REAL KNOWLEDGE UNDERMINING LUCK

Raphael VAN RIEL

ABSTRACT: Based on the discussion of a novel version of the Barn County scenario, the paper argues for a new explication of knowledge undermining luck. In passing, an as yet undetected form of benign luck is identified.

KEYWORDS: epistemic luck, environmental luck, justification, method of belief-formation

1. Introduction

It is widely assumed that knowledge is incompatible with several types of epistemic luck. In Gettier cases,[1] a subject is *lucky* to arrive at a true belief when inferring a truth from justified but false beliefs and, *therefore*, does not acquire knowledge. In Russell's scenario of a "man who looks at a clock which is not going, though he thinks it is, and who happens to look at it the moment when it is right,"[2] the observer forms a true belief about time, but is lucky when doing so and, *because* he is lucky, does not acquire knowledge. Now, as is well known, there are various forms of benign luck, i.e. forms of luck that do *not* interfere with knowledge acquisition. Any account of knowledge-undermining luck will thus have to specify further conditions in order to capture the type of luck epistemologists are after.

The present paper argues for one particular explication of the sort of luck epistemologists typically regard to be incompatible with knowledge, and it discusses the relation between this explication and explications proposed by Duncan Pritchard, Masahira Yamada, and Mylan Engel. In a nutshell, I will argue that the sort of luck that seems to interfere with knowledge should be relativized not to the method of belief formation, as, for instance, Pritchard and Yamada would have it, but, rather, to *whatever* supports the person's belief – the method employed and the implicit or explicit beliefs that may support the belief.[3]

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[1] Edmund Gettier, "Is Justified True Belief Knowledge?" *Analysis* 23 (1963): 121–123.

[2] Bertrand Russell, *Human Knowledge. Its Scope and Limits* (London: Routledge, 2005 (1948)), 170.

[3] Note that I do not intend to defend the view that based on this characterization, we may arrive at a definition of knowledge; there may be constraints on knowledge that cannot be cashed out in terms of an anti-luck condition.

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In Section 2, I will introduce and discuss a novel version of the Barn County-scenario, and suggest that given some additional assumptions about the subject in the scenario, it seems intuitive that a subject may acquire knowledge in the presence of environmental luck. In Section 3, I will offer an argument that blocks one possible criticism of this result. In Section 4, I suggest that the novel version of the Barn County Scenario enables us to identify an as yet undetected form of benign luck. In Sections 5-8, I will, based on the novel Barn County scenario, develop an explication of the type of luck that seems to interfere with knowledge and discuss its relation to anti-luck conditions offered by Engel and Pritchard. Whereas Pritchard's condition is in need of a refinement, one may regard the argument developed below to support Engel's characterization, according to which luck should be relativized to the evidence a subject has for a belief – depending on the intended interpretation of 'evidence.'

2. Two Versions of [Barn County], a Difference, and an Intuition

This section introduces the classical and a novel version of the Barn County-scenario, suggests that based on intuitions about the novel version, environmental luck turns out to be compatible with knowledge acquisition, and comments on the difference between the two versions, suggesting that the difference explains the difference in knowledge-acquisition. Here is the classical version:

> [Barn County]
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> Simon sees a barn in front of him. Simon forms the true belief that the thing in front of him is a barn. The causal chain leading from the fact that there is a barn to Simon's belief formation is perfect, unlike the environment. The barn he sees is the only real barn in an area where all other barn-like objects (and there are many) are mere barn facades, all indistinguishable, from Simon's perspective, from real barns. Simon was lucky. In this environment, Barn County, he might have been easily misled.[4]

It is a widely shared intuition that in scenarios of this sort, environmental luck interferes with knowledge – in this scenario, Simon does not know that there is a barn in front of him. Environmental luck will here be understood in a general sense as follows: things might very easily have not worked out for our subject (the subject is lucky) due to circumstances in the environment (which makes this type of luck a form of *environmental* luck); it is, to use Pritchard's terminology: not of

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[4] Cf. Alvin Goldman, "Discrimination and Perceptual Knowledge," *The Journal of Philosophy*, 73 (1971): 771-791.

the 'intervening' sort.[5] In this sense, Simon is lucky. Moreover, Simon does not acquire knowledge, which is, at least in part, due to the fact that it was a matter of luck (in the general sense) that he arrived at a true proposition.

I will take this as a datum. But what if Simon had some non-decisive information that plays a justificatory role for the belief that there is a barn in front of him? Consider the following scenario:

[Barn County*]

Before traveling to Barn County, Simon* talked to his partner Martha who traveled to Barn County before. Martha, who spotted and examined the only real barn in Barn County, tells Simon* that there is a barn at a particular crossing or that there is a church at this particular crossing, and based on this disjunctive information, Simon* is justified to believe that there is a barn at this crossing or that there is a church at this crossing. Note that Martha does *not* tell Simon* anything else; in particular, Simon* does not learn anything about the fact that there are many, many barn façades in Barn County. Simon* travels through Barn County. The first barn Simon* spots is the *only* real barn in Barn County (information Simon* does not possess); and it is a barn at the crossing indicated by Martha. Simon* does not have any reason to believe that there is also a church at this particular crossing.

Let us assume that the scenario is otherwise indistinguishable from the original [Barn County] scenario (so, for instance, Simon and Simon* employ the same method of belief formation etc.) I take for granted that, before traveling to Barn County, Simon* at best knows the disjunction that there is either a church or a barn at this particular crossing, but is not thereby in a position to know that there is a barn at this particular crossing. Do things change when Simon* spots the barn? Is Simon* in a position to know that there is a barn in front of him, using visual information alone when forming the belief?

It appears that Simon* is in a position to acquire knowledge when forming the belief based on visual information alone. Assume, first, that Simon* *uses* disjunctive information provided by Martha when forming the belief. Then, I think, he will clearly acquire knowledge (provided, of course, that he is able to distinguish a barn from a church). More importantly, however, it appears that he will acquire knowledge even when the information provided by Martha merely plays a justificatory role and does not enter the process of belief-formation. It seems that Simon* does not need to actualize the belief that there is a church or a barn at this particular crossing, or that Martha told him so. When pressed, Simon*

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[5]Duncan Pritchard, "Knowing the Answer, Understanding, and Epistemic Value," *Grazer Philosophische Studien* 77 (2008): 330.

might have asserted that there is a church or a barn at this particular crossing (and the fact that Martha told him so could have been causally relevant for Simon*'s assertion). Or, upon reflection, Simon* may have come to actualize this belief. Whether or not he does seems to be irrelevant for the question of whether or not he acquires knowledge in [Barn County*]. Simon* acquires knowledge in [Barn County*] because he *possesses* additional information, not because he actually *uses* it when forming the belief.

At the same time, it appears that Simon* was *lucky*, in a way similar to the way Simon is lucky in [Barn County]. Relying on a modal interpretation of luck: Simon was lucky because, had he spotted a barn façade, he would have formed a false belief, or in *most* nearby possible worlds, he would have formed a false belief. In this respect, Simon* was just as lucky as Simon.

Here, I merely report my intuitions. As the paper proceeds, I will present two indirect arguments for the claim that Simon* acquires knowledge in [Barn County*]. First, however, let me comment on the type of information Simon* possesses in [Barn County*] and, hence, on the difference between the two versions of the scenario.

For the sake of simplicity, I will refer to the information Simon* possesses in [Barn County*] as 'background information,' without presupposing any technical, or theory-laden notion of a *background*. To get a better idea of background information, let us briefly reflect on some structural features of the information provided by Martha in [Barn County*].

One may tentatively describe background information in terms of what it is *about*. Background information, in [Barn County*], concerns the content of the belief Simon* forms in [Barn County*], or a proposition relevantly related to this content, namely, that there is a barn at this particular crossing. In contrast, in [Barn County], Simon does not possess any particular information about the target proposition, although, of course, he will have to possess information about barns, or the concept of a barn, in general (or so it is tacitly understood). In addition, the information Simon* possesses in [Barn County*] should not itself be generated under conditions of environmental luck. Otherwise, it is not so clear whether information provided by Martha really does the trick in [Barn County*]. And, as I have already stressed, we should conceive of Simon*'s background information so that it does not play any role in the formation of the belief that there is a barn in front of him. It is not that Simon* fails to make the connection; it is just that he bases his belief on visual information alone. You may, but need not, think of background information as *non-occurrent, implicit,* or *non-actualized.* In [Barn County*], Simon* need not actualize the belief that there is a church or a barn at

this particular crossing, or that Martha told him so (in order to form the belief). Since Simon* does not use background information in the process of belief-formation, the belief may have been implicit, non-occurrent, or non-actualized. Then, if background information plays a role for knowledge-acquisition, Simon* acquires knowledge in [Barn County*] because he *possesses* additional information, not because he actually *bases his belief on* it, or *uses* it when forming the belief. In this sense, background information is *background* information (as I use the term here). These features, together with the example just presented, should provide a sufficiently clear understanding of the type of information whose presence distinguishes [Barn County*] from [Barn County].

Based on these tentative characterizations, we are now in a position to mount an argument for the view that background information *can* make a difference to the question of whether or not a subject acquires knowledge, thereby offering a first indirect argument for the claim that in [Barn County*], Simon* acquires knowledge – namely, by blocking a possible counter-argument.

3. An Indirect Argument: Background Information and Justification

Background information can play a role for knowledge acquisition. Consider two persons, Sarah and John, who, together, overhear a conversation among two people they do not have any additional information about; in particular, they do not have any reason to believe that the short exchange they overhear is sincere, or aims at truth, nor do they possess evidence to the contrary. They merely hear one sentence: "When you cross a horse with a zebra, chances are dim that the offspring will be able to reproduce." They both form the belief that this is so, based in their overhearing this snippet of a conversation. Sarah, unlike John, possesses background information that may play a justificatory role for the belief that when you cross a horse with a zebra, chances are dim that the offspring will be able to reproduce. For instance, we may assume that she knows that when you cross a horse with a donkey, chances are dim that the offspring will be able to reproduce, and that the relation between donkeys and horses is similar to the relation between horses and zebras. John does not possess this information, nor does he possess any similar information. Then, I would say, whereas Sarah may have acquired knowledge in this scenario, things are less clear with John. There are numerous differences between the two: Whereas Sarah is in a position to integrate the information into her body of belief and is in a position to make the connection, John isn't. Moreover, John's belief would not be as stable as Sarah's belief. On the assumption that Sarah and John are equally rational, they may react differently when presented with the information that the person who uttered the

sentence is a notorious liar; Sarah will not be irrational when she sticks to her belief. Not so John – he should abandon his belief when being told that his source was a notorious liar.

Of course, this does not show that Simon* acquired knowledge in [Barn County*]; but it offers a response to the worry one might have that implicit background information cannot *possibly* make a difference in the context of knowledge acquisition. Prima facie, background information can play such a role. The argument shows that the intuition that Simon* acquired knowledge in [Barn County*] is, if misguided, not misguided because it credits background information with a role it cannot possibly play.

If you take knowledge or justification to be tied to cognitive achievements, or virtues, or to any form of *process* of belief formation, you may feel reluctant to accept the result that Simon* acquires knowledge in [Barn County*], or, for that matter, that Sarah acquires knowledge in the situation just sketched. How can information Simon* does not *use* when forming the belief bear on the question of whether or not the belief amounts to knowledge? The relation between the conclusion that Simon* acquired knowledge in [Barn County*] and these views does not seem to be straightforward. First, there *is* a process of belief formation that may fit some of the bills (for instance, be reliable). Background information is an extra. And at least, it is not obvious that, by subscribing to some form of reliabilism, or virtue epistemology, one is committed to the claim that beliefs that are not used in belief-formation cannot play any *additional* justificatory role. We will turn back to this point in Section 7.

So, it appears that one argument one might want to raise against the intuition that Simon* acquires knowledge in the scenario fails. Before turning to the discussion of how this result bears on knowledge-undermining luck, let me briefly discuss an interesting feature of the scenario – [Barn County*] involves a novel form of benign luck.

4. Benign Luck in [Barn County*]

There are innocent, or benign forms of luck, forms of luck that are assumed to be compatible with knowledge acquisition. Following Pritchard's[6] interpretation of Unger's reflection on varieties of epistemic luck,[7] one can distinguish three forms of benign luck:

(1) It is a matter of luck that the proposition known is true.

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[6] Duncan Pritchard, "Epistemic Luck," *Journal of Philosophical Research* 29 (2004): 191-220.
[7] Peter Unger, "An Analysis of Factual Knowledge," *Journal of Philosophy* 65 (1968): 157-170.

(2) It is a matter of luck that the agent is capable of knowledge.

(3) It is a matter of luck that the agent acquired the evidence that supports her knowledge.[8]

An example for the first type of luck is this: You witness a car accident. That it is true that there was a car accident is lucky, in the sense that things could easily have been different (this is supposed to follow from the idea of an accident). As for (2), consider a scenario where a subject acquires knowledge, but could have easily ceased to exist due to circumstances present in the environment. In both cases, or so it seems, luck does not interfere with knowledge. Finally, one may be extremely lucky that one gathered the evidence one has for a belief. When a bank teller sees the robber slip the mask for a short moment and recognizes the robber, gathering of evidence may very well count as lucky.[9] Again, it appears that once one has acquired evidence, one is in a position to acquire knowledge, independent of whether evidence acquisition was a matter of luck.

The taxonomy of types of epistemic luck in (1)-(3) distinguishes types of luck in terms of the *object* or *target* of luck; the truth of the proposition (1), the ability to acquire knowledge (2), or the availability of evidence (3). Now, it is clearly a matter of luck that *the piece of information provided by Martha became relevant in [Barn County*]*, that it did play a justificatory role in the scenario. Simon* might, very easily, have looked at a barn façade. If he had looked at a barn façade, information provided by Martha would not have played any justificatory role at all.

This form of luck does not collapse into any of (1)-(3); Simon* is lucky in [Barn County*], but not because it is a matter of luck that the proposition that there is a barn in front of him is true, or because it is a matter of luck that he is capable of knowledge or belief-formation, or because it is a matter of luck that he acquired background information or visual information. We can add the following type of luck to our taxonomy of benign forms of epistemic luck:

4. It is a matter of luck that part of the information a subject possesses plays a justificatory role for the belief that *p*.

This form of luck resembles the lucky occurrence of evidence, (3), although here, it is not the *acquisition* of evidence that is lucky, but, rather, the fact that in a context, information the subject already possessed *becomes* evidence, or played a

justificatory role. Note, however, that the fact that there is an as yet undetected form of benign luck involved in [Barn County*] surely does not explain why Simon* acquired knowledge. So, let us turn back to the main topic of the paper: Which form of luck is incompatible with knowledge?

5. Relativizing Luck, the Method of Belief-formation, and Two Desiderata

The type of luck that is usually regarded as problematic with respect to knowledge acquisition concerns the fact that a subject ended up with a true belief. Call this form of luck 'resultant luck.'[10] We have seen that [Barn County*] does involve resultant luck: In the relevant sort of environment, Simon* was lucky that he acquired a true belief. By these lights, resultant luck appears to be compatible with knowledge acquisition. However, resultant luck needs to be *relativized* in order to yield the sort of luck that is incompatible with knowledge (as has been argued, for instance, by Engel[11] and Baumann.[12]) This section argues that resultant luck, when relativized to the method of belief formation does not, *pace* Pritchard,[13] contradict knowledge acquisition. Thus, resultant luck with respect to the method of belief-formation is not incompatible with knowledge.

According to Pritchard, knowledge requires that the acquisition of a true belief was not lucky with respect to the *method* employed when forming the belief.[14] Transformed into an anti-luck condition on knowledge, and ignoring, for the moment, Pritchard's particular interpretation of luck in modal terms, this reads as follows:

[Condition_Method]

x knows that *p* only if it is not just a matter of luck, given *the method* of *x*'s belief formation, that *x*'s belief that *p* is true.

Given Simon*'s way of belief formation, Simon* *was* just as lucky to arrive at a true belief in [Barn County*] as Simon was in [Barn County]. Couched in modal terms: For both scenarios, it seems that in most nearby possible worlds where Simon*/Simon bases his belief on visual information, he ends up with a false belief. Same method, yet in [Barn County*], Simon* ends up with knowledge. In the light

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[10]Peter Baumann, "No Luck with Knowledge? On a Dogma of Epistemology," *Philosophy and Phenomenological Research* LXXXIX (2014): 525.

[11]Mylan Engel, "Is Epistemic Luck Compatible with Knowledge?" *The Southern Journal of Philosophy* 30 (1992): 59-75.

[12]Baumann, "No Luck with Knowledge?".

[13]Duncan Pritchard, *Epistemic Luck* (Oxford: Oxford University Press, 2005).

[14]Pritchard, *Epistemic Luck*.

of [Barn County*], Pritchard's explication appears to be mistaken.The same appears to hold for related explications. Yamada offers a more detailed explication of luck that is relativized to the method of belief-formation (which he then goes on defending as a necessary condition on knowledge). When taken as an explication of knowledge-interfering epistemic luck, his first characterization (later in his paper fleshed out in more detail) suggests that belief-acquisition is not relevantly lucky[15] if and only if

1.   the method M used is truth-conducive

2.   it is not an accident that one correctly applied M

3.   it is not an accident that one is using a truth-conducive method.[16]

Yamada suggests that his account delivers the correct result for [Barn County] - the environment in Barn County ensures that it is an accident that the subject correctly applies the method of belief-formation. Yamada offers an interesting account of the method the subject applies in this context that delivers the correct result: On this account, the method the subject employs is too easy to misapply. Hence, condition 2 is not met. In [Barn County *], the subject, by assumption, applies the same method. Still, it appears that the subject is in a position to acquire knowledge. [Barn County*] constitutes a counter-example to method-relativized accounts of luck.

But maybe, this was too quick. One may want to object that background information provided by Martha has an impact on the method Simon* employs when forming his belief. However, by assumption, Simon* does not *use* background information when forming the belief that there is a barn in front of him. Background information may, here, be only implicit, or non-occurring. And given the following two conditions on the notion of a method of belief formation that seem to characterize the notion of a method Pritchard has in mind, background information does not have an impact on the method of belief formation in [Barn County*] either. First, Pritchard characterizes the method as a 'way of' forming a belief.[17] The ways Simon and Simon* form their beliefs in [Barn County] and [Barn County*] respectively, are the same – they look at a barn and,

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[15] In fact, Yamada suggests that when these conditions are met, there is "no sense in which it is an accident that [the subject] correctly believes [whatever it believes]" (Yamada, "Getting It Right by Accident," 82). If cases of benign luck discussed above make for correct though accidental belief, this is in need of further elaboration.

[16]Masahiro Yamada, "Getting It Right by Accident," *Philosophy and Phenomenological Research* LXXXIII (2011): 82.

[17]Pritchard, *Epistemic Luck*, 163.

based on visual information, form the belief. Thus, by these lights, background information has no impact on the method of belief-formation. Second, little reflection on the cases that have inspired reference to the method of belief-formation reveals that the method of belief formation is supposed to concern the means by which the belief is formed, so that again, background information, as present in [Barn County*], does not have any impact on the method of belief formation. The condition is supposed to rule out cases like Russell's clock and Barn County.[18] By these lights, it turns out that reference to a method of belief formation is not designed to cover background information.

As a consequence, we should reject Pritchard's claim that this type of luck is incompatible with knowledge acquisition. But, obviously, luck with respect to the method of belief formation *may* interfere with knowledge, as, for instance, [Barn County] seems to indicate. We are thus faced with two desiderata any successful account of knowledge-undermining resultant luck has to meet:

> [D-1] An account of knowledge-undermining luck should explain the difference between [Barn County] and [Barn County*].

> [D-2] An account of knowledge-undermining luck should explain why sometimes, though not always, luck with respect to the method of belief formation *does* interfere with knowledge.

6. Meeting the Desiderata: an Anti-luck Condition

Let us proceed in a piecemeal fashion. Note, firstly, that there is one relativization of resultant luck that yields the desired result, but lacks a number of other theoretical virtues. In order to introduce this relativization, let us capture the thought that Simon, in [Barn County], does *not* possess independent information on the barn he spots, information that would be analogous to the information provided by Martha in [Barn County*], by saying that his background information is *empty*.

Then, it appears that *with respect to the method of belief formation and background information about the target proposition*, it was *not* a matter of luck that Simon* arrived at a true belief in [Barn County*]. At the same time, it *was* just a matter of luck, given Simon's (empty) background information *and* method of belief formation, that he ended up with a true belief in [Barn County]. This kind of relativization – relativization with respect to background information *and* method of belief formation – appears to track an interesting connection, as the following, prima facie plausible *explanations* seem to indicate:

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[18]Pritchard, "Epistemic Luck," 207f.

1) In [Barn County*], Simon* acquires knowledge *because* with respect to his background information and the method he employs when forming the belief, it is not just a matter of luck that his belief is true.

2) In [Barn County], Simon does *not* acquire knowledge *because* with respect to his (empty) background information and the method he employs when forming the belief in that context, it *is* a matter of luck that his belief is true.

We thus arrive at an explanation of the difference between the cases. The intuition that there is a difference between the cases as regards to knowledge acquisition does not come out of the blue. If you find these explanations compelling, but are not entirely sure about the intuition that in [Barn County*], Simon* acquired knowledge, you may regard the plausibility of these explanations as constituting another indirect argument for the claim that in fact, Simon* has acquired knowledge in this scenario: Given some relevant aspects of his cognitive system, it was not purely a matter of luck that he arrived at a true belief in [Barn County*]; and with respect to the same aspects, he was lucky in [Barn County]. The intuition that he acquired knowledge may, thus, in fact track an important distinction, that makes for a relevant difference between the two cases.

Based on (1) and (2), we also come to see why relativization to the method of belief-formation alone will sometimes, but not always, pick out the right form of luck: Relativization to the method of belief-formation *and* background information is equivalent to relativization to the method of belief formation alone, if the set of background information of the subject is empty. We thus meet the two desiderata.

This form of relativization, however, falls short of a general account of knowledge-undermining luck, for two reasons. First, we lack a general idea of what may constitute background information, and, second, just lumping background information and method of belief formation together in order to arrive at a disjunctive relativization may seem *ad hoc*. Although we may be on the right track (we have an account that meets our desiderata for the particular cases), we still lack an account that meets further conditions of theoretical elegance.

Now, if we were able to come up with an explanation of what ties background information and the method of belief-formation together, so that they, together, turn out to form the relevant parameters in question, we might be able to offer a general and non-disjunctive characterization of the relevant type of epistemic luck. Fortunately, it seems that there is a straightforward way of doing so. Both, background information and method of belief formation play a justificatory role with respect to the subject's belief. Why not lump these two

together, and explicate the relevant form of luck in terms of a relativization to the subject's *justification base* for the target proposition?

7. Knowledge Undermining Luck

The basis for justification for a proposition may include background information that does not, on any plausible reading, enter the method of belief formation. At the same time, the justification base may include the method of belief formation. Since it is not entirely clear to me whether one would thereby depart from a standard interpretation of *evidence*, I prefer speaking of a *justification base*. Some will assume that it involves evidence only, others might allow reliable processes to be part of the justification base. The neutrality of 'justification base' is, in the present context, an advantage. And it appears to be a notion that is clear enough: A subject's justification base for a belief that p is the sum total of what bears on the belief that p (including, of course, counter-evidence). Further explications can be deferred to theories of evidence or justification. We arrive at the following anti-luck condition on knowledge:

> [Condition_{Justification-Base}]
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> x knows that p only if, with respect to the *justification base* for p, it was not just a matter of luck that x's belief that p was true.

The so refined condition appears to capture the idea that an anti-luck condition amounts to well-foundedness of the belief, not only in terms of method, but *also* in terms of what may count as belonging to the justification base, i.e. in terms of well-foundedness in the "conjunction" of method and background. In [Barn County*], Simon* is not lucky with respect to background-information *together with* method of belief-formation, though he is lucky with respect to the method of belief-formation alone. The condition meets the desiderata: With respect to his justification base (method and background information) in [Barn County*], it is not just a matter of luck that Simon* arrived at a true belief, with respect to his justification base in [Barn County], it is a matter of luck that Simon arrived at a true belief, and this is so because there is a difference in the justification base in the two cases. Moreover, the account is *general*, and it offers a *unified* account of what ties the method of belief formation and background information, or information relevantly similar to the information provided by Martha, together.

Now, compare this condition to the anti-luck condition one can arrive at when departing from Engel's characterization of veritic luck:

(VL) A person *S* is *veritically lucky* in believing that *p* in circumstances *C* if and only if, given *S*'s evidence for *p*, it is just a matter of luck that *S*'s belief that *p* is true in *C*.[19]

As has been pointed out by Pritchard and Smith, (VL) clearly does not amount to an explication of *being lucky*.[20] Nevertheless, it might very well be a principle that governs the sort of luck that is incompatible with knowledge, as follows:

[Condition_Evidence]

x knows that *p* only if it is not just a matter of luck, given *x*'s *evidence* for the belief that *p*, that *x*'s belief that *p* is true.

Obviously, if the justification base for a belief coincides with the evidence for this belief, [Condition_Evidence] and [Condition_Justification-base] are equivalent. Then, what has been said so far would turn out to be an argument for an explication of an anti-luck condition in terms of veritic luck, as defined by Engel. Maybe, this is what Engel had (and has) in mind – he does not comment much on the notion of evidence he presupposes. If, however, the method of belief-formation is not to be included in the evidence a person has, then [Condition_Evidence] differs from [Condition_Justification-Base], and the latter will offer the correct result in cases where, say, a person has some evidence for a target proposition, is not lucky with respect to the evidence when forming the belief, but is lucky with respect to the method of belief-formation in a way that interferes with knowledge, independent of the additional evidence the person has. When a subject arrives at a true belief by wishful thinking, ignoring all the positive evidence she has for that belief or target proposition, she does not acquire knowledge. Given her justification-base, including method *and* evidence, it was a matter of luck that she arrived at true belief. Given her evidence alone (on a reading that does not include the method of belief-formation) it was not.

Another advantage of [Condition_Justification-Base] is that it is independent of our particular views regarding the kind of justification required for knowledge. The reliabilist and the evidentialist alike may accept that the reliability of the process of belief formation *and* the evidence available to a subject may play a justificatory role for a given belief. And they may accept that a subject can be lucky when

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[19]Mylan Engel, "Epistemic Luck," in *A Companion to Epistemology* (2nd edition), ed. Jonathan Dancy, Ernest Sosa and Matthias Steup, 336-339. London: Blackwell, 337; similarly in Engel, "Is Epistemic Luck Compatible with Knowledge?", 67.

[20]Duncan Pritchard and Matthew Smith, "The Psychology and Philosophy of Luck," *New Ideas in Psychology* 22 (2004): 1-28.

acquiring a true belief with respect to (i) the available evidence, (ii) the process of belief formation, and (iii) with respect to the available evidence together with the process of belief formation. Why shouldn't they agree that it is the conjunction of the two that offers the relevant parameter to relativize knowledge undermining luck? As such, reliabilism and evidentialism can remain neutral on this point. Reliablists and evidentialists disagree on how the notion of justification, *as required in a characterization of knowledge*, should be spelled out. And it is not obvious that considerations concerning this latter problem should directly bear on explications of knowledge-undermining luck. By the lights of [Barn County*], it seems that an explication of knowledge undermining luck may require a notion of justification that encompasses *both* types of belief-support – method of belief-formation and available evidence (including background information).

This is not a merely terminological point. The condition we use to identify the relevant relativization of knowledge undermining luck is *conceptually* independent of the various candidate definitions of the sort of justification required for knowledge. We can judge that in [Barn County*], Simon* is not lucky with respect to all the things that support his belief, *whatever* belongs to these – evidence, a process of belief formation etc. Hold these fixed, and it is not just a matter of luck that Simon* arrived at a true belief. It is not the job of a theory of knowledge-undermining luck to offer a full-blown theory of the type of justification allegedly required for knowledge.

Reflecting on the question of what it is to hold the justification base fixed, in the context of modal explications of an anti-luck condition on knowledge, will offer a more thorough understanding of what belongs, and what does not belong to the justification base for a belief.

8. Beliefs and Their Justification Base

Pritchard suggests a modal interpretation of luck. He describes the connection between luck and knowledge as follows:

> For all agents, ø, if an agent knows a contingent proposition ø, then, in nearly all (if not all) nearby possible worlds in which she forms her belief about ø in the same way as she forms her belief in the actual world, that agent only believes that ø when ø is true.[21]

Let us first try to arrive at a less baroque version of this explication; it appears to be unnecessarily complex. Unless one can form a belief without believing it, and I don't see how one could do that, Pritchard's explication is

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[21] Pritchard, *Epistemic Luck*, 163.

equivalent to the following (if we restrict quantification to contingent propositions):

> For all agents, propositions, if the agent knows the proposition that p then in nearly all (if not all) nearby possible worlds in which she forms the belief that p in the same way as she forms her belief that p in the actual world, it is true that p.

According to Pritchard, knowledge will have to meet the following condition:

> [Condition~Method~]
>
> x knows that p only if in nearly all (if not all) nearby possible worlds in which she forms the belief that p in the same way as she forms her belief that p in the actual world, it is true that p.

The upshot is that when we assess whether or not a subject was lucky in the relevant respect, we should not only check some arbitrary counterfactual scenarios; we should check those counterfactual scenarios where the subject forms her belief based on the same method. If you believe Pritchard's modal account of luck to be illuminating, you might consider the following condition to offer a further illumination of the condition proposed above:

> [Condition~Justification-base MODAL~]
>
> x knows that p only if in nearly all (if not all) nearby possible worlds in which her justification base for the belief that p is the same as it is in the actual world, it is true that p.

If we take the method of belief formation to be always included in the justification base, we need not mention in addition that the subject believes that p; if there is a way of belief-formation, there is the resultant belief. I think that this condition clearly draws the line where it should do: Simon, in [Barn County], does not know that there is a barn in front of him because the support his justification base lends to his belief that there is a barn in front of him in a counterfactual scenario where he spots a barn façade, is the same as it is in the actual scenario. On the other hand, in [Barn County*], in all nearby possible worlds where Simon*'s justification base supports his belief in the same way as it does in the actual scenario, the content of his belief will be true. Since a justification base, as understood here, may cover the method of belief formation, we can be sure that all cases Pritchard wants to cover and where additional justification does not play any role at all, are covered by this condition as well.

Note that this imposes a condition on *belonging to the justification base for a proposition* according to which background information provided by Martha

does *not* belong to the justification base for Simon*'s belief that there is a barn in front of him in nearby worlds where Simon* looks at a barn façade. I think that this matches our intuitive judgments, and it also makes sense if we interpret the notion of a justification base, just to illustrate the point, in probabilistic terms; then, a proposition that q belongs to a subject's justification base b for the proposition that p only if it makes a difference, positive or negative, to the conditional probability that the belief is true given at least one subset of the justification base b. The information provided by Martha does not make a difference to Simon*'s belief that there is a barn in front of him in counterfactual scenarios, where there is *no* barn in front of him. This articulates the idea that we hold fixed everything that either speaks in favor of or against the truth of the target proposition that p, and is relevantly related to the subject so that it bears on how the subject is justified with respect to the belief that p.

One may hope to bypass the problem of individuating the justification base for a belief by just considering the subject's total set of beliefs, and offering the following explication:

[Condition Justification-Base*]

> x knows that p only if in nearly all (if not all) nearby possible worlds in which her total set of beliefs is the same as it is in the actual world and lends the same support to the belief that p, it is true that p.

We just take the totality of x's actual beliefs, or the totality of information x possesses, (possibly including the method of belief-formation and other relevant factors) and consider worlds where this totality relates, in terms of justification or support, to the belief that p in the same way as it does in the actual world.

Unfortunately, [Condition Justification-Base*] is subject to straightforward counterexamples. Assume that Simon* was not only told by Martha that there is a barn or a church at some particular crossing, but also, by one malevolent friend, that there were a barn or a church at one other crossing, and by yet another malevolent friend, that there were a barn or a church at yet another crossing, and so on…

It seems that Simon* may still know that there is a barn at the crossing in this version of [Barn County];[22] but his total set of beliefs will lend the same evidence to the belief that there is a barn in front of him in counterfactual

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[22] The fact that he was told so many falsehoods should not affect the safety of his belief that Martha told him the truth; thus, Martha should have provided information in a context that is different from the context of belief formation based on false information by malevolent friends.

scenarios where he looks at barn façades. So, we will have to stick to a relatively demanding notion of a justification base a subject has for a proposition.

I have been told that one might get the impression that [Condition~Justification-Base MODAL~] is equivalent to Pritchard's [Condition~Method~]. But this is not the case. Based on the latter, we should conclude that Simon* does *not* know that there is a barn in front of him. Why is that? There are a number of nearby possible worlds where Simon* employs the same method of belief formation, but looks at a barn façade. Hence, he does not acquire knowledge. [Condition~Justification-Base MODAL~] yields different results. In worlds where Simon* looks at a barn façade, his justification base does not lend the same support to his belief as it does in the actual world. Hence, the two conditions are not equivalent.

I submit that [Condition~Justification-Base~] offers a fruitful reconstruction of the form of luck that is widely assumed to clash with knowledge. If, with respect to a person's justification base for the belief that p, it was a matter of luck that the belief turned out true, the person was lucky in a way that interferes with knowledge. There is hope that this notion can be cashed out in modal terms so as to match Pritchard's account of luck. Whether or not this makes for a definition of knowledge in terms of safe true belief is, of course, an entirely different matter.[23]

9. Conclusion

Let me summarize the main points. There is a form of benign luck that has gone unnoticed in the debate. Whether a set of beliefs plays a justificatory role in a context may be a matter of luck. This form of luck is compatible with knowledge. Moreover, luck with respect to a method of belief formation is also compatible with knowledge, as little reflection on [Barn County*] reveals. What is common to ways of belief formation and what I have labeled 'background information' is that both can play a justificatory role. Luck with respect to whatever can play a justificatory role for a subject in a situation is incompatible with knowledge. This seems intuitive: That justification or evidence and luck interact is already explicit in Engel's characterization of veritic luck. It appears that we can, by relativizing to a justification base of a subject with respect to a proposition in a context, offer a general interpretation of the relevant condition on knowledge in modal terms, without being committed to any particular view on how we should cash out justification, or support for a belief. Obviously, Gettier-cases and Russell's clock are covered: With respect to the justification base (including the method of belief-formation and available evidence), it is a matter of luck that the subject arrives at a

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[23] See, for a critical discussion, Avram Hiller and Ram Neta, "Safety and Epistemic Luck," *Synthese* 158 (2007): 303-313.

true belief in Gettier scenarios; and with respect to the justification-base (observing a clock that has stopped working), it is a matter of luck that the subject forms a true belief about time.

Of course, there may be further constraints on knowledge. I did not intend to argue that based on the explication of luck proposed here, we arrive at a sufficient condition for knowledge.[24] Moreover, it is worth noting that having some sort of background-information or additional evidence regarding a belief that *p* need not always work as a remedy in cases where a belief is based on a bad method. As indicated above, one may want to hold that when a subject forms a true belief based on wishful thinking, or on a lucky guess, the subject does not acquire knowledge – independent of the additional evidence the subject may possess. In such cases, the subject was of course lucky to arrive at a truth. There is bad luck due to method alone. All I have argued is that the mere fact that the subject was lucky with respect to method alone is not sufficient to explain why the subject did not acquire knowledge (there may be types of methods, such as guesswork or wishful thinking, that do the trick – when using them, you will never acquire knowledge.) Finally, I did not intend to argue that a subject needs to *possess* background justification in order to acquire knowledge – hence, I did not touch upon questions pertaining to the internalism/externalism distinction.

Throughout this paper, I have tacitly assumed that in fact, there is a type of luck that is incompatible with knowledge acquisition, and that intuitions about scenarios are the guide to a successful characterization of luck and, possibly, a safety condition on knowledge. Recently, Baumann[25] has offered a number of scenarios in which, he suggests, we would ascribe knowledge to the subject, although the subject is, in a significant sense, lucky. Baumann's examples question, very roughly, the view that the feature of luck to undermine knowledge at *one* stage in a process relevant for belief formation or justification carries over to later stages. He considers, amongst other cases, causal chains where a watch with a reliable mechanism is set based on a Russellian clock (i.e. a clock that does not work but does, at a particular time of observation, 'indicate' the correct time) and is, much later, checked. Baumann suggests that subjects who, at later stages, form beliefs based on checking the watch can acquire knowledge. Early luck carries

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[24] An interesting suggestion has recently been made by Schafer, who argues that based on considerations about knowledge ascriptions, we should offer a more general interpretation of the sort of luck that interferes with knowledge (Karl Schafer, "Knowledge and Two Forms of Non-Accidental Truth," *Philosophy and Phenomenological Research* LXXXIX (2014): 373-393). Given the fact that Schafer departs from a quite different perspective, I have ignored a discussion of his account in this paper.

[25] Baumann, "No Luck with Knowledge?"

over, but it gradually stops interfering with knowledge. The second set of examples includes an element of luck at some early stage in a chain of inferences, and he suggests that, again, at some point, the subject may have acquired knowledge based on these inferences.[26] Baumann then offers a more general diagnosis, suggesting that knowledge- and luck-ascriptions are contextual, in the sense that the relevant parameters will vary from context to context, so that 'absolutism'[27] about luck, or the luck-knowledge interaction, would turn out to be mistaken. Baumann also suggests that we should judge our account of knowledge (and luck) by its theoretical virtues. I have my sympathies for this take on the matter; we should aim at a fruitful explication of luck and knowledge. Up to some point, intuitions about scenarios may help, but they need not be regarded as being ultimately decisive.

Note that in this context, Baumann also suggests that Pritchard's and Engel's accounts fail because they are 'absolutist' in the sense that they are not flexible with respect to the kind of relativization (i.e. to evidence or method of belief formation). In this sense, the anti-luck condition discussed here would be absolutist as well. I think that this misrepresents the dialectical situation. One can consistently hold that the type of luck that interferes with knowledge is luck with respect to evidence, method, or justification base, and that this relativization is explanatory, and, at the same time, subscribe to some form of contextualism; whether or not luck of this sort does interfere with knowledge may still depend on additional contextual parameters. So, luck of this form may be present without interfering with knowledge. Whether it does may depend on contextual factors we cannot hold fixed once and for all. If, in a given context, luck of this sort interferes with knowledge, relativization to the justification base *explains why* it interferes with knowledge. Thus, absolutism, as opposed to contextualism, about luck is not a question of the relativization to method, evidence, or justification base. It is a matter of holding (or denying) the universal claim that luck of this type always, i.e. independent of further contextual conditions interferes with knowledge.

As a consequence, various other considerations may enter an assessment of the explication proposed here. Then, this paper should be regarded as an attempt to explicate *one* notion of epistemic luck that comes as close as we get to the notion epistemologists were typically aiming at. Based on intuitions alone, we should arrive at this explication. Further considerations, say, on theoretical

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[26] Baumann also offers other types of scenarios, where luck stops interfering with knowledge due to other contextual conditions.

[27] Baumann, "No Luck with Knowledge?", 545.

elegance, suitability for a formal treatment etc., may suggest an alternative characterization.[28]