KNOWING HOW ONE KNOWS

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ABSTRACT: In this paper, I argue that knowledge is dimly luminous. That is: if a person knows that *p*, she knows how she knows that *p*. The argument depends on a safety-based account of propositional knowledge, which is salient in Williamson's critique of the 'KK' principle. I combine that account with non-intellectualism about knowledge-how – according to which, if a person knows how to φ, then in nearly all (if not all) nearby possible worlds in which she φes in the same way as in the actual world, she only φes successfully. Thus, the possession of first-order propositional knowledge implies second-order practical knowledge, and this can be iterated. Because of the assumed non-intellectualism about know-how, dim luminosity does not imply bright luminosity about knowledge, which is expressed by the traditional KK principle. I conclude by considering some potential counterexamples to the view that knowledge is dimly luminous.

KEYWORDS: luminosity, knowledge-that, knowledge-how, safety

1. The Story So Far

Since Hintikka's[1] ground-breaking work, the thesis known as the 'KK' principle has been under dispute. It says that if one knows that *p*, one knows (or is in a position to know) that one knows that *p*. The interest on the principle quickly reached debates beyond that of its acceptability for systems of epistemic logic. The internalist-externalist dispute on knowledge is perhaps the most prolific discussion on that matter. Internalists, following the traditional view that knowledge is an internally accessible state, were inclined to endorse something like the KK principle, whereas externalists were confident about its rejection.

Many externalists reject the principle based on the following argument:[2] If knowing that *p* implies having a true belief that *p* that also satisfies an external condition – say, being reliably produced – then knowing that one knows that *p* implies knowing that the belief in question is produced by a reliable process. However, most people who know many mundane propositions seldom entertain beliefs about the reliability of their belief-forming processes, so they certainly do

[1] Jakko Hintikka, *Knowledge and Belief* (Ithaca, New York: Oxford University Press, 1962); Jakko Hintikka, "Knowing That One Knows," *Synthese* 21 (1970): 141–62.

[2] For a run-down of these instances, see Samir Okasha, "On a Flawed Argument against the KK Principle," *Analysis* 73, 1 (2013): 80–86.

not know that they know. Thus, the externalist argument goes, the KK principle is false.

Samir Okasha[3] has made a very compelling point that the argument above is logically flawed. The problem is that externalists have systematically committed an intentional fallacy. The second 'K' in the KK principle occurs in an intentional context, so knowing that one knows does not imply knowing the following (implausible, anyway) conjunction: that one believes that *p*, *p* and one's belief that *p* was reliably formed. Instead, second-order knowledge implies only that: one believes that one knows that *p*, it is true that one knows that *p* and one's belief that one knows that *p* was reliably formed. This is a much more plausible take on the KK principle, one that is at least prima facie compatible with externalists views on knowledge.

But there are more compelling arguments against the principle. Tim Williamson's[4] in particular makes a convincing case against the putative luminosity of knowledge. Williamson defines luminosity through the following condition:[5]

> (L) For every case α, if in α C obtains, then in α one is in a position to know that C obtains.

For reasons that will soon become apparent, I take the condition above to express a specific kind of luminosity, one that I call "bright luminosity." Williamson's argument against bright luminosity for knowledge depends on a scenario such as this:

> *Mrs. Coldhot:*
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> Mrs. Coldhot wants to keep track of whether she is felling cold or hot at each millisecond during a whole morning. Imagine that, at the beginning of the morning, Mrs. Coldhot feels cold. Imagine also that, at noon, she feels hot. Now suppose for reduction that feeling cold or hot satisfies the (bright) luminosity condition. If knowledge implies that one could not easily be mistaken about one's target belief, then if one knows that *p* at any given time, it follows that *p* is true not only at the time one knows, but also true at the next millisecond, for these moments are very similar. Therefore, when Mrs. Coldhot iterates the process of judging how she feels, she knows that for any millisecond that comes after the beginning of the morning, that she feels cold. Then, she feels cold at noon –but that contradicts our initial supposition, so feeling cold or hot is not (brightly) luminous.

[3] Okasha, "On a Flawed Argument."

[4] Timothy Wiliamson, *Knowledge and Its Limits* (Oxford: Oxford University Press, 2000).

[5] Cf. Williamson, *Knowledge and Its Limits*, 95.

According to Williamson, the argument applies equally well to every non-trivial condition. Since knowledge is a non-trivial condition, it follows that knowledge is not (brightly) luminous.

That is a very plausible outcome, but we may not be ready to give up on the luminosity of knowledge just yet. I argue that there is a conceptual connection between some of our mental states and our knowledge of them. Thus, I follow what Stalnaker[6] claims to be the standard way of reconciling the KK thesis, or something akin to it, with externalists conceptions of mind and knowledge. What is specific about this strategy is that the relevant knowledge of our mental states is practical rather than propositional or direct. So first-order propositional knowledge implies second-order practical or procedural knowledge. In other words, knowing that *p* implies knowing how to know that *p*. This, however, depends on a non-intellectualist construal of know-how. I will not argue for that latter position, nor will I argue, at least not directly, against the intellectualism proposed by Stanley, Stanley and Williamson, Brogaard or any others.[7] The results advanced here, however, do depend on a non-reductive view on knowledge-how. Despite the fact that the account of know-how presented here is non-reductive, it allows for a conceptual analogy between propositional and practical knowledge, thus, it satisfies a desideratum of explanatory unity of knowledge without implying intellectualism.

2. Dim Luminosity and Knowing How to Know

Not everything that is luminous is bright. A condition C is dimly luminous if and only if (D-L) obtains:

(D-L) For every case α, if in α C obtains, then in α one knows how C obtains.

At least some types of knowledge are dimly luminous, namely, know-how and know-that.[8] The argument for that claim depends on two related views on

[6] Robert Stalnaker, "Luminosity and the KK Thesis," in *Externalism, Self-Knowledge, and Skepticism*, ed. Sanford C. Goldberg (Cambridge: Cambridge University Press, 2015), 21.

[7] Jason Stanley, *Know How* (Oxford University Press, 2011); Jason Stanley and Timothy Williamson, "Knowing How," *The Journal of Philosophy* 98, 8 (2001): 411–44; Berit Brogaard. "What Mary Did Yesterday: Reflections on Knowledge-Wh," *Philosophy and Phenomenological Research* 78, 2 (2009): 439–67.

[8] It is more controversial whether, if one knows a place or an object, one knows how one knows it. The same point applies to knowledge-wh (when, where, who). But if these types of knowledge could be described as knowledge-that, then they are dimly luminous. It is implausible, however, that we can reduce knowledge-wh to knowledge-that without committing knowledge-how to the same fate.

knowledge, the first of which is already present in Williamson's argument against bright luminosity:

> (Safety) if S knows that p, then in nearly all (if not all) nearby possible worlds in which S forms her belief that *p* in the same way as in the actual world, S only believes that *p* when *p* is true.[9]
>
> (Stability) if S knows how to φ, then in nearly all (if not all) nearby possible worlds in which S does φ in the same way as in the actual world, S only φes successfully.

Safety and Stability arise from the same concern, viz., that knowing is incompatible with getting it right by luck.[10] As the post-Gettier literature made abundantly clear, subjects in Gettier-style cases lack propositional knowledge because they could easily be mistaken. Hence, Safety is a necessary condition for knowledge. It may not be a sufficient condition – as shown by cases where the subject arrives at safe true beliefs because an epistemic angel changes the world to fit her beliefs.[11] However we attempt to explain cases like that – say, by adding credit for arriving at true beliefs or by taking cognitive achievement as a additional necessary conditions for knowledge – Safety remains a plausible necessary condition. In Williamson's original argument against luminosity, Safety is the basis for the claim that, if Mrs. Coldhot is feeling cold at any given time, then she is cold at the *next millisecond*, given that these instants are modally close.

Stability is simply one way to develop the same insight underlying safety when it comes to know-how. The basic idea is that knowing how to do something implies having an ability, or set of abilities, that, when properly exercised in

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[9] The definition is due to Duncan Pritchard, *Epistemic Luck* (Oxford: Clarendon Press, 2005), 163, which is intended to deal with a number of counterexamples. I have omitted the mention of the contingency of the target-belief for simplicity, since it does not affect my point here. Also, safety is not without its worries: cf. Ram Neta and Guy Rohrbaugh, "Luminosity and the Safety of Knowledge," *Pacific Philosophical Quarterly* 85 (2004): 396–506; Avram Hiller and Ram Neta, "Safety and Epistemic Luck," *Synthese* 158, 3 (2007): 303–13. It is beyond the scope of this paper to save safety from these criticisms.

[10] I am not relying on any specific taxonomy of luck. Even though having a true belief through luck – what is sometimes called veritic luck, and can be divided into intervening or environmental luck - is clearly a case of getting it right by luck, not all lucky achievements are veritic. If a non-intellectualism about know-how of the kind assumed here is correct, the kind of luck that affects know-how is not veritic because there may not be beliefs involved in practical knowledge at all, a fortiori, there may not be beliefs which are true due to luck doing any negative epistemic work in practical cases of lucky achievement.

[11] Duncan Pritchard, "Safety-Based Epistemology: Whither Now?" *Journal of Philosophical Research* 34 (2009): 33–45.

sufficiently similar circumstances, guarantees success. A professional footballer that hits the perfect cross knows how to do so because she is able to perform similarly in sufficiently similar situations. A beginner might even, on occasion, hit the perfect cross as well, but she might fail to do so on many other occasions. The difference between the professional and the beginner is that the former is able, in an epistemically robust sense, to hit the perfect cross, whereas the later lacks the requisite abilities.[12] Analogously to Safety, Stability is intended to be a plausible necessary condition for know-how, even though other necessary conditions can be added. Note, moreover, that because having and exercising an ability is necessarily creditable to an individual, we do not need to add another condition to rule out cases that are analogous to that of epistemic angels that fix the world in order for it to coincide with one's beliefs. Also, my argument here works as long as believing that there is a correct way of φying, in a manner which is sufficient for knowledge, is not another necessary condition for φying successfully. We may sometimes, or even always, form corresponding beliefs that describe the correct or best ways of doing something, and we may even do that on a sufficiently strong epistemic basis, but that is completely incidental to whether we know how to do it.

Thus, knowing-how is being able to successfully do something in a stable manner. That might raise a familiar concern, namely: we are fallible creatures but that account left no room for error. We could, it seems, be able to φ and still fail systematically at φying. If a notion of ability cannot account for that apparent fact, then it is inherently flawed. The objection assumes that the only conceptual room for error lies between exercising an ability and getting it right. But that is false: we may fail because we failed to exercise the correct ability (or set of abilities) for doing something, despite our best intentions, or because we failed at exercising it according to what the situation demands. Millar[13] makes that same point regarding recognitional abilities, and it seems that his view also applies to the notion of ability in general. So the notion of ability developed here does make room for error.

The claim that knowing how to φ implies having the ability to φ is prima facie quite plausible, but it has been challenged. Consider the following case, which is adapted from Carr:[14]

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[12] Ability possession is certainly a matter of degree - one can be more or less able to dosomething, but my argument is indifferent to that.

[13] Alan Millar, "How Visual Perception Yields Reason for Belief," *Philosophical Issues* 21, The Epistemology of Perception (2011): 332–51.

[14] David Carr, "Knowledge in Practice," *American Philosophical Quarterly* 18, 1 (1981): 53–61.

> *Arthritic Ana:*
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> Ana is an arthritic piano teacher. Ana knows how to play the piano because she has played it her whole life, but since her rheumatoid condition worsened, she became unable to play. However, she can still teach her pupils on how to play any given piece. Ana knows how to play the piano, but she does not have the ability to do so.

The case seems to show that knowing-how does not imply possessing and exercising certain abilities. We can, however, resist that conclusion, for Arthritic Ana's case is underdescribed. Instead of ascribing her know-how, it is possible to construe her situation as follows: her expertise in piano playing enables her to describe the correct way to play a given piece in a very nuanced and precise manner, but that is a matter of a propositionally articulated epistemic status (either knowing-that and understanding-that). That explains how she can teach her pupils without implying that she knows how to play, because she is unable to do so. The point is that she has the relevant piano-playing abilities, but her actual condition is one in which she cannot exercise her abilities successfully across a sufficiently large class of nearby possible worlds, including the actual one. So her abilities are, as it were, pragmatically defeated, which in turn defeats her know-how. Remove the pragmatic defeater (her rheumatoid condition), and her practical knowledge is restored.

On the other hand, it seems we can imagine a case where one is able to φ without knowing how to φ. Consider the following case, also from Carr:[15]

> *Lucy the Lucky Gymnast:*
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> Lucy is a beginner gymnast. After only a couple of classes, and without previous training, she attempts to do a challenging somersault, one that could only be achieved by a more proficient gymnast. Surpassing all expectations, she succeeds.

Lucky Lucy's case suggests that she is able to do a somersault – for, after all, she has done it – without knowing how to do so. We may resist that conclusion too, because there is an ambiguity at bay. We consider her able to do a somersault only in hindsight, and this is a weaker sense of "being able" than the one in play in Stability. Of course, in a sense, we are able to do many things that we are actually unable to do in another, more robust sense. I am able, in the weakest sense, to write an enthralling, best seller novel – I have a bunch of loose ideas and I know how to write. But I am not able to do so in a more robust sense: it would be a surprise for anyone if I were to write a best seller novel, myself included. In the relevant sense, being able to do something generates stable expectations of success,

[15] Carr, "Knowledge in Practice."

something that Lucy clearly lacks. The answer whose question shows whether one is able to φ is not "did he or she φed?," but "is he or she capable of φying again?"

Finally, here is how knowing that *p* satisfies (D-L): given Safety, if a person knows that *p*, she could not be easily mistaken about *p*. That is, in all, if not all, nearby possible worlds where she believes that *p* through the same means as in the actual world, *p* is true. Given Stability, if she knows how to arrive at knowledge that *p* in the actual world, then she successfully does so in all, if not all, nearby possible worlds where she attempts to do so through the same abilities as in the actual world. So the possible worlds where a person knows that *p* are the ones where she knows how to know that *p*.[16] Thus, for every case α, if in α one knows that *p*, the n in α one is in a position to know how one knows that *p*.

Knowing-how to know-that, in the sense I am advancing here, is being able to perform the same procedures, whatever they are, that generate first-order propositional knowledge in sufficiently similar circumstances. This view is neutral regarding which specific account of propositional knowledge is endorsed, as long as it makes room for Safety. Accounts that deny the necessity of ruling out certain cases of lucky achievement, such as Turri's,[17] do not satisfy Safety, and do not meet (prima facie at least) the requirements for dim luminosity of knowledge.

Moreover, knowing-how also trivially satisfies (D-L). Whenever one knows how to φ, one knows how one knows how to φ. This implies that knowing how one knows at an order *n* can be iterated in a *n+1* order. Because I am assuming a non-intellectualism about know-how, iteration is not an issue. It would be problematic only if it required the individual to form higher-order beliefs at every new step, with the sufficient epistemic support for knowledge; but this account of know-how does not implies believing, nor believing in an epistemically robust way. It implies only that the individual who has practical or procedural knowledge is able to perform in a sufficiently stable way in sufficiently similar circumstances. Accordingly, because knowing how to φ does not imply believing, in a sufficiently robust epistemic manner, that there is a correct way to φ, and because knowing-

[16] There might be possible worlds where she knows how to know that *p* but does not exercise the relevant abilities, so, in these worlds, she would not know that *p*. However, we could, in principle, advance the more contentious claims that the possible worlds where a person knows that *p* and the the ones where she knows how to know that *p* are coextensive. In order to do so, we would have to claim that not only knowing how to φ is a matter of being able to φ successfully in a sufficiently stable manner, but also that a person is only able to φ if she effectively φes. My case for dim luminosity does not rely on that claim. I thank Luis Rosa for that suggestion.

[17] John Turri, "Manifest Failure: The Gettier Problem Solved," *Philosopher's Imprint* 11, 8 (2011): 1–11.

that implies believing, it follows that dim luminosity does not imply bright luminosity. That is, if one is in a case where one knows that *p* – which implies, via dim luminosity, that one knows how to know that *p* – it does not follow that one knows that one knows that *p*, nor that one knows that one knows how to know that *p*.

One advantage of dim luminosity is that it secures the intuition shared among virtue reliabilists that propositional knowledge implies cognitive achievement.[18] According to these authors, if one knows that *p*, one has credit for arriving at the true belief that *p* – alternatively, the true belief that *p* is creditable to one's reliable epistemic dispositions. Thus, knowledge is a matter of achieving a true belief. Now, setting the notion of cognitive achievement at the center of one's conception of knowledge is notoriously tricky, for it seems to exclude testimonial knowledge, for it could be acquired effortlessly by the one receiving the testimony.[19] The view developed here is able to salvage the intuition regarding credit without incompatibility with testimonial knowledge, for credit lies at the second-order epistemic status of the knower. The idea is that if one comes to know that *p* because one acquires the belief that *p* on the basis of a testimony from a reliable source, then one could not easily belief falsely that *p* based on that source. That being the case, one knows how to acquire that same piece of knowledge in similar situations – for one is able to base one's belief that *p* on the testimony of that knowledge source. This solution depends on the plausible premise that being able to φ, in the sense discussed above, is a cognitive achievement.

3. Against Dim Luminosity

It seems that we can conceive of cases where an individual knows that *p* but does not know how he knows that *p*, so that knowledge is not even dimly luminous. Consider BonJour's Norman case.[20] Norman has clairvoyant powers that enable him to reliably track the president's actual location – say, the president is in a hotel in Moscow – despite the fact that all available evidences points towards him being

[18] See Wayne Riggs, "Reliability and the Value of Knowledge," *Philosophy and Phenomenological Research* 64, 1 (2002): 79–96; Ernest Sosa, *A Virtue Epistemology – Apt Belief and Reflective Knowledge*. Vol. 1, (Oxford, New York: Clarendon Press, 2007); John Greco, "Knowledge as Credit for True Belief," in *Intellectual Virtudes: Perspectives from Ethics and Epistemology*, eds. Michael DePaul and Linda Zagzbeski (Oxford: Oxford University Press, 2003). I am thankful to Gregory Gaboardi for this observation.

[19] Jennifer Lackey, "Why We Don't Deserve Credit for Everything We Know," *Synthese* 158, 3 (2007): 345–61.

[20] Laurence BonJour, "Externalists Theories of Empirical Knowledge," *Midwest Studies in Philosophy* 5 (1980): 53–73.

in Washington. Norman has no prior belief, in favor or against, his clairvoyance. The verdict is that there is something wrong with Norman's epistemic situation. Internalists, such as BonJour himself, claim that even though Norman satisfies an externalists condition, he lacks knowledge because he lacks reasons in favor of his belief regarding the president's actual location. Now, if we are going to assume that Norman's powers are capable of generating true beliefs in a safe manner, we may be tempted to say that he knows that *p* (where *p* is the relevant propositional about presidential whereabouts). But what is troubling is that there is a clear sense that Norman *does not know how* he knows that *p*.[21]

That case, however, can be explained away because clairvoyance is a bizarre epistemic ability. Once we consider whether Normans knows how he knows that *p*, matters become muddled, because it is not clear whether there are many, or any for that matter, nearby possible worlds in which Norman is able to arrive at his first-order knowledge in a similar manner. And this explains why we might be tempted to revoke his putative first-order knowledge. The problem, therefore, lies not with dim luminosity, but on the epistemic ability in question, for intuitions about it tend to colapse. Consider, in contrast, the less controversial ability of chicken-sexing. If the chicken-sexer is in indeed able to form safe beliefs about the subject matter, then there is no doubt she is able to achieve second-order procedural knowledge, even if she fails to meet an internalist condition.

Now, can we use Williamson's argument, which was directed at bright luminosity, to show that one can know that *p* without knowing how one knows? After all, knowing how to φ is a non-trivial state, so it seems that dim luminosity for knowledge fares no better than its brighter cousin. Take Mrs. Coldhot case again. If she knows that she is feeling cold at a time *t*, then she knows how to arrive at her first-order knowledge at *t*. Also, if she knows that she is feeling cold at *t*, then she is cold at *t+1*, given Safety (and factivity of knolwedge). Also, if she knows how to arrive at her first-order knowledge that she is feeling cold at *t*, then she knows that she is feeling cold at *t+1*. However, that would lead to the same contradiction as before, because if she iterates the same procedure throughout the morning, she is feeling cold at noon, contrary to one of our initial assumptions.

The problem of that argument lies in the premise that, if she knows how to arrive at her first-order knowledge that she is feeling cold at *t*, then she knows that she is feeling cold at *t+1*. Given that there is a close connection between knowing how to arrive at a knowledgeable belief and arriving at that belief, at the last state when Mrs. Coldhot feels cold, there are many nearby possible worlds where she no longer feels cold. If, in these possible worlds, she tries to arrive at a knowledgeable

[21]I am thankful to Gregory Gaboardi for these comments.

belief that she feels cold, but fails to do so (because she no longer feels cold), then she did not meet the Stability condition. And failing to do so, she does not know that she feels cold at *t+1*. The crucial point here is that know-how implies stable success, just like know-that implies safe true believing.

There seems to be some empirical evidence against the view advanced here and against the value and efficiency of reflection more generally.[22] In particular, consider the following experiment. Data gathered by Halberstadt and Wilson[23] shows that verbalized reasoning is objectively less reliable than what they call *affect heuristics*, viz., "domain-specific relationships between feeling states and objective states of the world."[24] Affect heuristics are cognitive procedures that use subjectively available cues in decision making, judgements, inferences and so on. One clear example of affect heuristics is that of assessing whether A is more familiar, for the individual, than B in order to establish some objective results (e.g.: whether A is more popular than B). Experiments mentioned by Halberstadt and Wilson also show that reasoners – individuals who try to explicitly explain how they arrive at certain predictions – often impair the objective quality of their judgements, whereas those that simply use affect heuristic are more likely to attain the correct results. For instance, in a study conducted by Halberstadt andLevine,[25] 71 subjects were asked to predict 8 basketball games in 1995 (the same experiment was replicated with 52 participants in 1996). Half of the experimenters were asked to jot down the reasons for their predictions, whereas the other half followed their instinct without analysing their reasons (the so called *nonreasoners*). Overall, nonreasoners got the right outcome for 70,4% of the matches, almost 5% more than reasoners. There is a lot going on in the case above, but the important point is this: both groups had the same knowledge basis for predicting the outcome of basketball games – but when reasoners tried to show how they know that one team was more likely to win than the other, they ended up affecting their first-order knowledge negatively. So it seems that not only knowing that *p* does not imply knowing how one knows, but also that attempting to show how one's first-order beliefs or knowledge are arrived at is epistemically hindering, albeit marginally so.

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[22] For a battery of arguments against reflection, see Hilary Kornblith, *On Reflection* (Oxford: Oxford University Press, 2012).

[23] Jamin Halberstadt and Timothy Wilson, "Reflections on Conscious Reflection: Mechanisms of Impairment and Analysis," in *Reasoning: Studies of Human Interfaces and Its Foundations*, eds. Jonathan E. Adler and Lance J. Rips (Cambridge: Cambridge University Press, 2008), 548–65.

[24] Halberstadt and Wilson, "Reflections on Conscious Reflection," 554.

[25] Jamin Halberstadt and Gary Levine, "Effects on Reason Analysis on the Accuracy of Predicting Basketball Games," *Journal of Applied Social Pyschology* 29, 3 (1999): 517–30.

The issue could be avoided if we keep in mind that knowing how one knows is not reducible to knowing that one knows. We need to add to that the prima facie plausible premise that making one's knowledge explicit through reasons is essentially a matter of articulating pieces of propositional knowledge (or justification), which also involves exhibiting the correct abilities in reasoning. That is, it is plausible that reasoning requires both having reasons in support of one's beliefs and being able to use these reasons competently. The underlying view here is a "two-components" explication of rational capacities.[26] If reasoning involves both know-how and know-that, then it is possible that what is doing all the negative epistemic work for the reasoners, but not for the non-reasoners, is the formers' propositional second-order justification. That is, when one tries to make one's reasons explicit in order to articulate one's first-order knowledge pieces, one might fail to achieve propositional second-order knowledge. Clearly, more (empirical) explanatory work has to be done in order to show how knowing that one knows goes awry in cases like the above, but I am not going to pursue this matter here.

4. Conclusion

The intuition that knowing implies some sort of reflective attitude has persisted through much of the history of epistemology. One way to cash-out its details is through the infamous KK principle. Although recently that principle has been under attack, especially from the externalist camp, it seems we can rescue the original intuition by carefully distinguishing between knowing-that and knowing-how. These are conceptually distinct epistemic attitudes, but are understood minimally as implying Safety and Stability, thus they share a common core. Accordingly, whenever one knows that *p*, one knows how one knows that *p*. Knowledge is luminous, but only dimly so.

[26] Luis Rosa, "In order to be rational you need to know how to reason," *Philosophical Inquiries* 4, 1 (2016): 25–40.