Skillful Than Our Fellow Drivers?', *Acta Psychologica* 47, 143-51.
- Teigen, K. H. (1995). 'How Good is Good Luck?: The Role of Counterfactual Thinking in the Perception of Lucky and Unlucky Events', *European Journal of Social Psychology* 25, 281-302.
- (1996). 'Luck: The Art of a Near Miss', *Scandinavian Journal of Psychology* 37, 156-71.
- (1997). 'Luck, Envy, Gratitude: It Could Have Been Different', *Scandinavian Journal of*

- Psychology* 38, 318-23.
- (1998*a*). ‘Hazards Mean Luck: Counterfactual Thinking and Perceptions of Good and Bad Fortune in Reports of Dangerous Situations and Careless Behaviour’, *Scandinavian Journal of Psychology* 39, 235-48.
- (1998*b*). ‘When the Unreal is More Likely Than the Real: *Post Hoc* Probability Judgements and Counterfactual Closeness’, *Thinking and Reasoning* 4, 147-77.
- (2003). ‘When a Small Difference Makes a Large Difference: Counterfactual Thinking and Luck’, *The Psychology of Counterfactual Thinking*, (eds.) D. R. Mandel, D. Hilton & P. Catellani, London: Routledge.
- Tetlock, P. E. (1998). ‘Close-Call Counterfactuals and Belief-System Defenses: I Was Not Almost Wrong but I Was Almost Right’, *Journal of Personality and Social Psychology* 75, 639-52.
- Tetlock, P. E., & Lebow, R. N. (2001). ‘Poking Counterfactual Holes in Covering Laws: Cognitive Styles and Historical Reasoning’, *American Political Science Review* 95, 829-43.
- Thompson, S. C. (1999). ‘Illusions of Control: How We Overestimate Our Personal Influence’, *Current Directions in Psychological Science* 8, 187-190.
- (2004). ‘Illusions of Control’, *Cognitive Illusions: A Handbook on Fallacies and Biases in Thinking, Judgement and Memory*, (ed.) R. F. Pohl, 115-25, Hove, UK: Psychology Press.
- Turri, J., & Friedman, O. (2014). ‘Winners and Losers in the Folk Epistemology of Lotteries’, *Advances in Experimental Epistemology*, (ed.) J. Beebe, ch. 6, London: Bloomsbury.
- Unger, P. (1968). ‘An Analysis of Factual Knowledge’, *Journal of Philosophy* 65, 157-170.
- Wagenaar, W. A. (1988). *Paradoxes of Gambling Behaviour*, Hove, UK: Lawrence Erlbaum.
- Wagenaar, W. A., & Keren, G. B. (1988). ‘Chance and Luck are Not the Same’, *Journal of Behavioural Decision Making* 1, 65-75.
- Williams, B. (1976). ‘Moral Luck’, *Proceedings of the Aristotelian Society* 50 (*suppl. vol.*), 115-135.
- Williamson, T. (2001). *Knowledge and its Limits*, Oxford: Oxford University Press.
- Zimmerman, M. (1993). ‘Luck and Moral Responsibility’, *Moral Luck*, (ed.) D. Statman, Albany, NJ: State University of New York Press.

NOTES

¹ Most famously, of course, this is the view defended by Williamson (2001). Note that we are here glossing over the issue of whether an adequate analysis of knowledge must thereby be a *reductive* analysis. My own view is that this is unnecessary, and that what we seek is rather an analysis which is *informative*. (Reductive analyses are sometimes uninformative, after all, as when they are *ad hoc*, and non-reductive analyses can nonetheless be informative). For more on the methodology of epistemology, see Pritchard (2012c; 2014b).

² The chief exception at that time was Rescher (1995), although it should be noted that this work is not a philosophical work in the way that we would ordinarily understand that description. Note too that in claiming that luck was largely treated as an undefined primitive, I'm not maintaining that *nothing* was said about this notion. As we will see below, some commentators—particularly those engaged in the debate surrounding moral luck—offered what might be plausibly classed as necessary conditions for luck.

³ See Turri & Friedman (2014) for empirical evidence that our folk judgements about lottery cases line-up with the relevant philosophical judgements. For more on the lottery problem, see Pritchard (2007b). For a very different treatment of this problem, see Hawthorne (2004).

⁴ I am here characterizing possible worlds in the standard way—as set out in seminal work by Lewis (1973; 1987), amongst others—in terms of a similarity ordering. I comment on some of the philosophical issues raised by possible worlds below.

⁵ As it happens, I have first-hand experience of this point about newspapers. In my late teens I gained work experience with a local newspaper and saw for myself the lengths they went to in order to ensure the accuracy of their lottery results. (And note that this is just a local newspaper with limited resources, rather than an internationally respected national newspaper like *The Times*).

⁶ Note that the slogan for the UK's national lottery is: "It could be you!". This is clearly not the 'could' of probability, since in this sense it (realistically) couldn't be you, but rather the 'could' of modal nearness—i.e., if you play the lottery, then someone just like you will win it. This is borne out by their advertising campaign, which at one point featured a God-like finger hovering over ticket-holders, and then zapping one of them (the winner). Note that in arguing that one would be crazy to bet on a modally far-fetched event with similar odds to a lottery win I am not thereby suggesting that playing the lottery is rational. The point is rather that whatever one thinks of the rationality of playing the lottery, placing a bet on a modally far-fetched event with similar odds would be, from a rational point of view, much worse.

⁷ Other studies confirm Tiegens's findings. See especially Kahneman & Varey (1990), Tetlock (1998), and Tetlock & Lebow (2001). I survey the psychological work on luck in Pritchard & Smith (2004).

⁸ Of course, it may be lucky in such a case that one gets to buy a lottery ticket, but that's a different event from the one under consideration, which is one's winning of the lottery. (This point reminds us of the importance of making the target lucky event clear and keeping it fixed throughout our evaluation). Relatedly, the agent concerned might still regard the lottery win as lucky, but this would be because she is not in possession of relevant information about this event. As I explain below, we are interested in luck as an objective phenomenon, and not merely in subjects' judgements about luck, regardless of their epistemic pedigree.

⁹ See Kahneman & Varey (1990) and Teigen (1996) for discussion of how subjects' judgements about degrees of luck (/risk) vary in proportion to the counterfactual closeness of the target event.

¹⁰ Indeed, subjects tend to judge travelling by car as more risky when it is made clear that they will be a passenger rather than the driver. See, for example, McKenna (1993). For more on the illusion of control, see Langer (1975) and Thompson (1999; 2004).

¹¹ This is the so-called *overconfidence bias*. Famously, in a US study Svenson (1981) found that 93% of drivers rated their driving abilities as above average. Indeed, interestingly (though perhaps not surprisingly), those with low levels of skill are often *more* apt to overestimate their skill levels, a phenomenon known as the 'Dunning-Kruger effect'. See Kruger & Dunning (1999).

¹² Does it matter that we are dealing here with luck/risk ascriptions that are the product of cognitive bias? As I explain below, I don't think it does.

¹³ I discuss the notion of risk and how it relates to luck in more detail in Pritchard (2014a).

¹⁴ That we are offering an account of luck *simpliciter*, and not of good or bad luck in particular, requires emphasis. Whether the luck is good or bad is a further judgement that we bring to bear on the event, in terms of whether it is positive or negative. I don't think it should be part of a theory of luck to say much more about good and bad luck than this, for it is luck *simpliciter* that we are interested in. I say more about this point in §2.

¹⁵ Or, as it is put in the literature, we want this event to be immune to *veritic luck*. For more on veritic luck and the other kinds of epistemic luck (both benign and malignant) that one can delineate, see Pritchard (2005).

¹⁶ Note that the notion of cognitive failure is potentially broader than false belief, in that a failure to believe the truth in appropriate circumstances can be itself a kind of cognitive failure. But we will be setting this kind of complication to one side here.

¹⁷ For some key defences of the safety principle, see Luper (1984; cf. Luper 2006), Sainsbury (1997), Sosa (1999), Williamson (2000), and Pritchard (2002). For some key defences of the sensitivity principle, see Dretske (1970; 1971),

Nozick (1981), Roush (2005), Becker (2007), Black & Murphy (2007), and Black (2002; 2008). For a comparative overview of the safety and sensitivity principles, see Pritchard (2008) and Black (2011).

¹⁸ For example, I've argued that with safety properly understood as motivated by an anti-luck epistemology, then one can evade a dilemma posed for safety-based theories of knowledge by Greco (2007) and also explain how even one's beliefs in necessary truths can be unsafe. Moreover, I claim that anti-luck epistemology has predictive power, as it enables us to adjudicate, in a principled fashion, between opposing responses to certain cases, in that it can highlight which details of the case are important and thereby explain why two superficially identical formulations of a given example can generate very different responses. For more on anti-luck epistemology, see Pritchard (2005; 2007*a*; 2012*a*; 2012*b*). See also Pritchard (2007*b*; 2008; 2009; 2013; *forthcominga*; *forthcomingc*).

¹⁹ See Pritchard (2005, ch. 6). See also Pritchard (2004; 2006) and Pritchard & Smith (2004).

²⁰ This has implications for anti-luck epistemology. This is because with the significance condition in play as part of one's theory of luck one is in danger of endorsing pragmatic encroachment about knowledge by default. Roughly, this is because the significance condition seems to bring in purely pragmatic factors, and hence insofar as this is a condition on lucky events, and knowledge is understood in terms of the exclusion of lucky events of a certain kind, then knowledge possession seems to be dependent upon purely pragmatic factors. Hence, one gets pragmatic encroachment about knowledge. But whatever truth there may be in the pragmatic encroachment thesis, we should be wary about such a thesis simply falling out of the application of the theory of luck to one's epistemology. Hence it is an advantage to anti-luck epistemology if we can construe it in such a way that it doesn't incorporate a significance condition on luck and therefore doesn't lead to pragmatic encroachment. For further discussion of pragmatic encroachment, see Fantl & McGrath (2007; 2011). See also Pritchard (*forthcomingb*). For further discussion of anti-luck epistemology and pragmatic encroachment, see Ballantyne (2011; 2012).

²¹ There has been some recognition of this point in the debate about moral luck. See Domsky (2004), Royzman & Kumar (2004), and Enoch & Guttel (2010).

²² These are sometimes known as the 'world border' and 'world order' problems, respectively. For discussion of these problems, see Lewis (1973; 1987).

²³ See Karen & Wagenaar (1985) and Wagenaar (1988).

²⁴ See Teigen (1996; 1997).

²⁵ The exceptions are those particular lucky events which involve large financial gains, such as lottery wins. Winning a fortune is not the same as being fortunate, however, and once we keep this distinction in mind then the temptation to think of particular lucky events—even those involving large financial gains—in terms of the language of fortune subsides. For example, we are not tempted to describe a lottery win that results not in a financial gain but in some other benefit—say, to have a prominent building named after one—in terms of the language of fortune. See also endnote 30.

²⁶ Note that luck and fortune come apart in other ways too. For example, lucky events can be both positive (e.g., beneficial) and negative (e.g., harmful), whereas fortune is usually only used in a positive way.

²⁷ It is interesting to reflect on why we might use the term 'luck' to describe such long-standing features of one's life. One explanation might be that it represents a kind of modesty, whereby we are disavowing any credit that might accrue to us for our good health. Another possibility is that we have a faulty picture of how our health functions such that even despite one's genes, one's diet, regular medical check-ups and so on, there is always nonetheless a close possible world where one's health is poor.

²⁸ Unger (1969) offers an influential proto-anti-luck epistemology, albeit in terms of the notion of an accident rather than in terms of luck. See also Rescher (1990), though note that, as explained below, Rescher offers a different account of luck in his later work.

²⁹ A similar proposal has recently been offered by Steglich-Peterson (2010).

³⁰ The similarities between this case and Rescher's example could explain why we might be tempted to characterize this example as one of good fortune. One point to keep in mind here is that Vincent is in this case finding a fortune (in treasure), and that this might well constitute background noise that impairs our judgement about the case. Would we describe a parallel case where the accidental discovery is not treasure but, say, a long-lost keepsake of sentimental rather than financial value in terms of good fortune? My instinct is that we wouldn't, and I think this reflects the fact that good fortune tends to relate to long-term significant features of one's life. For further discussion of Lackey's critique of the modal account of luck, see Levy (2009; 2011, ch. 2). See also endnote 25.

³¹ The *locus classicus* when it comes to the debate about moral luck is the exchange between Nagel (1976) and Williams (1976). I offer my own response to this problem in Pritchard (2006; cf. Pritchard 2005, ch. 10). See also Driver (2012), who discusses the modal account of luck in the context of the problem of moral luck. For defences of (versions of) the lack of control account of luck, see Nagel (1976), Statman (1991), Zimmerman (1993), Greco (1995), Riggs (2007; 2009), and Coffman (2007; 2009). See also endnotes 32 and 36.

³² That said, the idea that lack of control is even a necessary condition on luck has been criticized. See, especially, Lackey (2008). For discussion, see Coffman (2009) and Levy (2009; 2011, ch. 2). Note that Levy (2011, ch. 2) offers a hybrid account of luck that has both a modal and a lack of control element. Given that the modal account of luck offered here is consistent with the idea that lack of control is a necessary condition for a lucky event, it is thus not obviously inconsistent with Levy's proposal. Interestingly, Levy also thinks that there is a second kind of luck besides

the type that we are discussing here which concerns lucky events. This is roughly equivalent to what Nagel (1976) had in mind when he wrote about “constitutive luck”, which is luck in the traits and dispositions that one has. I must confess that I am sceptical that this is a genuine kind of luck, and the reason why should be apparent from my earlier discussion—*viz.*, I think the notion that Levy has in mind is probably best understood in terms of the notion of fortune.

³³ I believe Latus (2000, 167) was the first to offer this example. See also Pritchard (2005, ch. 5).

³⁴ The example is from Riggs (2009, §5).

³⁵ Furthermore, notice that as Riggs describes the case it is also not a matter of luck that the explorers were due to be executed at that particular time. Had this not been so, then there would have been scope for it to be lucky that the explorers were due to be executed at the particular time in question (i.e., the time that the eclipse occurred), but Riggs also rules this out.

³⁶ Hurley (2003) offers what she calls a ‘thin’ account of luck as nothing more than the obverse of responsibility, and obviously this way of thinking about luck has some parallels with the lack of control view. Given that Hurley isn’t aiming to offer a full account of luck, however, I will set this proposal to one side. (Indeed, on the face of it, at least, it seems that what Hurley has in mind could be captured by the idea, compatible with the modal account of luck, that lack of control is a necessary condition for lucky events). Similar points apply to Mele’s (2006) conception of luck. Like Hurley, he doesn’t seem to be offering a complete account of luck (or, at least, I have struggled to discern one from the text), though he does appear to hold that lack of control is at least a necessary condition for lucky events. So construed, however, his conception of luck will also be compatible with the modal account of luck offered here.

³⁷ My thinking about the philosophy of luck has benefitted from the input of many people over the years, including (this is *not* an exhaustive list): Nathan Ballantyne, Heather Batally, Martijn Blaauw, Kelly Becker, EJ Coffman, Steven Hales, Jennifer Lackey, Joe Milburn, Nicholas Rescher, Wayne Riggs, Sabine Roeser, Matthew Smith, Lee John Whittington, and Di Yang.