Deeply Contingent A Priori Knowledge
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0 Introduction

0.1
In ‘Reference and Contingency,’ 1 Gareth Evans distinguished between ‘superficially contingent’ and ‘deeply contingent’ truths. A true sentence is superficially contingent just in case the function from possible worlds to truth-values associated with that sentence reckons it false at some (non-actual) world. A deeply contingent true sentence is one for which there is no semantic guarantee that there actually exists some veri-

1In Collected Papers, Oxford University Press, 1985, 178-213.
fying state of affairs. 2 Supposing I introduce ‘Julius’ by the reference fixer ‘the inventor of the zip’, then the sentence ‘If anyone uniquely invented the zip, Julius invented the zip’ is merely superficially contingent. Though false at some worlds, anyone who understands it will see that it is true at the actual world just in case ‘If anyone uniquely invested the zip, then the unique inventor of the zip invented the zip’ is true. Since it is quite clear that the latter can be known without empirical investigation 3, the same is true of the former. We have little trouble seeing how there can be superficially contingent a priori knowledge: once we get straight about what is involved in understanding (merely) superficially contingent sentences—which is part of the more general project of accounting for our understand-

2 The term ‘semantic guarantee that there actually exists some verifying state of affairs’ means roughly ‘if one understood it one would thereby be in a position to recognize that there actually exists some verifying state of affairs.’ There are tricky penumbral cases: Is ‘I exist’ superficially contingent? Your answer will depend on whether you think you know it to be true by introspection or whether you think understanding the proposition automatically enables you to know it to be true. It should also be conceded that to the extent to which the very notion of possession conditions is ill-defined or context-dependent, one ought to be suspicious of the distinctions that are in play here.

3 Someone may complain that pretty much any bit of knowledge about whether a sentence is true will be ultimately empirical and that the whole discussion should be conducted at the level of propositions/modes of presentation/senses/guises …. I shall ignore such issues of fine-tuning here.
ing of indexical elements of language, there is no genu-
ine residual problem of explaining how we know such
sentences to be true.4 But what of deeply contingent
truths? In that connection, Evans insists that ‘it would
be intolerable for there to be a statement which is both
knowable a priori and deeply contingent’.5

0.2

It is clear enough what prompted this remark by Evans.
Suppose that having understood some sentence s, one
does not thereby obtain some guarantee of a verifying
state of affairs. One will in that case find it perfectly
conceivable that the actual world enjoys a distribution
of objects and properties that falsifies s. But now, it
seems, one will need to do some empirical investiga-
tion to figure out whether the actual world is a verifier
or a falsifier of s. There thus appears to be a straight-
forward argument against the possibility of deeply con-
tingent a priori knowledge.

The argument is not, however, problem-free. First:
while the meaning of s might not guarantee a verifying
state of affairs, mightn’t the fact of one’s believing that
s is true guarantee a verifying state of affairs? And
mightn’t this fact be exploited to secure knowledge of
truths that are deeply contingent? Second: the argu-
ment seems to rely on the principle that if I can con-
ceive that not P is actually the case, then I do not know

4 Or at least no problem beyond that posed by such intractable
questions as ‘How do we know logic?’.

5 ‘Reference and Contingency,’ p. 179.
that P. But it is generally agreed that a knowledge-conferring warrant for some P need not offer a water-tight guarantee of P and thus need not render it inconceivable that the actual world falsifies P. Why then require such a guarantee when it comes to priori warrant? The first objection is that a guarantee of truth need not come from semantics. The second is that no such guarantee is required for a priori knowledge. I shall be exploring both of these ideas in what follows.

0.3
The issues risk getting clouded by a lack of clarity about the term ‘a priori’. Some writers include introspective knowledge under the term ‘a priori’. But it would be rather a cheap shot at Evans to so define ‘a priori’ and to then claim that such sentences as ‘I have a headache now’ can express deeply contingent a priori truths. Our current purposes are best served if we do not count introspective knowledge as a priori.

I shall be operating with a standard conception of the a priori according to which knowledge is a priori iff it does not rely *qua knowledge* upon perceptual or sensory experience.7 This negative conception of a

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6This leaves it open whether, for example, sensory experience is required for possession of the concepts that figure in some piece of a priori knowledge.

7Things get messy if, say, it turns out that our knowledge that bachelors are unmarried proceeds via the knowledge that some pair of expressions in our language of thought are synonymous.
priority is to be contrasted with a second conception on which a proposition is known a priori iff one has ‘intuited’ that the proposition is true (a conception that is only as clear as the account of intuition that accompanies it). It is also to be contrasted with a third conception of the a priori which ties a priority to concept possession in something like the following way: a proposition is known a priori when it is known by some proof (where we allow the limiting case of proofs with zero premises) which (with the right idealization) will be accepted by anyone who has full mastery of the concepts contained in it (a conception that is only as clear as the account of full concept mastery that accompanies it).

I do not assume that that the negative conception was the conception with which Evans was operating. I thus leave as an open question the bearing of what follows to the position on a priority and deep contingency that Evans intended to be giving voice to. Nor do I take any of the considerations that follow to speak di-

and that the latter is known by some kind of non-conscious introspective scrutiny. As always, surprising theories will put pressure on traditional taxonomies. A more evident problem is raised by the fact that the obviousness of, say, some bit of arithmetic is standardly thought to be evidentially important, since knowledge that something is obvious to oneself seems like a bit of introspective knowledge. I shall not be trying to sort all this out here.
rectly to the thesis that there are deeply contingent a priori truths in either the second or third sense.8

0.4
In part one, I shall present three putative cases of deeply contingent a priori knowledge for consideration. The next three sections set out to reveal the competing and complicated pressures on our concept of knowledge as it interacts with these cases. In part two, I shall look at some cheap—though relatively uninteresting ways—that knowledge might come to be ascribed to the subjects described in the three cases. In part three, I consider the relation of hyperreliability to knowledge, noting that hyperreliability is insufficient for knowledge. In part four, I discuss how salient resemblances drive our intuitions about candidate cases of contingent knowledge, a posteriori and a priori. It turns out that there is no clear criterion by which the cases under discussion get to count as deeply contingent a priori knowledge; nor is there any obvious principle by which they get excluded. Our main question will receive no more decisive resolution that its subject matter will permit.

8 Indeed, the very idea of a superficially contingent truth seems tightly connected to the third conception.
1 Three Cases

In this section, I describe three cases: the case of The Deducer (sections 1.1-1.4), The Explainer (section 1.5) and The Swampscientist (section 1.6).

1.1

Timothy Williamson has attempted to exploit the first of the problems mentioned in (0.2). He envisages someone—call him ‘The Deducer’—who deploys the following method of belief formation:

M: Given a valid deduction from the premise that someone believes P to the conclusion that P, believe that P.

As Williamson points out, by this method one can come to believe

There is at least one believer

since the latter is trivially deducible from

Someone believes there is at least one believer

What is interesting about the method, of course, is that any belief formed by successfully implementing it is a true belief. Given that fact, shouldn’t we be encour-

9'The Contingent A Priori: Has It Anything to Do With Indexicals?' *Analysis*, June 1986, 113-117.
aged to think that any belief formed by the method is a piece of knowledge?

1.2

One point that Williamson highlights is that by virtue of deploying this method, someone may arrive at such true beliefs as that there is at least one believer without the inferential path going through such indexical beliefs as that expressed by ‘I am a believer’. Suppose (perhaps per impossibile) that someone was blind to their own existence and mental states, looking out upon the world but never looking in. Such a person could still use M as one of the methods that generated beliefs in her ‘belief box’. She could thus use M to arrive at the conclusion that there is at least one believer.

Insofar as the fact of someone’s believing P guarantees a verifying state of affairs, let us call it ‘doxastically guaranteed’. Insofar as a proposition is doxastically guaranteed, one might have thought that it is only knowable by either introspection or empirical psychology. However, Williamson appears to have provided a way that a creature might know a priori those propositions that are doxastically guaranteed.

1.3

We should be careful to distinguish what can be known by someone who uses a method and knows that they are using it from what can be known by someone who merely uses that method. Williamson is not altogether vigilant about this distinction. He writes:
... since one can know a priori that (M) is absolutely reliable, the knowledge which it gives should be a priori. (114)

Suppose The Deducer knows that M is absolutely reliable. If The Deducer were also to know that he were using M, then the Deducer would have no problem convincing himself and us that he knows the deliverances of M. But in that case he may have some difficulty in convincing us that he knows the deliverances of M a priori. For in convincing us that the deliverances have put true beliefs in his belief box he will use such statements as ‘I am using M’: but the latter is not known a priori by him. To make things sharp, let us suppose The Deducer to deploy M but not know that he is deploying M. It is trivially a priori that anyone who uses M will arrive at true beliefs thereby. But when we are careful to allow that the user of M may not know that he uses M, it still seems like something of an open question whether he knows its outputs. After all, such a user would not be able to reflectively obtain Cartesian self-assurance along the lines of ‘Well, if I’m using the method, then I believe some proposition P that can be validly deduced from the proposition that someone believes something, and that fact entails that P is true ....’

1.4

Whether or not one knows one is using M, it is true that M is hyperreliable. Necessarily, anyone who
forms a belief on the basis of M forms a true belief. Lesson: There are hyperreliable ways of forming deeply contingent beliefs about the world. Suppose that a belief’s being produced by a hyperreliable method were sufficient for its constituting knowledge; then we should have to say that the Deducer knows any belief that stands as the output of M. Williamson seems to think that hyperreliability is sufficient:

Since M is an absolutely reliable method for forming true beliefs, any reasonable theory of knowledge should count a belief that P which has been formed by use of M as a case of knowledge that P. (114)

If the reader is strongly inclined to count hyperreliable methods as knowledge producing, he may also wish to consider allowing a priori beliefs that are the outputs of methods that are less than hyperreliable—but still highly reliable—to count as knowledge. After all, in the case of empirical knowledge, we do not expect the methods by which knowledge is achieved to be hyperreliable. Let me present two more cases for consideration.10

1.5

Case 2: Consider a character whom I will call ‘The Explainer’. The Explainer has not had any experiences

10These exploit the second prima facie problem mentioned in 0.2 above.
yet, but anticipates various experiential life histories, $H^1$, $H^2$, $H^3$ .... She also conceives of various theories $T^1$, $T^2$, $T^3$ .... that describe possible structures of microphysical reality. The Explainer thinks about which theories about the world would be reasonable to believe given various possible experiential lives, being guided by considerations about which theory would provide the best explanation for each experiential life under consideration. Through such a priori research, the Explainer comes to believe propositions of the following form: $T^n$ is the best explanation of experiential life history $H^m$. The Explainer then uses the following method of belief formation:

If one has belief of the form

Theory $T^n$ is the best explanation of experiential life history $H^m$

infer a conclusion of the form

I have experiential life history $H^m \Rightarrow T^n$ is true

By using this method, the Explainer comes to believe a host of deeply contingent material conditionals. Insofar as one thinks that inference to the best explanation is a rational guide to belief in a theory, then it seems that The Explainer’s beliefs are on the one hand, independent of perceptual knowledge, and on the other, emi-
nently rational, and so pretty good prima facie candidates for knowledge. Of course, the Explainer may well be able to conceive that any given one of these material conditionals is actually false. But that does not automatically remove them from the status of knowledge any more than our being able to conceive of the falsity of some empirically grounded beliefs defeats their claim to knowledge. Non-sceptics among us will allow that a workaday scientist can know that some theory is true by undergoing some experiential history and then coming to believe that the theory is true by inference to the best explanation. On what basis, then, is the Explainer’s approach to be reckoned epistemically objectionable?

1.6

Case 3: Swampscientist emerges from the swamp—created by a fortuitous coming together of particles—with an innate storehouse that correctly represents the basic principles of interaction between physical bodies. Swampscientist uses this innate storehouse to generate all sorts of beliefs such as ‘If someone lets go of a massy object above the ground and it is not suspended, it will fall’ and ‘If a rigid spherical object is put on a slope, it will roll down the slope’ and so on. Swampscientist also has a swampwatch—created by a fortuitous coming together of particles—that correctly tells the time. When Swampscientist uses his swampwatch to inform him about the time—whether it has been three hours since he woke up from his swampnap
and so on—we are intuitively ready to say that Swampscientist knows what time it is. When Swampscientist uses his innate storehouse to generate beliefs about physical objects, why not also say that this is knowledge? Does it make a great big difference that the swampwatch is on his wrist but that the storehouse is in his head?

What is Swampscientist like on the inside? As I am thinking of Swampscientist, he does not emerge from the swamp with pseudo-memories: he thus doesn’t represent himself as having had experiences. What would it be like to: (a) be really confident of such claims as that ‘If someone lets go of a massy object, it will fall’? (b) not think of that proposition as necessary and (c) have had no confirming experiences? George Bealer usefully distinguishes physical intuitions from intuitions in his favored sense: ‘We have a physical intuition that, when a house is undermined, it will fall, This does not count as an a priori intuition, for it does not present itself as necessary: it does not seem that a house undermined must fall: plainly, it is possible for a house undermined to remain in its original position or, indeed, to rise up.’11 Let us think of Swampscientist’s storehouse as generating physical intuitions in this sense and that these play the causal role of securing various beliefs about how things are disposed to behave. If one is some sort of internalist, requiring that

knowledge be tied to some consciously accessible evidence, then go ahead and treat these physical intuitions as the evidential basis of Swampscientist’s beliefs. I do not wish to dwell on whether, in such a case, we should give physical intuitions both a causal-sustaining role and a normative role or else merely the former.

2 Knowledge on the Cheap?

Do the trio of methods employed by the Deducer, the Explainer, and the Swampscientist result in their having deeply contingent a priori knowledge? On certain ‘cheap’ accounts of what knowledge amounts to the answer is ‘yes’—at least in some contexts. But this has nothing to do with the details of the methods employed. So it will turn out that the mere existence of ‘cheap’ accounts of knowledge does not bring us far in illuminating what, if anything, goes awry with Evans’ dismissal of deeply contingent a priori knowledge.

2.1 Knowledge as Information Possession

Suppose I ask you how many people in the room know that Vienna is the capital of Austria. In responding you will tally up the number of people in the room who possess the information that Vienna is the capital of Austria, no matter where they got it from. Even if someone was given the information by an informant that they knew full well they shouldn’t trust told them (who happened to be telling the truth on this occasion), you will in this context count them as knowing what
the capital was (so long as they had the firm belief12). Even if someone got the information from a book that was full of mistakes—this bit of information being a rare exception, you will in this context count them in. (Note how utterly irrelevant issues to do with quality of evidence would be were we, in this setting, to resolve a bet concerning whether some particular person knew that Vienna is the capital of Austria.) Why are we so forgiving in this context? It’s not hard to find the beginnings of an answer: In a context like this, the point of asking knowledge questions is to ask whether someone possesses the information. Relatedly, when someone in this context asserts ‘Six people know that Vienna is the capital of Austria’ the question ‘How, exactly, do they know?’ is mutually understood to be far from view.13 What is far less clear to me is what semantic treatment to give the term ‘know’ as it occurs in such contexts. There are a number of options available: (1) ‘Know’ is ambiguous. Sometimes it means ‘possesses the information that’, sometimes a different relation. (2) The sentence ‘He knows that Vienna is the capital of Austria’ is always false when applied to someone with dubious grounds, even in the contexts just described. The semantic value of that sentence is

12Of course, someone who didn’t in fact trust their informant and merely used the informant as a basis for guessing an answer—being altogether unsure on the inside—would not count.

13Or at any rate is not a question to be pursued further than ‘From a book’, ‘From someone else’ and so on.
not one we actually believe to be true: we use it as a device to communicate information that is correct (where the proposition expressed—the semantic value—is to be sharply distinguished from the information communicated). What we need to do is to supplement this austere semantics with a pragmatics explaining why it is permissible to assert a false proposition in the contexts just alluded to. (In Gricean lingo, we explain why in these settings it is permissible to ignore the maxim of Quality—‘speak the truth’—in order to do better by other maxims of conversation such as ‘be as informative as you can’, ‘be brief’, ‘be relevant’ and so on.14) (3) The predicate ‘know’ never means more than ‘possesses the information that’. What we need to do is to supplement that semantics with a pragmatics explaining why in many contexts it is not permissible to say ‘He knows’ in a case where the grounds are dubious but where, by the favored semantics, the sentence is true. (4) We identify an indexical or context-dependent element in the semantics of ‘know’, delivering the result that sentences involving ‘know’ can vary in their truth conditions according to how contextual elements combine with something like a character (in Kaplan’s sense15) to deliver a content in the context of use by an ascriber. We then explain how, in the cases

15See his ‘Demonstratives’ in Almog, Perry and Wettstein (eds.), Themes From Kaplan, p. 481-563.
alluded to, contextual variables interact with character in order to deliver ‘He possesses the information that P’ as the truth condition in that context. In effect, this is to attempt to stretch so-called contextualist theories of knowledge so that they accommodate the uses just alluded to.

This is not the place to explore which of these approaches is the right one. But however we are going to do the semantics, it is important to bear in mind that insofar as we think ourselves into contexts where the point of the knowledge question is information possession, our ‘intuitions’ are going to be very liberal in connection with our disposition to ascribe knowledge. Let me illustrate. Suppose I argue that Swampscientist does know a good deal by invoking the following thought experiment. I hold a cannonball over Swampscientist’s foot. I then ask ‘Does Swampscientist know that if I let go of the cannonball it will fall on his foot’. Won’t you be inclined to say ‘Yes?’ This is the very sort of context in which the point of the knowledge question is whether the person possesses the information. So, of course, when you think yourself into that context you will be inclined to say ‘Yes, he knows that’. If we are to keep reflective control upon our own intuitions, we need to check when and whether we are thinking ourselves into contexts where the point of the question ‘Does he know’ is to inquire after whether information is possessed.
2.2 The Rule of Conservatism

David Lewis gestures at a less cheap—but in some cases only slightly less cheap—basis for knowledge ascription. Here’s his basic analysis:

\[ S \text{ knows } P \iff S's \text{ evidence eliminates every possibility in which not-}P—\text{Psst!}—\text{except for those possibilities that we are properly ignoring.} \] (425) 16

He goes on to list a set of constraints upon when possibilities are properly ignored. Here is one of them:

Yet another permissive rule is the Rule of Conservatism. Suppose that those around us normally do ignore certain possibilities, and it is common knowledge that they do. (They do, they expect each other to, they expect each other to ....) Then, again very defeasibly!—these generally ignored possibilities may properly be ignored. We are permitted, defeasibly, to adopt the usual and mutually expected presuppositions of those around us. (433) 17

Suppose the Deducer comes to believer that there is at least one believer. One of our usual and mutually ex-


17 This is in effect a watered down version of the old idea that there are framework propositions that get automatically to be counted as knowledge by virtue of their status as framework propositions (where ‘framework’ is glossed as ‘usual presupposition’).
pected presuppositions is that there are believers—that is, we normally do ignore the set of possibilities corresponding to the proposition that there are no believers and it is common knowledge that we do. So we are prima facie entitled by the Rule of Conservatism to ignore the possibility that there are no believers. So it looks like the Rule of Conservatism provides a good prima facie case for saying that the Deducer knows that there are believers. Similarly, if the Swampscientist is born believing there are physical objects, the Rule of Conservatism provides a case for classifying that belief as knowledge.

Perhaps ‘knowledge’ does work that way—common presuppositions, if true, get to count as knowledge in the absence of some strong consideration against doing so. If that is right, we can certainly see how there can be deeply contingent a priori knowledge of truths that are commonly presupposed. Deeply contingent truths can, after all, be such that they are usually presupposed.

Notice that the Rule of Conservatism doesn’t even require us to look at the mechanisms in which the relevant beliefs are embedded, or even the inferential path to the belief. The hyperreliability of the Deducer with regard to M has dropped out of the picture. Does this indict the Rule? Perhaps not. Consider someone who is terrible at simple arithmetic, who is disposed to make

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18Note that for Lewis, it is the proper ignorings of the knowledge ascriber that count.
more mistakes than not, that has a math module with a hole in it ... we might still say of such a person ‘At least he knows that 1+1=2’. And perhaps it is something like the Rule of Conservatism19 that allows us to do so.20 If knowledge comes so cheaply that in some contexts the Rule of Conservatism plus truth can do pretty much all the work, that is an interesting feature of the concept of knowledge. But it doesn’t say anything very interesting about the Deducer, the Explainer or the Swampscientist.

(For readers interesting in thinking through the ramifications of Lewis’ approach, I offer a test case: A tribe owns a box that happens to have a beetle in it. The tribe has never looked in the box. Due to a strange psychological quirk, the tribe believes the box to contain a beetle, ignoring the possibility that it does not, and it is common knowledge among the tribe that each takes for granted that there is a beetle in the box. Granted that each tribesperson fails to know that there is a beetle in the box (I’m the ascriber and I take seriously the possibility that there is no beetle in the box even if the tribe does not), is it nevertheless true that when each tribesperson utters the sentence ‘I know there is a beetle in the box’, the sentence expresses a truth in his or her mouth? The Rule of Conservatism, seen through a contextualist lens, puts considerable

19Adapted to a hyperintensionalist framework: see 2.3.

20Unless the considerations of 2.1 suffice to explain such usage.
pressure on Lewis to concede that it does. I leave it to others to judge whether this result is tolerable.)

2.3 Modal vs Hyperintensional Epistemology

Return to Lewis’ definition of knowledge

\[ S \text{ knows } P \text{ iff } S's \text{ evidence eliminates every possibility in which not- } P — \text{Psst!}—\text{except for those possibilities that we are properly ignoring.} \] (425)

He elaborates: ‘A possibility is uneliminated iff the subject’s perceptual experience and memory in \( W \) exactly match his perceptual experience and memory in actuality’ (424). Lewis also invites us to include other basic forms of evidence when considering evidential match: ‘If you also want to include other alleged forms of basic evidence such as the evidence of our extrasensory faculties or an innate disposition to believe in God, be my guest. If they exist, they should be included. If not, no harm done if we have included them conditionally.’

Suppose the Deducer has no experiences yet and uses \( M \) to deduce that there exists at least one believer. Let us hold fixed this deployment of \( M \)—after all, \( M \) is functioning as a basic source of evidence—and ask whether there are any uneliminated possibilities in which it is not the case that there exists at least one believer. There are not. For there are no worlds at which there is not at least one believer but a counterpart of the Deducer deploys \( M \) to arrive at the belief that there
is at least one believer. Without even needing to invoke the the Psst! clause, we get to count the Deducer as a knower. Similar considerations will apply to other valid deductions using M. 21

There is a downside: except in very special cases, there is a risk that M doesn’t confer knowledge that there is at least one believer on account of the fact that S knows that anyway. If S has any evidence of any kind that can only be had by a believer, then S will eliminate every possibility in which she is not a believer whether or not she uses M. Even if she never gets to believe that she is a believer still, on Lewis’ account, she will know she is a believer. On his account, knowledge does not require belief.

Perhaps, then, Lewis’ account is not a good way of explaining how M can secure knowledge. But one

21A possible response: Perhaps ‘Match’ for Lewis ‘Intrinsic match’. Perhaps there are possible beings that are intrinsically just like users of M but which have no beliefs (since on this story ‘being an M-user’ would be an extrinsic fact about a being. This seems like a fairly desperate move to me. It is one thing to suppose that duplicates of ‘water’ users don’t mean water by ‘water’, quite another to think that duplicates of M-users are not believers at all. Nor do I think that ‘match’ is always matter of intrinsic matter. He entertains the possibility that kinaesthetic judgments are basic forms of evidence, not themselves grounded on a form of experience. Kinaesthetic judgments have an intrinsic character—a neurological type—but I doubt that Lewis wants match to proceed via neurological type. If there is some workable notion of ‘narrow content’, that may be put to work.
might well think it a cheap way of securing knowledge of deeply contingent truths. In the case at hand, knowledge there is at least one believer and all logical consequences is secured by the existence of any basic form of evidence that entails that one is a believer.

It is important to remember that Lewis is not doing hyperintensional epistemology. If P and Q are modally equivalent then in his framework, knowledge of P automatically brings with it knowledge of Q. If P entails R, then knowledge of P automatically brings with it knowledge of the conjunction P and R. So, among other things, it is part of his framework that one knows all the logical consequences of one’s knowledge (assuming, as he does, that knowledge distributes over conjunction). Avoid hyperintensional epistemology and knowledge of entailments comes very cheaply. And for all I know, it may be acceptable in the context of ‘modal’ epistemology to propose a theory according to which one gets to know that there is at least one believer by having any evidence which entails that one is believer. After, all, in that context, one gets to count automatically as knowing Goldbach’s conjecture, if Goldbach’s conjecture is true. For those of us doing hyperintensional epistemology, the game will have to proceed very differently.

3 Hyperreliability and Knowledge

Knowledge doesn’t always come so cheaply. What should we say in cases where the standards in opera-
tion are non-cheap? It is tempting to suppose the hyperreliability of a method is always sufficient to confer knowledge on its outputs. Here’s a natural picture: Where knowledge is cheap, we don’t even need a reliable method, let alone a hyperreliable one; where knowledge is non-cheap, hyperreliability confers knowledge. By any standard, true beliefs produced by a hyperreliable mechanism get to be knowledge. It turns out that this picture should be resisted22.

3.1
Consider the following two ‘methods’:

M2: Given that P is true, believe that P.

M3: Whenever a nearby dog is irradiating one’s retinal surface, believe that there is a dog nearby.

Should I say that whenever someone forms a true belief, they are using M2? And should I say that whenever someone forms the belief that there is at least one dog nearby and this belief is brought about by a dog irradiating his retinal surface, that person is using M3? If I say these things, then the thesis that hyperreliable methods always produce knowledge is a non-starter.

22Even if we add the clause ‘and there is no defeating counterevidence’ to the sufficient condition. I will not trouble myself to work through all such refinements, since their inadequacy will be clear enough from what follows.
For then, since M2 is a hyperreliable method, any true belief will count as knowledge. Further, since M3 is a hyperreliable method, any belief in the existence of dogs formed by a dog irradiating a retinal surface will count as knowledge no matter how poor the perceiver is at recognizing dogs. Williamson needs a construal of ‘method’ such that M2 and M3 do not count as methods in the sense relevant to epistemic evaluation. I do not, however, know what the construal is to look like.

One necessary condition worth considering is this: Something is a method in the relevant sense only if the fact of one’s using it supervenes on one’s internal states. (This is consistent with externalism about content, since it may be that the fact of one’s using some method supervenes on one’s inner life even if facts about which propositions get caught up in it do not). That will rule out M2 and M3, since there is no guarantee with respect to either M2 or M3 that if one of a pair of duplicates is deploying it, so is another.

Perhaps that requirement is too austere. But I have nothing else to offer. The problem is Williamson’s and not mine: it is he, after all, that suggests that the hyperreliability of M is sufficient to render it knowledge conferring. He needs some conception of method that eliminates M2 and M3 from the relevant category of method, else an explanation of knowledge via hyperreliability will turn out to be a non-starter.
3.2

Williamson points out that one can, using M, come to believe that there is at least one fallible believer (where ‘fallible believer’ means that not all of one’s beliefs are true), since the proposition that there is at least one fallible believer follows from the proposition that someone believes there is at least one fallible believer. Here’s the proof: Suppose someone did believe that there is at least one fallible believer: then he either believes it truly, in which case the content—that there is at least one fallible believer—is true, or else he believes it falsely, in which case, by virtue of having a false belief, he is a fallible believer.

In passing, he asks the reader to consider ‘the following situation: there are (up to now) no believers except for a necessarily not fallible one, who is now in the act of coming to know (1’) a priori’ (116). However, he underestimates the problems that this kind of case raises for his view that M is knowledge conferring. Consider a world where there is only ever one believer who believes three true things and in addition, attempting to use M, deduces that there is at least one fallible believer. In that case M will, in effect, produce a liar sentence. Does this show that M does not always produce true beliefs when deployed? Perhaps not: Williamson can say that in the case envisaged, the sentence ‘There is at least one fallible believer’ does not express a proposition and hence that M will not be de-
ployed since no bona fide belief gets outputted.23 (How about a case in which a necessarily not fallible being uses M to form the belief that there is at least one fallible being? Well, of course, in any possible world where the being succeeds in forming the belief that there is at least one fallible being, a fallible being subsequently comes into existence). Nevertheless, the case raises doubts about whether M is knowledge conferring: once we realize that attempted implementations of a method may misfire and produce incoherent sentences rather than true beliefs, the knowledge conferring capacity of a hyperreliable method may be thrown into question. Suppose there is a single believer in a world. That believer has three true beliefs before noon and it is 90 per cent likely that he will form only true beliefs after noon. At noon he deduces ‘There is at least one fallible believer’ using M. The unlikely thing happens: he forms a false belief after noon. ‘There is at least one fallible believer’ is not paradoxical: it expresses a truth. But it is strange to think that the person knows that there is at least one fallible believer. After all there was a 90 per cent chance that when he as-

23Another rejoinder is to admit that the believer does believe that there is a fallible belief but that the belief is neither true nor false. This requires giving up on classical logic. One will now say that ‘There is a fallible believer’ cannot be validly deduced from ‘Someone believes there is a fallible believer’ since the proof relies on the law of excluded middle.
asserted that sentence (or else tokened it in his belief box) he was asserting a paradoxical sentence.24

(We should also note that in light of these considerations about paradox, M does not pass the necessary condition for being a method that we considered in 3.1 above. If M2 and M3 don’t count as methods in the sense relevant to epistemic evaluation account of the fact that intrinsic duplicates of M2/M3 users may fail to be M2/M3 users, then M doesn’t count as a method either.)

3.3

The lessons of 3.2 apply usefully to current debates about externalism and scepticism.25 Suppose that the Russellian view of singular propositions is correct (according to which the existence of the singular proposi-

24Note that similar considerations will suggest that not every mechanical application of logic will yield knowledge. Suppose that it is 90 per cent likely that ‘s’ fails to express a proposition, but that, luckily it does. On the basis of logical considerations, the person tokens ‘s or not-s’ in his belief box. Chances are that this application of logic would yield a claim that fails to express a proposition and hence no bona fide belief. It is strange to suppose that in this situation the person knows the relevant instance of excluded middle. That such breakdowns can occur both in connection with applying classical logic just as they occur in connection with applying M suggests that we should not be too hasty in concluding from these considerations that no application of M yields knowledge.

tion requires the existence of the thing that the proposition is about). Then the following method will be hyperreliable:

M4: Given a belief of the form: Someone might think that Fa, form the belief that a exists.

Why is M4 hyperreliable? Well, any truth of the form ‘Someone might think that Fa’ requires the existence of a Russellian proposition of the form ‘Fa’ that serves as the object of the propositional attitude ascribed. That in turn requires the existence of the thing whose existence is inferred. So, assuming the Russellian view of singular thoughts, M4 is hyperreliable. (Note that M4 takes advantage of the existence-requiring feature of singular thoughts without requiring that one knows what one is currently thinking and thus doesn’t rely on privileged access to one’s own—or anyone else’s—propositional attitudes.)

Suppose someone attempted to use M4 to arrive at the conclusion that God exists as follows

Someone might think that God exists
Therefore, God exists.

26Nothing would be lost on the score of hyperreliability if we required only that one entertains a thought of the form: Someone might think that Fa.
Suppose ‘God’ does not refer. Does that indict the hyperreliability of M4? Not at all: The sequence just described would not count as an instance of M4, since the sentence ‘Someone might think that God is good’ will not express a proposition of the form

Someone might think that Fa

(Assuming ‘God’ does not refer and that the Russelian view is correct.) So M4 may yet be hyperreliable. Should we conclude that M4 is knowledge conferring and hence that contingent existence claims can be known a priori via M4? Not at all. The possibility of paradoxical sentences did not entail that M was unreliable: but it made us doubt whether M is knowledge conferring in every case that it is deployed. The possibility that an atomic sentence of the form ‘Fa’ that purports to express a singular proposition may fail to express a proposition has analogous results: It does not entail that M4 is generally unreliable, but it does make us doubt whether M4 is knowledge-conferring every time that it is deployed.

(I suspect that similar considerations will apply to every externalist attempt to extract knowledge from the observation that the very thinking of certain contents requires that certain environmental conditions obtain. Any such observation will, admittedly, bring with it the consequence that some method or other is hyperreliable. But we should be reluctant to draw any conclu-
sions concerning knowledge. I cannot pursue these matters further here.

3.5
Let me explore a different kind of worry. It is not hard to imagine hyperreliable methods for delivering beliefs concerning very controversial subject matters. In such cases, we are intuitively very reluctant to ascribe knowledge.

Suppose Kripke is right about essentiality of origins. Consider the following method,

M6: Given a valid deduction of p from the proposition that there is at least one sperm and one egg, believe p.

Of course M5 is hyperreliable for members of a certain kind, but they are not hyperreliable simpliciter. Unlike M, not every possible creature who uses M5 will generate true beliefs from it. But do we really want to rest a lot of weight on that difference?

Here is a another difference between M and M5: One can prove that anyone who uses M is hyperreliable using the resources of logic alone, but a proof that M5 is hyperreliable would need to invoke necessary truths that are not underwritten by logic alone. For all that, M5 may be hyperreliable for humans; and wasn’t the guiding idea supposed to be that hyperreliable methods are knowledge-conferring.
Note further that we don’t think that hyperreliability of a method is knowledge conferring in the case of necessary truths. Consider

M7: Given a valid deduction of p from the proposition that Goldbach’s conjecture is true, believe p.

M7 may be hyperreliable, but even so it doesn’t seem to be knowledge conferring. Note further that the replacement of ‘Goldbach’s’ conjecture by some very complicated theorem of logic will not change our intuitions, even though we will now have specified a method that can be shown to be hyperreliable using the resources of logic alone. If hyperreliability of a method doesn’t confer knowledge of necessary truths, why expect matters to be different in the case of contingent truths?

4 Reliability and Salient Resemblance

4.1

The hyperreliability and, a fortiori, the reliability of a basic method of belief formation is not enough for knowledge. But what is enough?

Consider how generous we often are with regard to our knowledge ascriptions when it comes to the stereotypical modes of reliable belief formation, namely testimony, perception and memory. A case in point: A
parent tells a child that Santa is coming and that there will be toys under the Christmas tree. Even if it is the first Christmas that the child is old enough to remember, we will be comfortable saying the child knows that there will be toys under the tree, even though the true piece of testimony was embedded in a false theory and even though we have no presumption that the child is reflectively aware that testimony is a reliable mode of information transmission. Our willingness to ascribe knowledge may remain even if we find out that there are many sinister parents on the street who induce wholly false expectations in their children at Christmastime: so even the heavy presence of liars in the area need not destroy knowledge ascription. Why should it be that the reliable mechanism of testimony delivers knowledge but we hesitate to reckon as knowledge the much more reliable methods in the last section? Sure enough, in those cases the subjects had, we presume, no reflective awareness of the hyperreliability of the methods in question. But we do not require such awareness in the standard cases of knowledge either.

When it comes to stereotypical modes of beliefs formation, we are also generous in letting specific discriminatory abilities trump more general unreliability. Suppose, for example, that someone can ably discriminate red and yellow but that the person’s blue-green channel is defective. Despite a shaky color vision system, we might well allow that the person knows that some red thing is before him, even if he has not yet be-
come aware of the blue-green defect. Suppose, by analogy that someone had a cognitive toolbox in which M was part of the toolkit but that some rather more shaky methods were also included. Why not be generous too in this case?

We need to make sense of the competing pressures on our intuitions here. Suppose a subject believes that P.27 Our intuitions about whether that subject knows that P will depend, as a number of writers are aware, upon whether the belief that P saliently resembles some possible case in which a true belief is absent.28 (I’m giving salience a purely psychological gloss: A saliently resembles B for a subject in a context iff A seems relevantly similar to B for that subject in that context.) The possible scenario where a true belief is absent may itself contain a belief that P, in which case the content of the belief will be one of the points of resemblance. Alternatively, the possible belief may have a different content, in which case the points of salient resemblance will not include the propositional content. So, for example, a belief in a necessary truth, may, in a particular context, saliently resemble a belief in a

27 Or otherwise represents the world as being such that P. I wish to remain neutral on whether knowledge requires belief, but in the present context I will suppose that it does.

28 Thus Lewis deploys what he calls the Rule of Resemblance in his account of which possibilities may properly be ignored: ‘Suppose one possibility saliently resembles another. Then if one of them may not be properly ignored, neither may the other.’ ‘Elusive Knowledge,’ p. 429.
falsehood. Alternatively, the possible scenario may contain no belief at all—as in a case where some actual true belief saliently resembles a situation where a liar sentence and thus no proposition at all is outputted.

Salient resemblance is a shifty matter of course. Jim consults his watch, a working watch, reads off the time correctly and forms the true belief that it is noon. Let's look at some variations on the case, many of which resemble Goldman’s famous case of observing a barn while fake barns are in the area29:

(1) Many people in the area have watches that do not work. Does Jim know it is noon?

(2) Jim’s situation is as described in (1) Someone asks Jim the time. Jim tells the person it is noon. That person might have asked someone with a dud watch, but she didn’t. She asked Jim. Does she now come to know that it is noon?

(3) Jim picked the watch out of a bucket of watches. The rest of the watches in the bucket were duds. Jim hasn’t yet had a chance to check his watch against other watches. Does Jim know that it is noon?

(4) Jim set his watch by a stopped clock, which happened to read the right time. Jim hasn’t yet had a chance to check his watch against other watches. Does Jim know that it is noon?

(5) The watch is working fine. But it is about to be summer and as soon as it heats up a little bit more, the watch will start running slow. Does Jim know that it is noon?

(6) Jim had numerous dreams that morning in which he vividly represented himself as seeing a watch that read noon. Does Jim know that it is noon?

(7) A nefarious scientist has built a number of brains in vats that duplicate Jim on the score of inner life except that it now looks to them that they are looking at a watch that reads 12.15 P.M. Does Jim know that it is noon?

(8) Someone set out to reset Jim’s watch by an hour that morning, prior to his waking, and only failed to do so because, unluckily, that person was held up in traffic. Does Jim know that it is noon?

In each case one has a choice. One can focus on the range of cases, themselves large, in which the working watch is consulted and tells the time correctly. If it is that range of scenarios that is salient, the knowledge
intuition is strong. Instead one can focus on the range of scenarios in which a dud watch is consulted (where the dud is either a different watch or an imagined watch or the same watch set wrongly or else the same watch malfunctioning owing to slightly different circumstances) in which case the knowledge intuition is weak. As a matter of sociology, I have found in each of the cases above that the knowledge intuition is unstable and may be shifted by subtle differences in the mode of presentation of the case. Here is one style of reaction: ‘Hey, even people who know are in some sense lucky. Suppose God had put three people in a vat in limbo for every one person on earth. Would that mean that the people on earth didn’t know there were chairs and tables? Of course, if those people are told that three of every four people with their experiential life are brains in vats, then they won’t know. But absent that information, they know there are chairs and tables. The ones that are lucky to be embodied are also lucky enough to know. They form beliefs in a different way than their envatted compatriots—via a reliable hookup with the external world—and that gives them knowledge. If Jim is lucky enough to have a watch that works, then Jim is reliably hooked up with the passage of time. That reliable flow of information is knowledge conferring. His luck in lacking a dud watch is the luck he needed in order to be able to get to know the time.’

Here is another: ‘One might very well have been looking a dud watch that read the same time when it wasn’t that time. So you don’t know what time it is.’
One more case. I watch a wedding, having happened to walk into the church when the wedding is starting. There are some fake weddings in the area: weddings that are pretend events for movie filming but with hidden cameras. If I had walked in on them, I would have not noticed that they were fake. At a certain point the bride walks down the aisle. Do I know the bride is walking down the aisle? What might stay salient are other events within the same wedding: I can certainly discriminate the bride’s walking down the aisle from, say, the segment of the wedding where vows are exchanged. Focus on such facts and I will seem to know. The fake weddings can then seem like distant planets which have little relevance to what you happen to know to be going on at such and such a point in the wedding. Alternatively, what might become salient is the similarity between the bride’s walking down the aisle and episodes from the fake weddings where, despite appearances, it is not the case that a bride is walking down the aisle. Once again, I can report that, as a matter of sociology, there is no very standard response to the case.

Given how shifty salience is, it is not surprising that it turns out to be shifty when one considers far fetched scenarios such as those described in our main three cases. There must of course be some discipline in our sense of when a belief saliently resembles some other, mistaken, belief. It is in part an empirical exercise to uncover the mechanisms at work here. But some points are obvious enough. To begin, it is clear that the stan-
dards for ascribing knowledge in ordinary social set-
tings are radically different from the standards that op-
erate in areas of expert inquiry. A mathematician may
correctly believe on good inductive evidence that a
certain result holds, owing to the similarity of the case
at hand with other kinds of mathematical structures.
But absent a proof, the mathematician is unlikely to
self-ascribe knowledge. The point of the enterprise is
to find proofs. To self-ascribe knowledge would in ef-
fact be to settle for something less. In ordinary life, we
do not ordinarily worry about possibilities of percep-
tual or testimonial error. It very much suits our activi-
ties there to settle for less than would be gotten by sys-
tematic rechecking and so on. Insofar as one takes
oneself to know one tends to ignore the chance of er-
ror. And insofar as one ignores the chance of error, one
is lacking in cognitive motivation to acquire evidence
for the proposition at hand. No wonder that the
mathematician does not self-ascribe knowledge on
good inductive evidence (at least not normally). And
no wonder that different standards operate in the nor-
mal case, where we do not worry about perceptual or
testimonial error. Further, as contextualists have been
at pains to alert us to, even within ordinary life there
are a variety of mechanisms at work that can render
certain possibilities salient. One relevant fact, stressed
by David Lewis, is how high the stakes are—if it is a
life or death matter, all sorts of possibilities for error
may become salient that were previously benign.30 Another relevant fact is whether we have been induced to reason in an explicitly probabilistic way. Once we are in a frame of mind of computing the probabilities of error we are likely to see true and false beliefs like winning and losing lottery tickets. In any such context, it will be hard to maintain an intuition that one knows, since mistakes will saliently resemble successes.

It is not hard to see how considerations about salience apply to the cases we have been considering. For example, any mathematician will balk at calling M7’s deliverance knowledge, because a world in which M7 delivers a belief that Goldbach’s conjecture is true saliently resembles a world where M8 is deployed to secure the negation of Goldbach’s conjecture:

\[
M8: \quad \text{Given a valid deduction of } p \text{ from the negation of Goldbach’s conjecture, believe } p.
\]

Why the salient resemblance? Well, because we thinking of the methods under the rubric: Believe whatever follows from some controversial mathematical thesis for which we have no proof either way. In general, any method that trades on some controversial thesis in some specialized area of debate will excite similar intuitions. Our reaction to M5 is entirely predicable. The Deducer, meanwhile, does not trade on a controversial

thesis: for that reason we are more tempted to reckon the output of M knowledge.

Think now of Swampphysicist: I got you in the frame of mind of classifying his beliefs as knowledge by highlighting the resemblance between the storehouse and the watch. Play with the resemblances that are attended to and our intuitions about knowledge will change accordingly. For example, notice that there is a chance that the watch will stop and then the act of trusting any watch, including the swampwatch, will seem like a lottery: a case where you get it right will saliently resemble a case where you get it wrong and you will not reckon the subject to know the time. Suppose, analogously, there is a small but real chance that the mechanisms of the storehouse misfire and put a false belief in the head of the Swampscientist. Getting things right can now look like a lottery. Pursue an analogy between the swampscientist with a working physicist and the reluctance to ascribe knowledge will grow even more. Knowledge ascription inhibits the search for confirmation: in the context of scientific practice, belief in unconfirmed true theories will almost inevitably bear a salient resemblance to belief in unconfirmed false theories.

The Explainer, meanwhile, is readily felt to be a clearer case of knowledge that the Swampscientist. But the Explainer, no less than the Swampscientist, needs an innate storehouse: in her case, she needs an innate storehouse of principles of good explanation. What makes those principles knowledge? One might try the
answer that they are somehow analytic (reckoning these principles to constitute part of what it means to be rational). If so, one can see the explainer as rationally moving from principles that are analytic under suitable analysis, viz ‘T is the best explanation of H’ to claims that are deeply contingent, viz: H ? T. But if one doesn’t think of the principles as analytic then, in a way, the Explainer goes out on a limb, with innate, unargued-for principles about explanation every bit as much as the Swampscientist: it’s just that the description of the case doesn’t encourage us to think of things that way. A bit of rethinking will encourage one to see the Explainer as saliently resembling someone who uses faulty principles of explanation to arrive at bizarre views as to what is a good explanation of what.

In another way, the details of each case may render us more reluctant to ascribe knowledge to the Explainer than to the Swampscientist. After all, the Explainer, as described, has a very good sense of the alternative possible explanations of various sets of data. Now he may think of the best explanation as more likely to be true than any of the others. But won’t he be very open to the possibility that certain other theories are true? After all, he can’t but be aware of them and of their ability to accommodate various sets of hypothetical empirical data. Make salient this aspect of the Explainer’s perspective on the world and the possibilities of mistake are salient enough to us encourage us to hold back on knowledge ascription.
5 Concluding Remarks

Granted that our intuitions are driven by salient resemblances, our central questions remain unanswered. Does Swampscientist know physics or doesn’t he? Does the Deducer know there are believers? Does the Explainer know a whole bunch of conditionals? Describing what drives our intuitions does not quite settle matters. For may not sometimes a resemblance be salient to us when it oughtn’t to be and hence not be relevant? And may not sometimes a resemblance be relevant when it is not salient but ought to be? There are a host of difficult are related questions in the vicinity here: Do knowledge ascriptions really have truth conditions?31 (Why not a boo/hurrah approach?) Is there

31In ‘Discrimination and Perceptual Knowledge’ Goldman usefully contrasts the view according to which there is a ‘correct’ answer, in any given situation, as to which alternatives are relevant, a view according to which ‘the semantic content of “know” contains (implicit) rules that map any putative knower’s circumstances into a set of relevant alternatives’ from a second view that denies that ‘the semantic content of “know” contains rules that map a set of circumstances into a single set of relevant alternatives. According to this second view, the verb “know” is simply not so semantically determinate .... The second view need not deny that there are regularities governing the alternative hypotheses (i.e., an attributer or denier of knowledge) thinks of, and deems relevant. But these regularities are not part of the semantic content of “know”.’ Two further variations: (a) There are rules, but they take as input not merely the attributees circumstances but also the attributers circumstances in determining the truth conditions of ‘knowledge’ talk (b) By
a non-circular analysis of ‘relevant resemblance’ available, such that the ‘relevant’ are not identified by reference to the property of knowledge? 32 In which range of cases, if any, are knowledge claims false but pragmatically permitted? What sorts of contextual variables affect the truth conditions of ‘knowledge’ ascriptions?

These are all good questions. And for those like myself who take knowledge to be the fundamental norm for judgement and assertion, they are especially pressing questions. But they are clearly not questions that the present paper can speak to. But note that even though there is no analysis of knowledge readily available that offers a crisp verdict on the cases described in section one, there seems to be no special difficulty in ascribing deeply contingent a priori knowledge. We feel a defeasible propensity to ascribe knowledge when presented with various reliable methods of belief formation.33 We then feel reluctant to ascribe knowledge insofar as various kinds of mistakes are made to

analogy with modern epistemicism, one may think that the extension of ‘know’ is not fixed by any rules of the sort that we have reflective access to and hence that the semantic determinacy of ‘know’ is not to be explained simply by appeal to such rules.

32 Here is the circular analysis: A possibility relevantly resembles a belief that p iff it suffices to show that the belief that p is not knowledge that p. If the concept of knowledge is basic enough, there may be nothing better than we can do.

33 Cf. The Rule of Reliability in ‘Elusive Knowledge’, p. 432.
look saliently similar to the case at hand. But the sorts of competing intuitions that arise are not vastly dis-similar to those that arise in standard cases. Sure enough, we may feel reluctant to ascribe knowledge to the Explainer insofar as he is aware of the existence of competing theories that do at least a passable job at explaining the evidence. But the same goes for a regular physicist who is aware of the tentative nature of physical science. Sure enough, when the demanding standards of a particular domain of expertise, or high stakes, or the presence of probabilistic reasoning control our intuitions, our disposition to ascribe knowledge to a reliable mechanism diminishes. But candidates for deeply contingent a priori knowledge are not particularly special in this regard. If there is anything that makes the cases special, it is that the methods involved bear no especially salient resemblance to our stereotypes of knowledge from which we project outward; no wonder then that it is a somewhat flighty matter which resemblances we fasten onto as the guiding heuristics for our knowledge intuitions in those cases. Some cases have an intuitively clear verdict: When M is deployed to arrive at a conclusion that saliently resembles a liar sentence, our propensity to deny knowledge is pretty inflexible. But that case is special: And if we are asked to project our negative answer from that case to other deployments of M, our intuitions are much more shifty. Where does that leave us? It leaves us where we should have expected given the murkiness of the waters: Candidates for deeply contin-
gent a priori knowledge are likely to be decidedly penumbral. But let us not overestimate the philosophical challenges posed by the very idea that such knowledge might exist.