Acquaintance, Knowledge, and Luck

Abstract: Is knowledge a uniform kind? If not, what relation do the different kinds of knowledge bear to one another? Is there a central notion of knowledge which other kinds of knowledge must be understood in terms of? In this paper, I use Aristotle's theory of homonyms as a framework to make progress on these questions. I argue that knowledge is not a uniform kind but rather a core-dependent homonym. To demonstrate this, I focus on knowledge by acquaintance. I argue that the principles that govern propositional knowledge cannot govern knowledge by acquaintance. I then develop analogue principles for knowledge by acquaintance and show why, despite their different modal profiles, knowledge by acquaintance is nevertheless a form of knowledge. I then show that the analysis of propositional knowledge fundamentally depends on knowledge by acquaintance.

K**eywords**: knowledge by acquaintance; propositional knowledge; forms of knowledge; epistemic luck; safety; Aristotle's theory of homonymy; perceptual knowledge; analysis of knowledge

§1. Introduction

A common, though by no means universal, treatment of knowledge is in terms of knowledge of propositions. In paradigmatic cases, a subject *S* knows that *P* just in case *S* bears a mental relation of believing to the proposition *P* (and perhaps some further conditions such as justification or reliable connection). Indeed, some go so far as to claim that not just paradigmatic cases of knowledge, but all cases of knowledge must be understood in terms of subjects bearing a certain kind of mental relation (most often belief) to a proposition. Call this view *propositionalism*.[1]

Propositionalism is often assumed to be the default position about knowledge, rather than a position that must be argued for. Stanley (2011) provides a succinct statement of why this might be so:

> Of course, it may be that science will discover that our one concept of knowledge, like our previous concept of Jade, answers to different kinds. But this does not show that the default position is that there are distinct kinds of knowledge. Even in the case of jade, the default position is that there was only one kind of jade. After all, we had a great deal of evidence that jadeite and nephrite were of the same kind—they appeared to be the same. It took a definitive chemical discovery to undermine that default position. It should take a similar definitive scientific discovery to undermine the default position that all knowledge ascriptions are of the form [x knows that p] (Stanley, 2011, p. 37).

By saying that all knowledge ascriptions are of the form x knows that p, Stanley is claiming that all knowledge ascriptions ascribe belief in a proposition to the knower. His view is that we should proceed as if knowledge is a unified kind until we find evidence to the contrary. Moreover, most accounts of knowledge are accounts of knowledge of propositions. This supports the view that until there is evidence to the contrary, investigation proceeds under the assumption that knowledge is a uniform

[1] Duncan (2023a) argues that even amongst those philosophers who deny propositionalism, many nevertheless act *as if* it were true by ignoring any other kind of knowledge but propositional knowledge. As a sociological observation of the literature, this seems right, but I won't defend it here.

kind, and that kind is knowledge of propositions. Or at least this is what Stanley suggests.

But to say that this view is widespread is not to say it is without its detractors. Recently, there have been a number of articles that argue that not all kinds of knowledge are propositional. For instance, it has been argued that practical knowledge is not knowledge of propositions.[2] Likewise, in a series of papers, Duncan (2020, 2021a, 2023a, 2023b) has argued that knowledge by acquaintance is not knowledge of propositions. The idea goes back at least to Russell (1911, 1912, 1913) who argued at length that knowledge by acquaintance is a type of knowledge that does not require a mental relation to a proposition. Call views that deny propositionalism, whether concerning practical knowledge or knowledge by acquaintance, *anti-propositionalism.*

If the anti-propositionalists' arguments are plausible, a different question emerges about the nature of knowledge. If *pace* propositionalists, knowledge is not a uniform kind, then what is the relationship that different kinds of knowledge bear to one another? It would seem the anti-propositionalists would not want to deny that there was *any* relation, for to do that would be in tension with their claim that they are *both* kinds of knowledge (albeit different kinds). To illustrate, the English word 'bank' is multivocal in that it can have at least the following different meanings: (a) a place to keep your money and (b) the side of the river. The two meanings seem unrelated to one another. By contrast, by arguing that practical knowledge or knowledge by acquaintance is knowledge, albeit non-propositional, the anti-propositionalists seem committed to the claim that there is some form of relationship here between the two kinds of knowledge. So the question arises, what is this relationship?

In this paper, I answer this question by appealing to Aristotle's theory of homonymy. I argue that knowledge is a core-dependent homonym. By that, I mean that knowledge is not a unified kind, but that the different kinds are nevertheless organised systematically in a way that will be spelled out below. To do this, I will focus only on knowledge by acquaintance. The issues of practical knowledge will be set aside for now. Moreover, I will focus on just knowledge by acquaintance as it occurs in perceptual experience. If there are other forms of acquaintance, such as memory acquaintance or acquaintance with abstract objects like mathematical objects (as Russell (1903, 1912, 1913) argues), then I will ignore those for now.

My argument will proceed in the following way. In §2 I lay out what are commonly taken to be the principles governing propositional knowledge and show that they do not apply to knowledge by acquaintance. I then provide analogue principles that, *prima facie,* do apply to knowledge by acquaintance. This is the first piece of evidence that though propositional knowledge and knowledge by acquaintance are not the same kind of knowledge, they are nevertheless both knowledge. In §3 I raise a concern regarding the third principle, the anti-luck principle, for knowledge by acquaintance. I argue that knowledge by acquaintance is modally fragile and thus not 'safe' in the technical sense of safety. In §4, I show

[2] This idea goes back to Ryle (1949), but much of the resurgent interest in whether or not practical knowledge is reducible to propositional knowledge was sparked by Stanley and Williamson (2001), who argue that knowing how to **φ** is just a special way of knowing propositions. A useful volume discussing these issues is Bengson and Moffett (2011). See also Farkas (2016) (2017) for arguments against Stanley & Williamson's approach to reduction. See Snowdon (2004) for a different formulation of the issues.

how this problem for an account of knowledge by acquaintance as non-propositional knowledge can be circumvented by appealing to Aristotle's theory of homonymy. I argue that knowledge is a core-dependent homonym and that propositional knowledge asymmetrically depends on knowledge by acquaintance.

§2. Principles of Knowledge

A standard account of propositional knowledge holds that the following three principles govern propositional knowledge.

1. **The Truth Principle:** If one knows that *P*, then *P* is true.
2. **The Entailment Principle:** If one knows that *P*, then one believes *P*.
3. **The Anti-luck Principle:** If one knows that *P*, then one's belief in *P* is not lucky.

The truth principle is meant to rule out cases of knowing something false. The entailment principle is meant to rule out cases of knowing something that one does not believe. The anti-luck principle, which I will discuss more below, is meant to rule out cases where subjects whose knowledge consists of true beliefs are only luckily true, or in some way not justified or reliable.[3] However, by looking at each principle carefully, we will see that the same principles cannot govern knowledge by acquaintance, at least not in the formulation given above.[4]

Principle 1, the truth principle, cannot govern knowledge by acquaintance since knowledge by acquaintance can be knowledge of things that are not truth-evaluable. Put another way, knowledge by acquaintance is non-propositional, and if propositions are the primary bearers of truth and falsity, as is standard on most theories of propositions, then knowledge that is not propositional does not involve knowledge of truths. Thus, if one knows *P*, it does not follow that *P* is true, for *P* could be something that is not truth-evaluable. For example, to adapt an example from Frege (1918/1956), the sun is a visible object, but it is not a fact. The fact *that the sun has risen* is a fact that is truth-evaluable, but the object itself (the sun) is not. Thus, if knowledge by acquaintance is a non-propositional form of knowledge, then it cannot be the case that the object of knowledge must be truth-evaluable.

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[3] There are a number of ways that the anti-luck principle can be met. For instance, see Clark (1963) Goldman (1967), Armstrong (1973), Nozick (1981), DeRose (1992). Gettier cases are one classic case of a justified true belief that is not knowledge because the subject's belief is only luckily true.

[4] It is important to realise that there are two different ways one might understand or approach these principles. One way is in terms of reductive analysis where these principles are to be explained by a reductive analysis of the concept of knowledge into necessary and sufficient conditions**.** Another way to approach these principles is as an anti-reductionist. The anti-reductionist holds that the concept of knowledge does not admit of a reductive analysis. Williamson (2000) is a key proponent of this latter view. Though I am sympathetic to the anti-reductionist approach, I do not want to take a stand on the reduction/anti-reduction debate. Nevertheless, it needs to be pointed out that the issues I discuss in this paper apply to both approaches to knowledge. One cannot circumvent the issues merely by refusing to be a reductionist about knowledge. For instance, Williamson (2000) argues that there is no reductive analysis of knowledge, yet still defends a safety principle on knowledge as making intelligible the anti-luck principle (2000, chapter 3). Thus, even if one is committed to an anti-reductionist program about knowledge, one must still make these principles intelligible.

Principle 2, the entailment principle, also cannot govern knowledge by acquaintance in its current form. This is because belief, at least on most standard accounts, is essentially a relation to a proposition. If you believe that Harris will win the 2024 US presidential election, then your belief is a relation to a proposition, in particular, the proposition that Harris will win the 2024 US presidential election. But when one has knowledge by acquaintance of an object, one's knowledge does not consist in a belief in that object. Rather, it is a conscious awareness of the object in one's perceptual environment. For instance, if one has knowledge by acquaintance of the taste of Vegemite, the taste of Vegemite is a not a proposition but a quality that one is sensorily aware of. Indeed, it is wrong to speak of knowing *that* the taste Vegemite. Rather, we know *of* the taste Vegemite. But that need not entail we have any particular belief about Vegemite. Of course, we most likely come to have many beliefs about Vegemite based on our acquaintance with it. But those beliefs are not themselves the knowledge of the taste of Vegemite that is the target object of knowledge in this case.

Principle 3, the anti-luck principle, also cannot govern knowledge by acquaintance in its current form for similar reasons. If knowledge by acquaintance does not require the subject to have a belief about the object, then the conditional 'if one knows *P*, then one's belief in *P* is not lucky' cannot hold, for there is no requirement that knowing requires belief. Thus, it cannot be the belief that is lucky. Rather, it must be the episode of sensory conscious awareness that is in some way lucky.

The consequence is that these principles cannot be directly transposed to knowledge by acquaintance. One might take this to mean that knowledge by acquaintance is not knowledge. But that is too quick. Propositional knowledge and knowledge by acquaintance may not be the same kind of knowledge, but that does not mean they are not both knowledge. It just means that they are different kinds of knowledge. This claim is supported by the fact that we can develop analogue principles for knowledge by acquaintance:

4. **The Objectivity Principle:** If one is acquainted with *O*, then *O* exists.
5. **The Entailment Principle:** If one is acquainted with *O*, then one has an experience of *O*.
6. **The Anti-Luck Principle:** If one is acquainted with *O*, then one's experience of *O* is not lucky.

The objectivity principle is an analogue of the truth principle. The objectivity principle rules out being acquainted with what does not exist. Since knowledge by acquaintance does not have a proposition as its object, neither the object of the knowledge nor the act of knowing is propositional. Nevertheless, it does have an analogue, namely objectivity. Just like you can't know some proposition unless it is true, so too you cannot be acquainted with some object unless it exists.

The entailment principle rules out cases of acquaintance where the subject does not have an experience of the object. Just like you can't have propositional

knowledge without being in a mental state of believing, so too you cannot be acquainted with something without having an experience of that thing.

Lastly, the anti-luck principle rules out cases of acquaintance where an experience of an object is only luckily so. That is to say, whatever theory of perceptual experience one is attracted to, it cannot *just* be that the experience or sense impression matches the scene before one. For instance, Bill may be standing before me, and my eyes may be trained to his spatial location such that visual information is at least reaching my retinas, but that is not enough to see Bill. Why not? For familiar philosophical reasons—it could be that mad scientists are manipulating my brain such that my optic nerve is severed so no visual information gets beyond my retinas. Nevertheless, these scientists stimulate my visual cortex such that a visual experience of Bill occurs. Moreover, these scientists decided to stimulate my brain such that it always seems to me that I am standing in front of Bill. It is just luck that Bill happens to be before me now as well. Thus, I am undergoing a visual experience that is phenomenologically indistinguishable from seeing Bill, but it is not Bill. In such a hallucination, though my experience matches the world, my experience is nevertheless not successful because it does not put me in contact with Bill. So, similar to cases where a subject has a true belief that is only luckily true, subjects in cases of veridical hallucination have experiences that are only luckily or accidentally accurate. Thus, more must be going on in knowledge and perception than just that my belief or experience luckily matches the scene before me.

This anti-luck condition has been the sticking point for most theories of propositional knowledge over the past fifty or so years. That is to say, most attempts at a reductive analysis of knowledge have struggled not with the truth principle or entailment principle, but with the anti-luck principle. Reviewing some of the insights gleaned from that research is necessary to get a plausible anti-luck condition on knowledge by acquaintance. As I will argue, there is no plausible anti-luck condition on knowledge by acquaintance. Nevertheless, seeing why this is the case and comparing it to anti-luck conditions on propositional knowledge provides more evidence that knowledge by acquaintance is knowledge.

§3. Knowledge and Luck

We are considering the proposal that knowledge excludes luck. But not all luck is incompatible with knowledge. Pritchard (2005) has given an extended argument that knowledge is compatible with many forms of luck. On the one hand, there is non-epistemic luck, and on the other, there is epistemic luck. It is epistemic luck that is supposed to be problematic and, according to Pritchard, it is only a particular kind of epistemic luck, what he calls 'veritic epistemic luck', that is incompatible with knowledge. This luck is not merely luck that the proposition is true, or luck that the subject has the capacity to know. It is luck that the connection between the knower and the proposition known obtains. For instance, say you know that Earth's gravitational force is 9.807 m/s^2. There is a lot that might be lucky about the fact that you know this. It might be considered lucky that you have the cognitive capacity to know this fact. It is also lucky that life on Earth evolved the way it did, or that Earth came to exist with just such a force. In other words, the fact that it is true might be lucky, and the fact that you are the type of

organism that is capable of knowing this might be lucky, but both these types of luck are compatible with you knowing Earth's gravitational force is $9.807\ m/s^2$. So some forms of epistemic luck are compatible with knowledge.

Nevertheless, there is a particular kind of epistemic luck that is incompatible with knowledge. This veritic epistemic luck is the luck that the belief is true. Gettier cases are the classic example of this sort. In such cases, it is not about the capacity of the knower that is lucky, or that the knower is lucky to have the evidence, or lucky that the fact obtains, but that it is lucky that *that* belief is true (Gettier, 1963). The luck in question destroys or in some sense undermines *the relation* between the would-be knower and the fact. Thus, in the classic Gettier case, when you luckily truly believe that Jones owns a Ford, it is a matter of luck that what you believe is connected to the fact. It is this type of veritic epistemic luck that is incompatible with knowing, and it is this type of epistemic luck that is the focus of an anti-luck constraint.

This type of luck needs to be slightly modified for the acquaintance case. In the case of belief, luck is veritic because it is lucky that it is *true*, whereas in the acquaintance case it is lucky that you have experience of the thing, or put in our terminology, that it satisfies the objectivity principle. That is, in the acquaintance case what is lucky is not that some belief of yours is true, but that some experience of yours has a corresponding object. Cases of veridical hallucination bring this out clearly. In veridical hallucination, the hallucinated object may exist, and the world may be as your experience represents it as being, nevertheless you fail to perceive the object. This failure can be understood as your experience of luckily getting it right while failing to in fact perceive. Luck undermines your perceiving and hence your knowledge by acquaintance because you are lucky to have an experience of the object in question. So, it is a desideratum on a theory of knowledge that it has an anti-luck condition that explains why knowing is incompatible with veritic or objective luck. From now on, when I speak of luck or the anti-luck condition it should be understood I mean veritic or objective luck unless explicitly specified otherwise.

§3.1 Causal Accounts

One way to avoid the problems posed by Gettier cases to the anti-luck principle is to give a causal analysis of knowledge. Gettier cases are cases of justified beliefs that are true but nevertheless are not knowledge. In such a case, the knower is justified in their true belief, but this belief comes about in some lucky way. Goldman (1967) presents a paradigmatic case of the causal analysis of knowledge which diagnoses the problem of the JTB analysis as one lacking a causal connection. The subject in a Gettier case has a true belief that is justified, but the true belief that some fact *P* lacks the appropriate causal connection to that fact *P*. This lack of causal connection between the fact that *P* and the true belief that *P* is the intuition that subjects in Gettier cases are just lucky to get right. So, according to the causal analysis of knowledge, knowledge is a true belief that has the correct causal connection to the facts.

Notice that such an analysis is structurally similar to causal accounts of perception. Perhaps the most famous causal theory of perception is due to Grice (1961). On such an account, a perception of some object *O* requires that the object be the cause of the experience. For illustration, recall the veridical hallucination case

where Bill is standing before me and my eyes are trained on his spatial location, but, through some weird circumstance, I undergo a hallucination that is indistinguishable from seeing Bill stand before me. In such a situation it is wrong to say I see Bill, although the hallucination represents Bill as he is. On the causal analysis of perception, we have a straightforward answer as to why this is not a case of perceiving, and that is because Bill is not the cause of my experience. I lack a causal connection to the object of perception. A causal connection between the subject and some object is a non-lucky connection. So causal accounts of knowledge and perception explain why certain cases are cases of success, and certain cases are not. If we gave a causal theory of knowledge by acquaintance, then principle six, the anti-luck principle, would become the following:

> **Causal Acquaintance:** If a subject *S* is acquainted with an object *O*, then *O* is the cause of *S*'s experience *E* of *O*.

Such an account of knowledge by acquaintance is a clear anti-luck condition. But, as is well known, the causal account is insufficient both for propositional knowledge and for perception. There are numerous reasons, but the one most germane to this discussion is deviant causal chains. Consider propositional knowledge first. Imagine that a subject has a brain lesion that causes the person to believe they have a brain lesion. However, they do nothing to verify this belief. They do not go to the doctor or receive any medical imaging or anything of that nature. They just believe they have a brain lesion. We can imagine they do not even know why they believe it, i.e., there is no pain or cognitive malfunction. They just believe it. Not only are they right, but the cause of their knowledge satisfies the causal version of the anti-luck principle. So, they meet the principles governing propositional knowledge. Yet intuitively, in such a case the subject does not know.

A similar situation can occur in cases of knowledge by acquaintance. Consider a child who is severely allergic to dairy such that if ingested they will go into anaphylactic shock. Dairy of course is prevalent in many children's food products including chocolate and sweets. Imagine that, rather than having to rely on giving the child an adrenal shot whenever the child ingests dairy, the parents consult a team of medical specialists who have developed a wearable device for the child that is activated whenever the child ingests dairy. The device is such that it transforms the actual chemical structure of the protein in the dairy product (as protein is the common culprit in most, but not all, dairy allergies) so that the child will not go into anaphylactic shock. Furthermore, to give the child a pleasurable experience, the device induces in their brain, nervous system, and tongue, all the normal neuronal processes that would occur should they have ingested dairy. Such neuronal processing results in the child having an experience indistinguishable from tasting dairy. As a result, they can ingest milk chocolate without fear and their experience of dairy matches the way dairy tastes and is caused by them putting dairy into their mouth. So, the taste of dairy products (e.g. milk chocolate) is the cause of their experience. Nevertheless, they do not stand in the right relation to the actual object because the causal chain is deviant.

There are various ways of trying to tighten up causal theories. One way is to try to appeal to the standard or normal process. To do this, one might try to make reference to the actual physiological goings on of a perceptual system (Grice, 1961; Tye, 1982; Lewis, 1980). But that unfortunately is too restrictive in that it rules out by definition creatures whose perceptual mechanisms are different from ours. If the causal chain is specified in such a way that it must make reference to certain physiological features of human beings, and restrict perceiving to just those causal chains, then there will be cases where it seems intuitive that the agent in question does perceive, but the definition rules it out. For instance, it could turn out that a minority of humans possessed visual systems which worked on different principles. Consequently, the definition would require us to say that this minority did not see or know, and that seems wrong. The most promising way of getting the causal chain right is by making reference to some standard process. But the problem with this is that it also rules out what would be cases of genuine perception by non-standard or artificial means such as prosthetic eyes and so on. The implication for knowledge by acquaintance is that the anti-luck principle can only be met by specifying a causal chain or standard process that rules out deviant causal chains. In this way, we can guarantee that there are no lucky or accidental experiential states that yield knowledge. But doing this has the unfortunate consequence that plenty of cases of perception would fail to be counted as such by definition, and thus would deny not only perception but knowledge, to many creatures whose means of perceiving are non-standard.

3.2 Counterfactual Accounts

One way of trying to avoid the issues causal accounts face while still maintaining the idea of an appropriate connection is in terms of modal robustness. Perhaps the most famous theorist of this ilk is Nozick. His way to meet the anti-luck condition for knowledge is to add the following two counterfactual clauses:

Counterfactual Knowledge:

1. If *P* were false, then *S* would not believe *P* by using the same method (Sensitivity).
2. If *P* were true, then *S* would believe *P* by using the same method (Adherence) (Nozick, 1981).

Together, these two clauses are meant to make your knowledge counterfactually dependent on *P*. The issue of what counts as the same method is controversial, but for our purposes, it will not matter much. The basic idea is to hold fixed the belief-forming mechanism across cases. For example, if you are comparing two different cases where the subject truly believes *P* in both, you don't want it to be that in one case the subject visually experiences that *P*, and in another, they are told by word of mouth that *P*. If the methods (perceptual versus testimonial) differ, then counterexamples abound, as Nozick rightly noted.

Of Nozick's two conditions, we can safely ignore adherence for now, since not much turns on it. The important issue is the sensitivity condition. The sensitivity condition states that if the situation had been different such that *P* was false, but you

nevertheless still believed *P*, then you do not have knowledge. For example, imagine a case where someone has a brain lesion in the left hemisphere of their brain. The lesion pushes on their brain in such a way as to induce in them the belief that they have a lesion in their brain's left hemisphere. The brain lesion patient believes truly that they have a brain lesion in their left hemisphere, but they only believe this because the brain lesion causes them to believe it. They do not see a doctor or do anything else to verify the truth of this proposition. Now imagine a different case where the same patient still believes they have a brain lesion in their left hemisphere, but actually, the lesion is in the right hemisphere. *P* is now false, but they still believe *P* via the same method, namely by a belief-inducing lesion on their brain. So, this person's belief in *P* is not sensitive to the facts and thus is not knowledge.

This is as much true for cases of perception as it is for knowledge. As Lewis puts it:

> What distinguishes our cases of veridical hallucination from genuine seeing—natural or prosthetic, lasting or momentary—is that there is no proper *counterfactual dependence* of the visual experience on the scene before the eyes (1980, p. 281).

The thought here is that while the causal account is right that there needs to be an appropriate connection between the subject and the object, causal accounts overemphasize how things happen in the actual world. What needs to be considered is what would have happened had things been different. What we want is our theory to say how the subject's perceptual experience is sensitive to the actual object. The upshot of this approach is that it allows non-standard causal processes to still count as perception just so long as there is the appropriate counterfactual dependence. This is because all you need is the experience to be sensitive to the object, it doesn't matter if this sensitivity occurs via a certain "normal" causal chain or not. Thus, the counterfactual account accounts for cases the causal account could not. Moreover, it can rule out veridical hallucinations as not cases of perceiving because hallucinations do not counterfactually depend on the scene before one. So, it seems like there is a strong case to be made that the counterfactual account is a superior theory of perception.

This counterfactual or sensitivity approach to perception and knowledge can be extended to knowledge by acquaintance. The idea is intuitive enough—knowledge by acquaintance could be had by non-standard causal processes, just so long as the episode of awareness counterfactually depended on the object of awareness. We can apply this to knowledge by acquaintance in the following way:

Counterfactual Acquaintance:

1. If *O* does not exist, then *S* would not have an experience *E* of *O* by using the same mode (Sensitivity).
2. If *O* does exist, then *S* would have an experience *E* of *O* by using the same mode (Adherence).

Note that I have changed Nozick's original formulation from a method of inquiry to a mode of acquaintance. This is because there are no different methods of inquiry for

acquaintance. This is one way that knowledge by acquaintance is disanalogous to propositional knowledge on the counterfactual account. Nevertheless, it is arguable that there are different modes of acquaintance. For instance, Russell (1913) claims that there are three modes of acquaintance: sensory acquaintance, memory acquaintance, and acquaintance in imagination. Thus, we should keep the mode of acquaintance the same when evaluating counterfactual knowledge claims.

Counterfactual acquaintance is meant to capture the idea that if you cannot connect with the object in the right way, then you cannot be acquainted with the object. Surely, you cannot be connected in the right way to the object if it does not exist. Moreover, if *O* does exist, and *S* is acquainted with *O*, then *S* would have an experience of it. Notice that such a counterfactual formulation still allows for hallucination. If unicorns do not exist, then you cannot have knowledge by acquaintance of unicorns. But that does not entail that you could not have an experience of unicorns. Hallucinations are still allowed by this principle, and that is just what we want.

Counterfactual accounts face a number of issues and counterexamples. The problem most germane to our topic is what I will call, following Schaffer (2003), 'perceptual derailment'. The idea is that if perception puts us in touch with particulars despite small changes in our environment, then a counterfactual theory of knowledge fails to adequately track the perceptual case through spheres of possibilities. Here is how Schaffer explains the problem:

> Human perceptual competence forms a discontinuous scatter in logical space…The tracking theory identifies knowledge with counterfactual covariation of belief and truth through a sphere of possibilities. The contents of the sphere are determined by the similarity metric. Derailings occur because the similarity metric (on any reasonable interpretation) is completely out of alignment with our actual rough-and-ready perceptual capacities. The problem is systematic: the mismatch between the smoothness of logical space and the roughness of human perception is not likely to be fixed by a further epicycle (2003, p. 42).

To illustrate Schaffer's point, consider the following example adapted from Kalderon (2011):

> **Cricket ball:** A subject is fitted with an implant that cuts off information from travelling through the optic nerves whenever the subject is not looking at a particular visual target. For instance, imagine Farhaan is fitted with just such a device and is made to look at a red cricket ball. If Farhaan looks away, or if the cricket ball is moved away from before his eyes, the device is activated such that the optic nerves are shut down, and Farhaan is blind for one minute. Farhaan's acquaintance is not adequately tracking the ball in such a case because a small change in the situation, such as the ball moving or Farhaan moving ever so slightly, makes it not possible for Farhaan to be acquainted with the ball by the same mode, namely visual perception. Nevertheless, it is obvious that when the ball is right there Farhaan is

> acquainted with it. So, his experience does not counterfactually covary with the ball.

The upshot of this example is that neither Farhaan's propositional knowledge nor his knowledge by acquaintance counterfactually co-vary with the nearest possible situations—small changes in perception derail such counterfactual tracking. Notice that what undermines counterfactual propositional knowledge also undermines counterfactual knowledge by acquaintance. So just like both causal accounts of propositional knowledge and knowledge by acquaintance suffered from the same problem (deviant causal chains), counterfactual accounts of propositional knowledge and knowledge by acquaintance suffer from the same problem, in this case derailment in logical space. The problem is that knowledge gained from perception, either propositional knowledge or knowledge by acquaintance, cannot be governed by a sensitivity requirement. This is because sensitivity accounts require that your belief or experience track the proposition or object in a sphere-like manner through logical space, starting at the actual world and extending to the closest ~p world. However, our perceptual capacities do not extend smoothly through logical space like this. There can be small changes we are unaware of as well as large changes.[5] Thus, conditionals that require our beliefs or experiences to track some proposition or object smoothly through logical space will fail to capture the nature of knowledge gained from perception, whether that be propositional knowledge or knowledge by acquaintance. This result in itself is interesting and suggests that knowledge by acquaintance has some modal similarities to propositional knowledge, even if, as I will go on to suggest, they ultimately have different modal profiles. The similarity is that they cannot be modelled by a sensitivity account given the nature of perceptual knowledge, whether that be propositional or non-propositional.

Sensitivity accounts are not the only modal accounts of knowledge that try to meet the conditions set out by the anti-luck principle. There is a weaker modal relation that is in the vicinity of sensitivity. This is safety. I now turn to this account.

§3.3 Safety Accounts

Safety accounts are descendants of sensitivity accounts. They stipulate a modal requirement on the relation of the knower to the known (Sosa, 1999). Thus, they are a way to meet the anti-luck condition of knowledge. That is, a subject's belief or experience is non-lucky just in case it is safe. Different theorists spell out what it means to be safe in different ways. Nevertheless, we can formulate the intuitive idea

[5] More can be said about both about the types of derailment that Schaffer (2003) outlines and how a sensitivity account might try to respond. However, such details are beyond the scope of the current paper and do not affect my argument.

behind safety in a neutral way. I begin with a formulation for propositional knowledge:

> **Safe Knowledge:** If a subject *S* knows some proposition *P*, then the subject could not easily have been wrong in a similar case.

The expressions 'easily 'and 'similar case' are doing much of the work here. It differentiates safety from the sensitivity clause. If your belief is sensitive, then it cannot be wrong. It *must* track the truth through modal space. By contrast, if it is safe, it can be wrong just not easily. This is the intuitive idea behind safety.

It should be obvious how this meets the anti-luck principle. If one's belief could not easily have been wrong in a similar case, then one's belief is not subject to veritic luck. For veritic luck is the type of luck that undermines the relation of the knower and the thing known such that in nearby cases one does not know. For instance, a lucky guess at the winning lottery numbers is not knowledge, because it could have very easily turned out that belief would not have been true in very similar circumstances. Thus, safety gives a straightforward answer as to why knowledge must exclude veritic luck.

Despite much discussion of safety in terms of propositional knowledge, as far as I know there has not been much, if any, discussion in terms of knowledge by acquaintance or perception. But given our intuitive understanding of safety for propositional knowledge, we can quite easily give an analogue for knowledge by acquaintance:

> **Safe Acquaintance:** If a subject *S* is acquainted with some object *O*, then *S* could not have easily failed to be acquainted with *O* in a similar case.

We can see how safety deals with the problems of deviant causal chains posed for causal accounts. Recall that the concern with causal accounts was that there was no way to specify the appropriate causal chain without making reference to the particular causal mechanisms, but such reference ruled out cases of perceiving and knowing that were unusual but nevertheless legitimate. But safety does not face that concern because, like sensitivity accounts, it replaces any reference to actual causal processes with a modal notion. So, we do not rule out unusual processes unless they are unsafe. Moreover, because the focus of evaluating cases is on the idea that one could not easily be wrong in a similar case, then deviant causal chains do not threaten perception and knowledge. The safety theorist can admit that if things had been set up in just the right way, then perhaps you would not perceive or know. But that is compatible with you perceiving and knowing in the base case just because perceiving or knowing in the base case requires only that your knowledge or perception be safe.

How does the safety account handle cases that undermine sensitivity? It is controversial whether they do. Let us revisit the case of Farhaan being acquainted with the cricket ball. *Prima facie,* it seems like the safety theorist has a straightforward response here. They will say that the fact that an implant could be put in to cut off the information in the optic nerve means that Farhaan could not easily have failed to be acquainted with the ball. After all, it is very difficult (currently impossible?) and

unusual to have such implants. According to the safety theorist then, when the ball is in front of Farhaan he sees it, and if a clever device is implanted into his brain, this will make him no longer see it, but such a case is not easily done, and so his seeing and hence knowledge is safe.

One worry about this account is that this begs the question as to what is to count as 'easy'. In one sense, the cricket ball case is very easy. All that must happen is the ball be moved a meter or Farhaan turn his head and the connection between the knower and the known is severed. What could be easier than that? What's more, whatever the metric is that is used to spell out easiness, it seems like it is going to be a modal notion, and if it is going to be a modal notion, then it seems at risk that it is going to collapse back into a sensitivity account of nearest possible worlds. So even if we only need the knower to track the known proposition or object through the 'easy' worlds, and not all modal space, there is still a disconnect between the smoothness of logical space and the rough and ready abilities of perceptual capacities. There will be 'inner derailings', as Schaffer calls them, where things change in the smallest possible way and thus undermine the modal account.

There is a related but distinct worry, pressed by Neta and Rohrbaugh (2004). According to them, on one interpretation, safety is true but trivial. On another interpretation, safety is unnecessarily strong. The true but trivial reading results from the following thought. If you spell out the similarity of cases as those in which the proposition known is true, then all the similar cases will of course be cases of knowledge. Why? Because similar cases are just those cases where the proposition in question is true, and the believer believes it. But no one will object to that. So, it seems trivial. On the other hand, if one wants to defend arguments using the safety principle, then one has to say something more substantive. The problem with this is, of course, that a substantive account is subject to counterexamples of the kind Schaffer (2003) and Kalderon (2011) have in mind.[6]

Indeed, if a substantial account of safety can be given that is not reducible to sensitivity, then things might be worse for the case of knowledge by acquaintance. It is when comparing a safety account that the differences between the modal profile of sensory perception and the modal profile of propositional knowledge are most stark. To see this, consider the following case from Longworth:

> Suppose that one were the subject of a future neuroscientific experiment involving the induction of hallucination. The experiment begins with one sitting before an orange. Looking before oneself, one clearly sees the orange. Now, the neuroscientist turns on his machine and, unbeknownst to one, one stops seeing the orange and begins instead to hallucinate a matching scene. During this period, the neuroscientist removes the orange. This situation

[6] It is worth noting that the two authors aim at slightly different targets. While both argue that counterfactual theories of knowledge are inadequate to explain perceptual knowledge, Kalderon's complaint is aimed at the reductive analysis of knowledge offered by such theories, whereas Schaffer wants to replace such theories with his theory of 'contrastive knowledge' (Schaffer 2005). This is not meant to suggest that Schaffer's positive proposal needs to take the form of a reductive analysis. Schaffer (2005) is explicit that all analyses will be subject to counterexamples. Thus, both authors leave it open whether safety might apply in a non-reductive account of knowledge.

> continues for five minutes, with a momentary break at two and a half minutes, during which the neuroscientist briefly both returns the orange to its original position and pauses the machine. It seems plausible that despite the surrounding hallucinations, one nonetheless sees the orange during one's half-time respite. Is one able to know, during that break in the ongoing induction of hallucination, that there is an orange before one? Plausibly not, due to the significant danger of committing erroneously (2021, p. 7).

One of the morals Longworth draws here is that one cannot know *that* there is an orange before one in the half-time break. One can nevertheless *see* the orange during the half-time break.

This example is particularly problematic for a safety theorist of acquaintance. If one is seeing the orange during the half-time break, then one is plausibly acquainted with it. After all, to be acquainted is to have a presentation of the object to one's consciousness. The person seeing the orange meets that requirement during the half-time break. Is that acquaintance a case of knowledge? It meets the objectivity requirement. In this case, the object is an orange, and the orange does exist. It meets the entailment requirement. The subject has an experience of the orange. Nevertheless, this mental state of the subject is incredibly modally fragile. It is surrounded by nearby worlds of hallucinatory oranges where the objectivity requirement and the entailment requirement are not met. So, it seems that this case of being acquainted with the orange during the half-time break is anything but modally safe.

What can an acquaintance theorist say in response to this case? There are a few options. First, one might give up the game and say that acquaintance is not knowledge. Longworth's example shows that acquaintance can be lucky, and if knowledge excludes luck, then acquaintance is not knowledge. But this reaction would be premature at this point.

A second option would be to bite the bullet and admit that knowledge can be lucky. This view may not be as untenable as it first seems. Indeed, at least one philosopher, Heatherington (2014), has argued that all knowledge is lucky in just this sense.

But I want to suggest a third way. The fact that we have at least two analogue principles—objectivity and entailment—suggests that there are some deep similarities between propositional knowledge and knowledge by acquaintance. I now want to suggest that that is because propositional knowledge has an asymmetrical dependence on knowledge by acquaintance. To do this, I borrow from Aristotle's account of homonymy.

§4. Knowledge and Homonymy

In the preceding sections, we have been operating under the assumption that for knowledge by acquaintance to be knowledge it has to obey (at least) analogues of the principles that govern propositional knowledge. But is this assumption unassailable? What if knowledge by acquaintance is only governed by two of the three principles? Does that mean knowledge by acquaintance is not knowledge? It does not seem so. Knowledge by acquaintance may share some or many similar

features with propositional knowledge, but it need not share all of them to still be a case of knowledge. One way to explicate this idea is via Aristotle's approach to homonymy (Aristotle 1963, 1984). In particular, Aristotle's theory of core-dependent homonyms offers us a way to understand propositional knowledge and knowledge by acquaintance as being distinct kinds but nevertheless ordered in a particular way. Or so I shall argue presently.

§4.1 Core-dependent Homonyms

Core-dependent homonyms are a subset of homonyms. The notion is somewhat technical, but the basic idea is fairly straightforward. Take first the case of things that are spoken of with synonymous or univocal terms. These will be terms where, when two things are said to be of that kind, the account of why those things are that kind is the same. That is, if (1) *A* is *F* and (2) *B* is *F* and (3) the account of what makes *A* an *F* is the same as what makes *B* an *F* is the same, then *F* is univocal or synonymous. For instance, in (1) 'Socrates is a man' and (2) 'Plato is a man', "man" is univocal or synonymous.

In contrast to synonymous terms, there are terms for things that are homonymous. These are cases where synonymity fails. The English word 'bank' serves as an illustrative example when used in 'I tried to get a loan at the bank yesterday' and 'I sat down and had lunch at the river bank yesterday'. 'Bank 'is not the same in these two sentences. So far so mundane. What is interesting in Aristotle's account is the sort of middle cases, sometimes referred to as the focal meaning (Owen 1960) or a core-dependent homonym (Shields 1999, 2022). That is to say, there are multiple ways of things being homonymous for Aristotle. If we think of things falling on a spectrum with one end being synonymous, and the other end being completely homonymous like 'bank', then Aristotle's account of core-dependent homonym or focal meaning is supposed to explain the things that lie in the middle (Shields, 2022). That is, things that are core-dependent homonyms are not synonymous, but not so disparate as to be completely unrelated semantically. To make this more clear, consider one of Aristotle's favourite examples, 'health', as is used in the following three sentences:

1.Socrates is healthy.
2.Socrates's diet is healthy.
3.Socrates's complexion is healthy.

Health is not univocal in these three sentences because the second means (roughly) something that promotes health, whereas the third means something like appears or indicates health, and the first is the more fundamental, meaning roughly is of sound mind and body. So, they are not univocal like 'man' earlier. But they are not so disparate as 'bank'. There is a sense in which 'health' in (2) and (3) depend on 'health' in (1). As Shields puts it:

> The last two predications rely upon the first for their elucidations: each appeals to health in its core sense in an asymmetrical way. That is, any

> account of each of the latter two predications *must* allude to the first, whereas an account of the first makes no reference to the second or third in its account. So, suggests Aristotle, *health* is not only a homonym but a *core-dependent homonym*: while not univocal neither is it a case of rank multivocity (2022, p. 216)

For illustrative purposes, I have been writing as if Aristotle's theory of homonymity is a semantic theory. Though it is certainly read that way by Owen (1960), it is debatable whether or not this is the best interpretation of Aristotle. Irwin, for instance, argues that Aristotle's theory of homonyms is about the way things really are, as he makes plain in this passage:

> The difficulties in Aristotle's doctrine of the multivocity of good and being do not all disappear as soon as we see that they are not about different senses of "good" or "being"; but we can perhaps now distinguish the real from the imaginary difficulties. The imaginary difficulties are about differences of sense. These need not concern Aristotle. The real difficulties are about differences of essence and differences of real properties. We know that he faces these difficulties anyhow; his views about homonymy and multivocity are a part of his views about natural kinds (1981, p. 540).

On Irwin's reading, Aristotle is interested, like Socrates and Plato, in a 'what is it? ' question about things such as justice, goodness, being, friendship and so on. But unlike Socrates and Plato, Aristotle resists the idea that the answer to such questions can be given by positing a single unifying essence (e.g., a Platonic Form). Aristotle's account of homonymity is meant to show how multiple things can be of the same kind, while not being identical. This is not a semantic thesis about meaning or concepts. It is a metaphysical thesis about how things are. The upshot of this methodology is a positive philosophical project aimed at elucidating the nature of things. As Shields (1999) points out,

> If [Aristotle] can establish both non-univocity and core-dependence for some central philosophical concepts, Aristotle will justifiably claim to have introduced a powerful methodology for rejecting Platonism without adopting a purely negative or destructive attitude towards philosophical analysis' (105)

Thus, if we adopt the methodology Aristotle uses for things like goodness and being and extend it to knowledge, then we recognise that knowledge is not univocal and that knowledge by acquaintance and propositional knowledge are not a uniform kind, but also reject the proposal that they are of rank multivocity. Then, what we have is two *kinds* of mental states, each a kind of knowing, that share fundamental properties, but not all properties. Both are mental states of awareness—either beliefs or experiences— that relate the knower to an item in the world—either a fact (true proposition) or an object. In certain cases, such as Longworth's orange, one can be in one type of knowing state without being in the other, one can have knowledge by acquaintance of the orange without knowing *that* there is an orange in front of one. This might be because, as I have suggested above, propositional knowledge requires

a modal robustness that knowledge by acquaintance does not. But all that shows is that these are different kinds of knowledge of the world.

§4.2 Knowledge as a Core-Dependent Homonym

For this to not be a purely negative project of rejecting uniformity, we need to establish the core-dependent relationship between the two kinds of knowledge. To do this, I will use Shields's (1999, 2022) explication of Aristotle's homonymy. Shields argues that core-dependent homonymy must include at least the following:

> CDH1: x and y are homonymously F in a core-dependent way if and only if: (i) they have their name in common, and (ii) their definitions do not completely overlap but (iii) they have something definitional in common (1999, p. 106).

But he argues that Aristotle's account is left open to several critical issues about core-dependence:

> Aristotle never characterises in an abstract way the nature of the relations homonymous terms must bear to the core notion around which they revolve; nor does he provide a principle for determining which relations are sufficiently strong to establish genuine association; nor indeed does he specify what makes one notion core with respect to the others. His non-performance here opens him to several critical questions. (1999, p. 107).

The rest of the Shields (1999) is given over to exploring these questions based on textual material. The formulation Shields settles on is the following:

> CDH_4: *a* and *b* are homonymously F in a core-dependent way if and only if: (i) they have their name in common (ii) their definitions do not completely overlap (iii) necessarily, if *a* is a core instance of *F-ness,* then *b's* being *F* stands in one of the four causal relations to *a*'s being *F*, and (iv) *a's* being *F* is asymmetrically responsible for the existence of *b's* being *F* (p. 125).

As we can see, clauses (i) and (ii) are the same as before. All that has changed is the development of (iii). Shields has moved from 'having something definitional in common' to a necessity claim involving one of Aristotle's four causal relations as well as an asymmetrical dependence existence clause. What's more, he footnotes the proviso that, strictly speaking, clause (iv) should be replaced with a 3-part clause that makes it possible that *either, x* asymmetrically depends on *y*, or *y* asymmetrically depends on *x*, or both *x* and *y* asymmetrically depend on some further *z*.

If this is the right approach to Aristotle's account of core-dependent homonyms, how can we apply it to knowledge? It seems that either of the following would have to be the case: either

(a) propositional knowledge asymmetrically depends on knowledge by acquaintance, or

(b) knowledge by acquaintance asymmetrically depends on propositional knowledge, or

(c) both asymmetrically depend on some further characterisation of knowledge.

We would also need to specify which causal relation (material, formal, efficient, final) of Aristotle's holds. My proposal is this: (1) propositional knowledge asymmetrically depends on knowledge by acquaintance and (2) Aristotle's theory of causes is not explanatory relevant here. I will take these claims in reverse order.

While the appeal to causes is an interesting way to spell out what Aristotle has in mind for *his* theory of homonymy, I take it we do not need to appeal to his special theory of causes to get to the spirit of the methodology that Aristotle is offering us. After all, Aristotle's main motivation is to show how philosophical concepts can be 'said of in many ways' (1963) without thereby being completely multivocal. But his way to achieve this need not be our way. Given the contentiousness of his theory of causes and the intricacy involved, I think it better omit it. Thus we can keep the spirit of Aristotle's account of homonymy without sticking to the letter of it.

Concerning (1), knowledge by acquaintance is a more basic and fundamental way to make cognitive contact with the world.[7] If we think of the animal kingdom and the organisms that gather information about their environment in some kind of sensory way, we see that there is a more primitive type of information registration that occurs in less complex organisms. We may not want to call all forms of that information registration knowledge by acquaintance, but it seems like, phylogenetically, knowledge by acquaintance is prior to propositional knowledge. Knowledge by acquaintance, when it is of objects and properties in the world, is a primitive and ubiquitous form of cognitive contact that allows one to know what the world is like in its multifaceted features. Propositional knowledge, also a form of cognitive contact with the world, is nevertheless more abstract and general. Russell (1905, 1912), argued that all propositions with which we can grasp must ultimately be grounded in acquaintance. While I do not want to go as far as Russell, it nevertheless seems right that acquaintance plays a more fundamental role in our cognitive life. Thus it seems that the grasping of propositions, if it is to be considered a case of knowledge, must depend on the nature of knowledge by acquaintance. Knowledge by acquaintance's role is to put us into cognitive contact with our environment, and in the case of sense perception (as has been the focus in this paper), particularly with our physical environment. Propositional knowledge must also put us in cognitive contact with our environment. But it need not be restricted to acquaintance with objects and properties that are presented to our consciousness. We can think of more remote objects, and in a more abstract way than we can in cases of acquaintance. Moreover, as I argued above, one salient difference is in their modal profile. Propositional knowledge seems more modally robust, whilst knowledge by acquaintance seems tied to the particular sensory environment in a way that makes it modally fragile.

My view is this is the right way to think about the asymmetrical dependence between the two kinds of knowledge we have been discussing. But I recognise there may be reasons to think that knowledge by acquaintance asymmetrically depends on propositional knowledge, or perhaps, that both knowledge by acquaintance and propositional knowledge asymmetrically depend on some further characterisation of knowledge, perhaps a characterisation central to practical knowledge. Someone who is tempted by these views will (I hope) still realise the importance of the framework introduced here.

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[7] A similar view is defended by Duncan (2020, 2023a,b) and Kriegel (2024).

At the beginning of the paper, I highlighted how much contemporary epistemology proceeds as if propositional knowledge is the only kind of knowledge or at least the primary kind of knowledge. Then, I gave reasons why this might be misguided and provided a framework for the relationship between these different kinds of knowledge that is not currently in the literature. This framework will, I hope, be of use in these debates, regardless of which kind of knowledge one thinks is the core case. Finally, I hope to have shown the central role our understanding of epistemic luck plays in differentiating propositional knowledge and knowledge by acquaintance.[8]

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